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ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR 2001

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HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

HOUSE OF REPRESENTATIVES

ONE HUNDRED SIXTH CONGRESS

SECOND SESSION

SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT

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ROGER F. WICKER, Mississippi
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CHET EDWARDS, Texas
ED PASTOR, Arizona
MICHAEL P. FORBES, New York

NOTE: Under Committee Rules, Mr. Young, as Chairman of the Full Committee, and Mr. Obey, as Ranking Minority Member of the Full Committee, are authorized to sit as Members of all Subcommittees.

ROBERT SCHMIDT and JEANNE L. WILSON, *Staff Assistants*

PART 2

Department of Army—Corps of Engineers

Fiscal Year 2001 Budget Justifications

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Remaining Items	2027

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Fiscal Year 2001

Civil Works
Budget Request for the
U.S. Army Corps of Engineers

Department
of the Army
Office, Assistant Secretary
of the Army (Civil Works)

February 2000

DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY FOR CIVIL WORKS
WASHINGTON, D. C. 20310-0108

PREFACE

This presents the President's Fiscal Year (FY) 2001 budget for the Civil Works Program of the Army Corps of Engineers. Funding is proposed to continue the sound development of the Nation's water resources, the efficient operation, maintenance and management of the Nation's navigation, flood damage reduction, and multiple-purpose projects, the equitable regulation of wetlands, and the restoration of important environmental resources, such as the South Florida Ecosystem. The Army's budget includes $20 million for the Challenge 21 Riverine Ecosystem Restoration and Flood Hazard Mitigation initiative. Priorities for the initiative will be developed in partnership with other Federal agencies and non-Federal public entities. In addition, the budget includes $27 million to initiate a program of Recreation Modernization at Corps of Engineers operated recreation sites. This program will upgrade decrepit and obsolete facilities and provide the facilities demanded by present day recreation users. The budget also includes funds for new basinwide comprehensive studies. These new studies will be conducted under authority provided by various Water Resource Development Acts, and will be done in cooperation with State and local interests and other Federal agencies..

Accompanying this budget is a proposal to establish a Harbor Services User Fee and Harbor Services User Fund. Under this proposal, fees would be charged to vessels transiting the harbors of the United States. These fees, which would be based upon vessel size and capacity, would be placed in the Harbor Services Fund and would be available for appropriation to fund construction and operation and maintenance of the Nation's harbors and channels. The existing Harbor Maintenance Tax and Harbor Maintenance Trust Fund would be abolished, and the remaining balance of the Harbor Maintenance Fund would be deposited in the new Fund. The budget proposes to appropriate $950 million from the fund for the Civil Works program, of which $250 million would be applied to construction of port improvements and $700 million would be applied to operation and maintenance. Also included in the budget is a proposal to revise fees and increase total collections associated with the Regulatory Program.

The FY 2001 Civil Works budget requires funding in the amount of $4.064 billion, which is estimated to result in FY 2001 outlays of $3.917 billion. The funds available for the Civil Works program have been applied to give priority to preservation of existing infrastructure, maintenance and development of the Nation's ports, and restoration of environmental values. The new investment program requires Federal funding in the amount of $82 million and includes four new reconnaissance studies, four new watershed/river basin studies, one preconstruction engineering and design project, one special study, two environmental projects, four flood control projects, two navigation projects, one shore protection project to protect unique natural resources, two major rehabilitation projects, one deficiency correction project, and two new programs. The total cost of these new investments is $1.628 billion, of which $413 million would be paid by non-Federal sponsors. The budget includes $72 million for ongoing and new activities under the Continuing Authorities Program. Also provided are $158 million to continue Everglades and South Florida Ecosystem Restoration and $91 million to continue the Columbia River Fish Mitigation program. Operation and maintenance of hydropower facilities in the Pacific Northwest would be directly financed by a transfer of approximately $108 million Bonneville Power Administration revenues.

Joseph W. Westphal
Assistant Secretary of the Army
(Civil Works)

NOT FOR PUBLIC RELEASE BEFORE
12:00 o'clock noon EST on the day the
President's Budget is presented to Congress

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS – CIVIL WORKS
FISCAL YEAR 2001 BUDGET REQUEST

In his Fiscal Year 2001 Budget to Congress, the President requests $4,064,000,000 for the Civil Works program of the Army Corps of Engineers. The Civil Works program provides for nationwide water resources development and management and environmental restoration, including investigations and surveys, preconstruction engineering and design, construction, rehabilitation, and the operation and maintenance of flood control, navigation, storm damage reduction, and multiple-purpose power projects, as authorized by Congress. Also, the Civil Works program includes $251,000,000 in non-Federal contributions.

The funds requested for FY 2001 by appropriation account, together with offsetting receipts, and contributed and other funds, are as follows:

	Appropriation Request Fiscal Year 2001
Appropriation Accounts:	
General Investigations	138,000,000
Construction, General	1,346,000,000 1/
Operation and Maintenance, General	1,854,000,000 2/
Regulatory Program	125,000,000
Flood Control, Mississippi River & Tributaries	309,000,000
General Expenses	152,000,000
FUSRAP	140,000,000
TOTAL APPROPRIATION REQUEST	**4,064,000,000**
Offsetting Collections	
Harbor Services Fund (gross)	(966,000,000) 3/
Programmed Receipts	(50,100,000) 4/
NET TOTAL APPROPRIATION REQUEST	**3,047,900,000**
Contributed and Other Funds:	
Rivers and Harbors Contributed Funds	251,000,000 5/
Coastal Wetlands Restoration Trust	55,000,000 6/
Permanent Appropriations	16,000,000
TOTAL FY 2001 PROGRAM	**3,369,900,000**
General Fund Receipt (gross)	(7,000,000) 7/

1/ Includes $74,000,000 from the Inland Waterways Trust Fund and $250,000,000 from the Harbor Services Fund.
2/ Includes $700,000,000 from the Harbor Services Fund and $34,000,000 in Special Recreation Use Fees receipts.
3/ Total collections for Harbor Services Fund activities. The net increase in collections in FY 2001 is $417 million, after adjusting for lost revenue from termination of the Harbor Maintenance Tax and the effects of the proposal on corporate tax receipts.
4/ Includes $34,000,000 in recreational receipts, $7,000,000 in rent of project lands, $100,000 in fees for use of a Hydraulic Mining Debris Reservoir in California for other purposes, and $9,000,000 in license fees.
5/ Cash contributions required by law for budgeted work and work reimbursed 100 percent.
6/ Transferred from the Sport Fish Restoration Account of the Aquatic Resources Trust Fund for long-term conservation, protection, and restoration of coastal wetlands in the state of Louisiana.
7/ Increase in receipts for Regulatory program activities.

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Connecticut	22		Puerto Rico	81	
Delaware	23		Rhode Island	82	
District of Columbia	24		South Carolina	83	
Florida	25		South Dakota	84	
Georgia	27		Tennessee	85	1/
Hawaii	29		Texas	86	
Idaho	30		Utah	90	
Illinois	31	1/	Vermont	91	
Indiana	34		Virginia	92	
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1/ Also see Breakdown for Flood Control, Mississippi River and Tributaries

CORPS OF ENGINEERS - CIVIL WORKS
NEW STARTS
FISCAL YEAR 2001

STATE		BUDGET REQUEST
	GENERAL INVESTIGATIONS	
	STUDIES	
	COMPREHENSIVE STUDIES	
AR	White River Basin, AR & MO	500,000
CO	Rio Grande Basin, CO, NM, & TX	500,000
MO	Missouri River and Middle Mississippi River Environmental Enhancement, MO	500,000
MT	Yellowstone River Basin, MT	500,000
	SUBTOTAL (4)	2,000,000
	FLOOD DAMAGE PROTECTION	
OH	Butler County, OH	100,000
	SUBTOTAL (1)	100,000
	ENVIRONMENTAL RESTORATION	
MA	Massachusetts and Cape Cod Bays Ecosystem Restoration, MA	100,000
NC	Currituck Sound, NC	100,000
	SUBTOTAL (2)	200,000
	NAVIGATION	
CNMI	Navigation Improvements, CNMI	100,000
	SUBTOTAL (1)	100,000
	SPECIAL STUDIES	
NATL	National Shoreline	300,000
	SUBTOTAL (1)	300,000
	PRECONSTRUCTION, ENGINEERING AND DESIGN	
	FLOOD CONTROL	
MD	Cumberland, MD	700,000
	SUBTOTAL (1)	700,000
	TOTAL - GENERAL INVESTIGATIONS (10)	**3,400,000**

STATE		BUDGET REQUEST
	CONSTRUCTION, GENERAL	
	DEFICIENCY CORRECTION	
GA	Oates Creek, Richmond County, GA	332,000
	SUBTOTAL (1)	332,000
	ENVIRONMENTAL RESTORATION	
FL	Hillsboro and Okeechobee Aquifer, FL	4,562,000
AZ	Rio Salado, Phoenix and Tempe, AZ	2,000,000
	SUBTOTAL (2)	6,562,000
	FLOOD CONTROL	
CA	American River, CA (Folsom Dam Modification)	5,000,000
IN	Ohio River Greenway Public Access, IN	1,500,000
PR	Rio Grande De Loiza, PR	743,000
PR	Rio Nigua at Salinas, PR	198,000
	SUBTOTAL (4)	7,441,000
	MAJOR REHABILITATION	
AR	Ozark Powerhouse, AR	1,230,000
IA	Lock and Dam 11, Mississippi River, IA	3,210,000
	SUBTOTAL (2)	4,440,000
	NAVIGATION	
MD	Baltimore Harbor Anchorages and Channels, MD & VA	5,000,000
NY	Arthur Kill Channel, Howland Hook Marine Terminal, NY & NJ	5,000,000
	SUBTOTAL (2)	10,000,000
	SHORE PROTECTION	
MD	Assateague Island, MD	2,500,000
	SUBTOTAL (1)	2,500,000
	REMAINING ITEMS	
NATL	Recreation Modernization Program	27,000,000
NATL	Riverine Ecosystem Restoration and Flood Hazard Mitigation Program	20,000,000
	SUBTOTAL (2)	47,000,000
	TOTAL - CONSTRUCTION, GENERAL (14)	**78,275,000**

KEY TO ABBREVIATIONS

COM - COMPREHENSIVE
E - ENVIRONMENTAL RESTORATION
FC - FLOOD CONTROL
FDP - FLOOD DAMAGE PREVENTION
MP - MULTIPLE PURPOSE
N - NAVIGATION
RCP - REVIEW OF COMPLETED PROJECT
RDP - RESTUDY OF DEFERRED PROJECT
REC - RECREATION
SP - SHORELINE PROTECTION
SPE - SPECIAL STUDY

Allocation for multi-state studies, projects and programs are listed under a single state and cross-referenced to other affected states. They are not intended to depict total allocations to individual states.

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
ALABAMA					
ALABAMA - COOSA COMPREHENSIVE WATER STUDY, AL	FC				1,100,000
ALABAMA - COOSA RIVER, AL	N				5,355,000
ALABAMA RIVER BELOW CLAIBORNE LOCK AND DAM, AL	N	200,000			
APALACHICOLA, CHATTAHOOCHEE AND FLINT RIVERS, GA, AL & FL (SEE GEORGIA)					
BALDWIN COUNTY WATERSHEDS, AL	FDP	200,000			
BAYOU LA BATRE, AL	N	100,000			1,999,000
BLACK WARRIOR AND TOMBIGBEE RIVERS, AL	N	521,000			19,204,000
BLACK WARRIOR AND TOMBIGBEE RIVERS, VICINITY OF JACKSON, AL	N			2,000,000	
BREWTON AND EAST BREWTON, AL	FDP	50,000			
CAHABA RIVER WATERSHED, AL	SPE	50,000			
DAUPHIN ISLAND BAY, AL	N				60,000
DOG AND FOWL RIVERS, AL	N				66,000
DOG RIVER, AL	N	250,000			
GULF INTRACOASTAL WATERWAY, AL	N				4,734,000
INSPECTION OF COMPLETED WORKS, AL	FC				50,000
JIM WOODRUFF LOCK AND DAM, LAKE SEMINOLE, FL, AL & GA (SEE FLORIDA)					
MILLERS FERRY LOCK AND DAM, WILLIAM "BILL" DANNELLY LAKE, AL	MP				4,999,000
MOBILE HARBOR, AL	N			499,000	18,665,000
PROJECT CONDITION SURVEYS, AL	N				350,000
ROBERT F HENRY LOCK AND DAM, AL	MP				4,962,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
ALABAMA (CONTINUED)					
SCHEDULING RESERVOIR OPERATIONS, AL	FC				120,000
TENNESSEE - TOMBIGBEE WATERWAY, AL & MS	N				23,547,000
VILLAGE CREEK, JEFFERSON COUNTY (BIRMINGHAM WATERSHED), AL	SPE	250,000			
WALTER F GEORGE LOCK AND DAM, AL & GA	MP				7,373,000
WALTER F GEORGE POWERHOUSE AND DAM, AL & GA (MAJOR REHAB)	MP			3,000,000	
WALTER F GEORGE POWERPLANT, AL & GA (MAJOR REHAB)	MP			2,500,000	
WEST POINT DAM AND LAKE, GA & AL (SEE GEORGIA)					

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
ALASKA					
AKUTAN HARBOR, AK	N	108,000	150,000		
ANCHORAGE HARBOR, AK	N				1,777,000
ANIAK, AK	FDP	50,000			
BARROW COASTAL STORM DAMAGE REDUCTION, AK	SP	150,000			
CHANDALAR RIVER WATERSHED, VENETIE INDIAN, AK	SPE	50,000			
CHENA RIVER LAKES, AK	FC				1,364,000
CHENA RIVER WATERSHED, AK	E	50,000			
CHIGNIK HARBOR, AK	N			1,312,000	
DELONG MOUNTAIN HARBOR, AK	N	422,000			
DILLINGHAM HARBOR, AK	N				423,000
DOUGLAS HARBOR EXPANSION, AK	N	109,000	50,000		
FALSE PASS HARBOR, AK	N		250,000		
GASTINEAU CHANNEL MODIFICATION, AK	N	50,000			
HOMER HARBOR, AK	N				191,000
INSPECTION OF COMPLETED WORKS, AK	FC				35,000
KAKE HARBOR, AK	N			5,508,000	
KENAI RIVER WATERSHED, AK	E	50,000			
MATANUSKA RIVER WATERSHED, AK	E	100,000			
NAKNEK RIVER WATERSHED, AK	E	50,000			
NAPASKIAK HARBOR, AK	N	69,000			
NINILCHIK HARBOR, AK	N				186,000
NOME HARBOR, AK	N				386,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
ALASKA (CONTINUED)					
PERRYVILLE HARBOR, AK	N	120,000			
PETERSBURG HARBOR, AK	N				394,000
PORT LIONS HARBOR, AK	N	107,000			
PROJECT CONDITION SURVEYS, AK	N				512,000
QUINHAGAK HARBOR, AK	N	100,000			
SHIP CREEK WATERSHED, AK	E	53,000			
SKAGWAY HARBOR MODIFICATION, AK	N	100,000			
ST PAUL HARBOR, AK	N			5,616,000	
UNALAKLEET HARBOR, AK	N	74,000			
UNALASKA HARBOR, AK	N	209,000	58,000		
VALDEZ HARBOR EXPANSION, AK	N	43,000	150,000		
WRANGELL NARROWS, AK	N				2,438,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
AMERICAN SAMOA					
TUTUILA HARBOR, AS	N	275,000			

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
ARIZONA					
ALAMO LAKE, AZ	FC				1,166,000
GILA RIVER, NORTHEAST PHOENIX DRAINAGE AREA, AZ	FDP	212,000			
INSPECTION OF COMPLETED WORKS, AZ	FC				69,000
LITTLE COLORADO RIVER, AZ	SPE	100,000			
PAINTED ROCK DAM, AZ	FC				1,186,000
PIMA COUNTY, AZ	E	75,000			
RILLITO RIVER, PIMA COUNTY, AZ	E	290,000			
RIO DE FLAG, FLAGSTAFF, AZ	FC		250,000		
RIO SALADO ESTE, AZ	E	175,000			
RIO SALADO OESTE, AZ	E	175,000			
RIO SALADO, PHOENIX AND TEMPE REACHES, AZ	E			2,000,000	
SANTA CRUZ RIVER (PASEO DE LAS IGLESIAS), AZ	E	100,000			
SCHEDULING RESERVOIR OPERATIONS, AZ	FC				74,000
TRES RIOS, AZ	E		250,000		
TUCSON DRAINAGE AREA, AZ	FC		432,000		
WHITLOW RANCH DAM, AZ	FC				168,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
ARKANSAS					
ARKANSAS RIVER NAVIGATION STUDY, AR & OK	N	753,000			
BEAVER LAKE, AR	MP				4,520,000
BLAKELY MT DAM, LAKE OUACHITA, AR	MP				5,758,000
BLUE MOUNTAIN LAKE, AR	FC				1,200,000
BULL SHOALS LAKE, AR	MP				4,565,000
DARDANELLE LOCK AND DAM, AR	MP				5,937,000
DEGRAY LAKE, AR	MP				4,218,000
DEQUEEN LAKE, AR	FC				1,058,000
DIERKS LAKE, AR	FC				988,000
GILLHAM LAKE, AR	FC				929,000
GREERS FERRY LAKE, AR	MP				5,933,000
HELENA HARBOR, PHILLIPS COUNTY, AR	N				304,000
INSPECTION OF COMPLETED WORKS, AR	FC				294,000
MAY BRANCH, FORT SMITH, AR	FDP	247,000			
MCCLELLAN - KERR ARKANSAS RIVER NAVIGATION SYSTEM, AR	N				19,988,000
MCCLELLAN - KERR ARKANSAS RIVER NAVIGATION SYSTEM, AR & OK	N			3,300,000	
MILLWOOD LAKE, AR	FC				1,602,000
MONTGOMERY POINT LOCK AND DAM, AR	N			20,000,000	
NARROWS DAM, LAKE GREESON, AR	MP				3,604,000
NIMROD LAKE, AR	FC				1,416,000
NORFORK LAKE, AR	MP				3,626,000
NORTH LITTLE ROCK, DARK HOLLOW, AR	FC		200,000		

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
ARKANSAS (CONTINUED)					
OSCEOLA HARBOR, AR	N				419,000
OUACHITA AND BLACK RIVERS, AR & LA	N				6,402,000
OZARK - JETA TAYLOR LOCK AND DAM, AR	MP				4,072,000
OZARK POWERHOUSE, AR (MAJOR REHAB)	MP			1,230,000	
RED RIVER NAVIGATION STUDY, SOUTHWEST ARKANSAS, AR	N	200,000			
TABLE ROCK LAKE, MO & AR (DAM SAFETY) (SEE MISSOURI)					
WHITE RIVER BASIN COMPREHENSIVE, AR & MO	COM	500,000			
WHITE RIVER, AR	N				2,258,000
YELLOW BEND PORT, AR	N				125,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
CALIFORNIA					
ALISO CREEK MAINSTEM, CA	E	50,000			
AMERICAN RIVER WATERSHED, CA	FC		3,285,000	10,000,000	
AMERICAN RIVER WATERSHED, CA (FOLSOM DAM MODIFICATIONS)	FC			5,000,000	
ARROYO PASAJERO, CA	FC		500,000		
BLACK BUTTE LAKE, CA	FC				1,854,000
BOLINAS LAGOON ECOSYSTEM RESTORATION, CA	E		300,000		
BUCHANAN DAM, H V EASTMAN LAKE, CA	FC				1,580,000
CHANNEL ISLANDS HARBOR, CA	N				3,000,000
CITY OF SAN BERNARDINO, CA	FDP	175,000			
CORTE MADERA CREEK, CA	FC			100,000	
COYOTE VALLEY DAM, LAKE MENDOCINO, CA	FC				3,403,000
DRY CREEK (WARM SPRINGS) LAKE AND CHANNEL, CA	FC				4,437,000
FARMINGTON DAM, CA	FC				313,000
GUADALUPE RIVER, CA	FC			3,500,000	
HIDDEN DAM, HENSLEY LAKE, CA	FC				1,616,000
HUMBOLDT HARBOR AND BAY, CA	N				4,710,000
INSPECTION OF COMPLETED WORKS, CA	FC				843,000
ISABELLA LAKE, CA	FC				793,000
KAWEAH RIVER, CA	FC			500,000	
LAGUNA DE SANTA ROSA, CA	E	200,000			
LLAGAS CREEK, CA	FC		240,000		
LOS ANGELES - LONG BEACH HARBOR MODEL, CA	N				170,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
CALIFORNIA (CONTINUED)					
LOS ANGELES - LONG BEACH HARBORS, CA	N				3,910,000
LOS ANGELES COUNTY DRAINAGE AREA, CA	FC			9,821,000	3,956,000
LOS ANGELES COUNTY, CA	SPE	225,000			
LOS ANGELES HARBOR MAIN CHANNEL DEEPENING, CA	N		375,000		
LOWER MISSION CREEK, CA	FC		325,000		
LOWER SACRAMENTO AREA LEVEE RECONSTRUCTION, CA	FC			1,485,000	
MARINA DEL REY, CA	N				5,335,000
MARTIS CREEK LAKE, NV & CA (SEE NEVADA)					
MARYSVILLE/YUBA CITY LEVEE RECONSTRUCTION, CA	FC			760,000	
MATILIJA DAM, CA	SPE	150,000			
MERCED COUNTY STREAMS, CA	FC			500,000	288,000
MID-VALLEY AREA LEVEE RECONSTRUCTION, CA	FC			2,000,000	
MIDDLE CREEK, CA	E		160,000		
MOJAVE RIVER DAM, CA	FC				251,000
MOJAVE RIVER FORKS DAM, CA	SPE	200,000			
MORRO BAY ESTUARY, CA	E	250,000			
MORRO BAY HARBOR, CA	N				170,000
MUGU LAGOON, CA	E	250,000			
MURRIETA CREEK, CA	FC		300,000		
N CA STREAMS, DRY CREEK, MIDDLETOWN, CA	FDP	150,000			
N CA STREAMS, LOWER SACRAMENTO RVR RIPARIAN REVEGETATION, CA	E	237,000			

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
CALIFORNIA (CONTINUED)					
N CA STREAMS, MIDDLE CREEK, CA	E	90,000			
N CA STREAMS, SUISUN MARSH, CA	E	65,000			
NAPA RIVER, CA	FC			4,000,000	
NAPA RIVER, SALT MARSH RESTORATION, CA	E	300,000			
NAPA VALLEY WATERSHED MANAGEMENT, CA	E	50,000			
NCS, LOWER CACHE CREEK, YOLO COUNTY, WOODLAND AND VIC, CA	FDP	300,000			
NEW HOGAN LAKE, CA	FC				1,778,000
NEW MELONES LAKE, DOWNSTREAM CHANNEL, CA	MP				1,135,000
NEWPORT BAY HARBOR, CA	E		350,000		40,000
NEWPORT BAY/SAN DIEGO CREEK WATERSHED, CA	E	381,000			
OAKLAND HARBOR, CA	N				8,118,000
OCEANSIDE HARBOR, CA	N				1,535,000
ORANGE COUNTY, SANTA ANA RIVER BASIN, CA	E	100,000			
PAJARO RIVER AT WATSONVILLE, CA	FC		600,000		
PAJARO RIVER BASIN STUDY, CA	E	50,000			
PINE FLAT DAM, FISH AND WILDLIFE HABITAT RESTORATION, CA	E		300,000		
PINE FLAT LAKE, CA	FC				2,248,000
PORT OF STOCKTON, CA	N	150,000			
POSO CREEK, CA	FDP	150,000			
PROJECT CONDITION SURVEYS, CA	N				1,256,000
RANCHO PALOS VERDES, CA	FC		200,000		
REDWOOD CITY HARBOR, CA	N	250,000			

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
CALIFORNIA (CONTINUED)					
RICHMOND HARBOR, CA	N				5,774,000
RUSSIAN RIVER ECOSYSTEM RESTORATION, CA	E	200,000			
SACRAMENTO - SAN JOAQUIN DELTA, CA	SPE	300,000			
SACRAMENTO AND SAN JOAQUIN COMPREHENSIVE BASIN STUDY, CA	E	1,500,000			
SACRAMENTO RIVER (30 FOOT PROJECT), CA	N				2,037,000
SACRAMENTO RIVER AND TRIBUTARIES (DEBRIS CONTROL), CA	N				1,113,000
SACRAMENTO RIVER BANK PROTECTION PROJECT, CA	FC			3,300,000	
SACRAMENTO RIVER SHALLOW DRAFT CHANNEL, CA	N				163,000
SACRAMENTO RIVER, GLENN-COLUSA IRRIGATION DISTRICT, CA	FC			4,100,000	
SAN ANTONIO CREEK, CA	FDP	125,000			
SAN BERNARDINO COUNTY, CA	FDP	100,000			
SAN DIEGO HARBOR, NATIONAL CITY, CA	N	125,000			
SAN FRANCISCO BAY, CA	N	250,000			
SAN FRANCISCO BAY, DELTA MODEL STRUCTURE, CA	N				2,382,000
SAN FRANCISCO HARBOR AND BAY (DRIFT REMOVAL), CA	N				2,000,000
SAN FRANCISCO HARBOR, CA	N				2,573,000
SAN JACINTO RIVER, CA	FDP	225,000			
SAN JOAQUIN R BASIN, STOCKTON METRO AREA, FARMINGTON DAM, CA	RCP	100,000	150,000		
SAN JOAQUIN RIVER BASIN, CONSUMNES & MOKELUMNE RIVERS, CA	E	150,000			
SAN JOAQUIN RIVER BASIN, CORRAL HOLLOW CREEK, CA	FDP	65,000			
SAN JOAQUIN RIVER BASIN, FRAZIER CREEK, CA	FDP	65,000			
SAN JOAQUIN RIVER BASIN, STOCKTON METROPOLITAN AREA, CA	FDP	180,000			

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
CALIFORNIA (CONTINUED)					
SAN JOAQUIN RIVER BASIN, TUOLUMNE RIVER, CA	FDP	150,000			
SAN JOAQUIN RIVER BASIN, WEST STANISLAUS COUNTY, CA	FDP	213,000			
SAN JOAQUIN RIVER, CA	N				2,028,000
SAN JUAN CREEK WATERSHED MANAGEMENT, CA	E	50,000			
SAN JUAN CREEK, SOUTH ORANGE COUNTY, CA	FDP	50,000			
SAN LORENZO RIVER, CA	FC			4,000,000	
SAN LUIS OBISPO, CA	FDP	170,000			
SAN PABLO BAY WATERSHED, CA	E	200,000			
SANTA ANA RIVER BASIN, CA	FC				3,086,000
SANTA ANA RIVER MAINSTEM, CA	FC			18,000,000	
SANTA BARBARA HARBOR, CA	N			5,000,000	1,615,000
SANTA ROSA CREEK WATERSHED, CA	E	300,000			
SCHEDULING RESERVOIR OPERATIONS, CA	FC				1,153,000
SOUTH SACRAMENTO COUNTY STREAMS, CA	FC		200,000		
STRONG AND CHICKEN RANCH SLOUGHS, CA	FDP	150,000			
SUCCESS DAM, TULE RIVER, CA (DAM SAFETY)	FC			1,000,000	
SUCCESS LAKE, CA	FC				1,898,000
SUISUN BAY CHANNEL, CA	N				3,117,000
SUTTER BASIN, CA	FDP	150,000			
TAHOE BASIN, CA & NV	E	150,000			
TERMINUS DAM, LAKE KAWEAH, CA	FC				1,659,000
TIJUANA RIVER ENVIRONMENTAL RESTORATION, CA	SPE	205,000			

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
CALIFORNIA (CONTINUED)					
TULE RIVER, CA	FC		400,000		
UPPER GUADALUPE RIVER, CA	FC		500,000		
UPPER PENITENCIA CREEK, CA	FDP	300,000			
UPPER SACRAMENTO AREA LEVEE RECONSTRUCTION, CA	FC			1,665,000	
UPPER SANTA ANA RIVER WATERSHED, CA	E	100,000			
VENTURA HARBOR SAND BYPASS, CA	N	400,000			
VENTURA HARBOR, CA	N				2,240,000
WEST SACRAMENTO, CA	FC			1,775,000	
WHITE RIVER AND DEER CREEK, CA	FDP	150,000			
YUBA RIVER BASIN, CA	FC		400,000		
YUBA RIVER, CA	N				74,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
COLORADO					
BEAR CREEK LAKE, CO	FC				425,000
CHATFIELD LAKE, CO	FC				1,568,000
CHATFIELD, CHERRY CREEK AND BEAR CREEK RESERVOIRS, CO	RCP	250,000			
CHERRY CREEK LAKE, CO	FC				707,000
CIMARRON RIVER AND TRIBUTARIES, OK, KS, NM & CO (SEE OKLAHOMA)					
INSPECTION OF COMPLETED WORKS, CO	FC				67,000
JOHN MARTIN RESERVOIR, CO	FC				1,543,000
RIO GRANDE BASIN, NM, CO & TX (SEE NEW MEXICO)					
SCHEDULING RESERVOIR OPERATIONS, CO	FC				209,000
TRINIDAD LAKE, CO	FC				619,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
COMMONWEALTH NORTHERN MARIANAS					
NAVIGATION IMPROVEMENTS, CNMI	N	100,000			

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
CONNECTICUT					
BLACK ROCK LAKE, CT	FC				309,000
COASTAL CONNECTICUT ECOSYSTEM RESTORATION, CT	E	80,000			
COLEBROOK RIVER LAKE, CT	FC				399,000
HANCOCK BROOK LAKE, CT	FC				269,000
HOP BROOK LAKE, CT	FC				819,000
MANSFIELD HOLLOW LAKE, CT	FC				335,000
NORTHFIELD BROOK LAKE, CT	FC				344,000
STAMFORD HURRICANE BARRIER, CT	FC				311,000
THOMASTON DAM, CT	FC				581,000
WEST THOMPSON LAKE, CT	FC				506,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
DELAWARE					
C&D CANAL, BALTIMORE HBR CONN CHANNELS, DE & MD (DEEPENING)	N		100,000		
DELAWARE COAST PROTECTION, DE	SP			254,000	
DELAWARE RIVER MAIN CHANNEL, NJ, PA & DE (SEE NEW JERSEY)					
DELAWARE RIVER, PHILADELPHIA TO THE SEA, NJ, PA & DE (SEE NEW JERSEY)					
INTRACOASTAL WATERWAY, DELAWARE R TO CHESAPEAKE BAY, DE & MD	N				19,707,000
INTRACOASTAL WATERWAY, REHOBOTH BAY TO DELAWARE BAY, DE	N				433,000
WILMINGTON HARBOR, DE	N				3,217,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
DISTRICT OF COLUMBIA					
ANACOSTIA RIVER AND TRIBUTARIES, MD & DC (SEE MARYLAND)					
ANACOSTIA RIVER, PG COUNTY LEVEE, MD & DC (SEE MARYLAND)					
POTOMAC AND ANACOSTIA RIVERS (DRIFT REMOVAL), DC	N				910,000
POTOMAC RIVER BELOW WASHINGTON, DC	N				235,000
WASHINGTON HARBOR, DC	N				38,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
FLORIDA					
AIWW, NORFOLK, VA TO ST JOHNS RIVER, FL, GA, SC, NC & VA	N				1,660,000
APALACHICOLA, CHATTAHOOCHEE AND FLINT RIVERS, GA, AL & FL (SEE GEORGIA)					
BISCAYNE BAY, FL	FDP	543,000			
CANAVERAL HARBOR, FL	N			847,000	7,625,000
CEDAR HAMMOCK, WARES CREEK, FL	FC			200,000	
CENTRAL AND SOUTHERN FLORIDA, FL	E			92,423,000	10,558,000
DADE COUNTY, FL	SP			3,058,000	
DUVAL COUNTY, FL	SP			3,800,000	
ESCAMBIA AND CONECUH RIVERS, FL	N				1,000,000
EVERGLADES AND SOUTH FLORIDA ECOSYSTEM RESTORATION, FL	E			20,525,000	
FERNANDINA HARBOR, FL	N				2,705,000
FORT PIERCE HARBOR, FL	N				1,051,000
HILLSBORO AND OKEECHOBEE AQUIFER, FL	E			4,562,000	
HILLSBOROUGH RIVER, FL	FDP	114,000			
INSPECTION OF COMPLETED WORKS, FL	FC				100,000
INTRACOASTAL WATERWAY, CALOOSAHATCHEE R TO ANCLOTE R, FL	N				147,000
INTRACOASTAL WATERWAY, JACKSONVILLE TO MIAMI, FL	N				4,035,000
JACKSONVILLE HARBOR, FL	N				7,755,000
JIM WOODRUFF LOCK AND DAM POWERHOUSE, FL & GA (MAJOR REHAB)	MP			4,500,000	
JIM WOODRUFF LOCK AND DAM, LAKE SEMINOLE, FL, AL & GA	MP				5,855,000
KISSIMMEE RIVER, FL	E			20,000,000	

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
FLORIDA (CONTINUED)					
LAKE WORTH INLET, PALM BEACH COUNTY, FL	N	114,000			
MANATEE COUNTY, FL	SP			200,000	
MANATEE HARBOR, FL	N			10,828,000	3,080,000
MARTIN COUNTY, FL	SP			2,419,000	
MIAMI HARBOR CHANNEL, FL	N			6,591,000	
MIAMI HARBOR, FL	N				1,323,000
MILE POINT, FL	N	114,000			
OKEECHOBEE WATERWAY, FL	N				5,811,000
PALM BEACH HARBOR, FL	N				4,577,000
PALM VALLEY BRIDGE, FL	N			4,000,000	
PANAMA CITY HARBOR, FL	N			706,000	50,000
PINELLAS COUNTY, FL	SP			1,321,000	
PONCE DE LEON INLET, FL	N				46,000
PORT EVERGLADES HARBOR, FL	N	160,000			
PROJECT CONDITION SURVEYS, FL	N				600,000
REMOVAL OF AQUATIC GROWTH, FL					3,340,000
SCHEDULING RESERVOIR OPERATIONS, FL	FC				50,000
ST PETERSBURG HARBOR, FL	N				3,280,000
TAMPA HARBOR, FL	N				6,308,000
WITHLACOOCHEE RIVER, FL	FDP	114,000			
WITHLACOOCHIE RIVER, FL	N				35,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
GEORGIA					
AIWW, NORFOLK, VA TO ST JOHNS RIVER, FL, GA, SC, NC & VA (SEE FLORIDA)					
ALLATOONA LAKE, ETOWAH RIVER, GA	FDP	90,000			
ALLATOONA LAKE, GA	MP				4,520,000
ALLATOONA LAKE, LITTLE RIVER, GA	E	40,000			
APALACHICOLA, CHATTAHOOCHEE AND FLINT RIVERS, GA, AL & FL	N				5,055,000
ATLANTIC INTRACOASTAL WATERWAY, GA	N				2,460,000
AUGUSTA, GA	FDP	500,000			
BRUNSWICK HARBOR, GA	N		50,000		5,271,000
BUFORD DAM AND LAKE SIDNEY LANIER, GA	MP				7,275,000
BUFORD POWERHOUSE, GA (MAJOR REHAB)	MP			2,455,000	
CARTERS DAM AND LAKE, GA	MP				7,489,000
HARTWELL LAKE, GA & SC	MP				11,875,000
INDIAN, SUGAR, ENTRENCHMENT AND FEDERAL PRISON CREEKS, GA	E	50,000			
INSPECTION OF COMPLETED WORKS, GA	FC				100,000
J STROM THURMOND LAKE, GA & SC	MP				10,585,000
JIM WOODRUFF LOCK AND DAM POWERHOUSE, FL & GA (MAJOR REHAB) (SEE FLORIDA)					
JIM WOODRUFF LOCK AND DAM, LAKE SEMINOLE, FL, AL & GA (SEE FLORIDA)					
LONG ISLAND, MARSH AND JOHNS CREEKS, GA	E	50,000			
LOWER SAVANNAH RIVER BASIN, GA & SC	N			1,500,000	
LUBBUB CREEK, GA	FDP	50,000			
METRO ATLANTA WATERSHED, GA	E	499,000			

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
GEORGIA (CONTINUED)					
OATES CREEK, RICHMOND COUNTY, GA (DEF CORR)	FC			332,000	
RICHARD B RUSSELL DAM AND LAKE, GA & SC	MP			2,666,000	6,190,000
SAVANNAH HARBOR ECOSYSTEM RESTORATION, GA	E	450,000			
SAVANNAH HARBOR EXPANSION, GA	N		100,000		
SAVANNAH HARBOR, GA	N				13,869,000
SAVANNAH RIVER BASIN COMPREHENSIVE, GA & SC	COM	400,000			
SAVANNAH RIVER BELOW AUGUSTA, GA	N				650,000
THURMOND LAKE POWERHOUSE, GA & SC (MAJOR REHAB)	MP			5,000,000	
UTOY, SANDY AND PROCTOR CREEKS, GA	E	100,000			
WALTER F GEORGE LOCK AND DAM, AL & GA (SEE ALABAMA)					
WALTER F GEORGE POWERHOUSE AND DAM, AL & GA (MAJOR REHAB) (SEE ALABAMA)					
WALTER F GEORGE POWERPLANT, AL & GA (MAJOR REHAB) (SEE ALABAMA)					
WEST POINT DAM AND LAKE, GA & AL	MP				3,977,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
HAWAII					
ALA WAI CANAL, OAHU, HI	E	140,000			
BARBERS POINT HARBOR MODIFICATION, OAHU, HI	N		173,000		
BARBERS POINT HARBOR, HI	N				153,000
HONOLULU HARBOR MODIFICATIONS, OAHU, HI	N	200,000			
IAO STREAM FLOOD CONTROL, MAUI, HI (DEF CORR)	FC			239,000	
INSPECTION OF COMPLETED WORKS, HI	FC				165,000
KAHULUI HARBOR MODIFICATIONS, MAUI, HI	N	150,000			
KAHULUI HARBOR, HI	N				1,296,000
KAWAIHAE DEEP DRAFT HARBOR MODIFICATIONS, HAWAII, HI	N	40,000			
KIKIAOLA SMALL BOAT HARBOR, KAUAI, HI	N			3,437,000	
MAALAEA HARBOR, MAUI, HI	N			325,000	
PROJECT CONDITION SURVEYS, HI	N				706,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
IDAHO					
ALBENI FALLS DAM, ID	MP				2,291,000
BOISE RIVER, BOISE, ID	FDP	165,000			
COLUMBIA RIVER FISH MITIGATION, WA, OR & ID (SEE WASHINGTON)					
DWORSHAK DAM AND RESERVOIR, ID	MP				2,689,000
INSPECTION OF COMPLETED WORKS, ID	FC				73,000
KOOTENAI RIVER AT BONNERS FERRY, ID	FDP	60,000			
LITTLE WOOD RIVER, GOODING, ID	FDP	165,000			
LOWER SNAKE RIVER FISH & WILDLIFE COMPENSATION, WA, OR & ID (SEE WASHINGTON)					
LUCKY PEAK LAKE, ID	FC				1,206,000
SCHEDULING RESERVOIR OPERATIONS, ID	FC				332,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
ILLINOIS					
ALEXANDER AND PULASKI COUNTIES, IL	E		200,000		
CALUMET HARBOR AND RIVER, IL & IN	N				4,758,000
CARLYLE LAKE, IL	FC				5,112,000
CHAIN OF ROCKS CANAL, MISSISSIPPI RIVER, IL (DEF CORR)	N			2,100,000	
CHICAGO HARBOR, IL	N				2,762,000
CHICAGO RIVER, IL	N				362,000
CHICAGO SANITARY AND SHIP CANAL DISPERSAL BARRIER, IL	E			400,000	
CHICAGO SHORELINE, IL	SP			19,192,000	
DES PLAINES RIVER, IL	FC		400,000		
DES PLAINES RIVER, IL (PHASE II)	FDP	250,000			
EAST ST LOUIS, IL	FC			900,000	
FARM CREEK RESERVOIRS, IL	FC				195,000
ILLINOIS AND MISSISSIPPI CANAL, IL	N				562,000
ILLINOIS RIVER ECOSYSTEM RESTORATION, IL	E	500,000			
ILLINOIS WATERWAY (MVR PORTION), IL & IN	N				22,808,000
ILLINOIS WATERWAY (MVS PORTION), IL & IN	N				1,598,000
INSPECTION OF COMPLETED WORKS, IL	FC				473,000
KANKAKEE RIVER BASIN, IL & IN	FDP	300,000			
KASKASKIA RIVER NAVIGATION, IL	N				2,081,000
LAKE MICHIGAN DIVERSION, IL	N				837,000
LAKE SHELBYVILLE, IL	FC				5,209,000
LOCK AND DAM 24, MISSISSIPPI RIVER, IL & MO (MAJOR REHAB)	N			5,750,000	

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
ILLINOIS (CONTINUED)					
LOVES PARK, IL	FC			4,010,000	
MCCOOK AND THORNTON RESERVOIRS, IL	FC			2,800,000	
MELVIN PRICE LOCK AND DAM, IL & MO	N			1,400,000	
MISS RIVER BTWN MO RIVER AND MINNEAPOLIS (MVR PORTION), IL	N				39,842,000
MISS RIVER BTWN MO RIVER AND MINNEAPOLIS (MVS PORTION), IL	N				14,499,000
MISS RIVER BTWN THE OHIO AND MO RIVERS (REG WORKS), MO & IL (SEE MISSOURI)					
OHIO RIVER LOCKS AND DAMS, KY, IL, IN & OH (SEE KENTUCKY)					
OHIO RIVER MAIN STEM SYSTEMS STUDY, KY, IL, IN, PA, WV & OH (SEE KENTUCKY)					
OHIO RIVER OPEN CHANNEL WORK, KY, IL, IN & OH (SEE KENTUCKY)					
OLMSTED LOCKS AND DAM, OHIO RIVER, IL & KY	N			38,142,000	
PEORIA RIVERFRONT DEVELOPMENT, IL	SPE	400,000			
PROJECT CONDITION SURVEYS, IL	N				43,000
REND LAKE, IL	FC				3,904,000
ROCK RIVER, IL & WI	E	700,000			
ST LOUIS HARBOR, MO & IL (SEE MISSOURI)					
SURVEILLANCE OF NORTHERN BOUNDARY WATERS, IL	N				97,000
UPPER MISS & ILLINOIS NAV IMPROVEMENTS, IL, IA, MN, MO & WI	RCP	2,105,000	4,707,000		
UPPER MISS RVR SYS FLOW FREQUENCY STUDY, IL, IA, MN, MO & WI	SPE	888,000			

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
ILLINOIS (CONTINUED)					
UPPER MISS RVR SYSTEM ENV MGMT PROGRAM, IL, IA, MN, MO & WI	E			18,000,000	
WAUKEGAN HARBOR, IL	N		300,000		1,473,000
WOOD RIVER LEVEE, IL	FC		310,000		

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
INDIANA					
BROOKVILLE LAKE, IN	FC				782,000
BURNS WATERWAY HARBOR, IN	N				1,937,000
CAGLES MILL LAKE, IN	FC				732,000
CALUMET HARBOR AND RIVER, IL & IN (SEE ILLINOIS)					
CECIL M HARDEN LAKE, IN	FC				864,000
FORT WAYNE METROPOLITAN AREA, IN	FC			1,088,000	
ILLINOIS WATERWAY (MVR PORTION), IL & IN (SEE ILLINOIS)					
ILLINOIS WATERWAY (MVS PORTION), IL & IN (SEE ILLINOIS)					
INDIANA HARBOR, IN	N				429,000
INDIANA HARBOR, IN (CONFINED DISPOSAL FACILITY)	N			3,291,000	
INDIANAPOLIS, WHITE RIVER (NORTH), IN	FC			934,000	
INSPECTION OF COMPLETED WORKS, IN	FC				101,000
J EDWARD ROUSH LAKE, IN	FC				824,000
JOHN T MYERS LOCKS AND DAM, IN & KY	N		2,210,000		
KANKAKEE RIVER BASIN, IL & IN (SEE ILLINOIS)					
LITTLE CALUMET RIVER, IN	FC			5,343,000	
MCALPINE LOCKS AND DAM, OHIO RIVER, KY & IN (SEE KENTUCKY)					
MICHIGAN CITY HARBOR, IN	N				806,000
MISSISSINEWA LAKE, IN	FC				1,182,000
MONROE LAKE, IN	FC				799,000
OHIO RIVER GREENWAY PUBLIC ACCESS, IN	FC			1,500,000	
OHIO RIVER LOCKS AND DAMS, KY, IL, IN & OH (SEE KENTUCKY)					

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
INDIANA (CONTINUED)					
OHIO RIVER MAIN STEM SYSTEMS STUDY, KY, IL, IN, PA, WV & OH (SEE KENTUCKY)					
OHIO RIVER OPEN CHANNEL WORK, KY, IL, IN & OH (SEE KENTUCKY)					
PATOKA LAKE, IN	FC				731,000
PATOKA LAKE, IN (MAJOR REHAB)	FC			5,200,000	
PROJECT CONDITION SURVEYS, IN	N				42,000
SALAMONIE LAKE, IN	FC				749,000
SURVEILLANCE OF NORTHERN BOUNDARY WATERS, IN	N				62,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
IOWA					
CORALVILLE LAKE, IA	FC				2,952,000
DES MOINES AND RACCOON RIVERS, IA	FDP	400,000			
INDIAN CREEK, COUNCIL BLUFFS, IA	FDP	80,000			
INSPECTION OF COMPLETED WORKS, IA	FC				738,000
LOCK AND DAM 11, MISSISSIPPI RIVER, IA (MAJOR REHAB)	N			3,210,000	
LOCK AND DAM 12, MISSISSIPPI RIVER, IA (MAJOR REHAB)	N			5,260,000	
MISSOURI R MASTER WTR CONTROL MANUAL, NE, IA, KS, MO, MT, ND (SEE NEBRASKA)					
MISSOURI RIVER - KENSLERS BEND, NE TO SIOUX CITY, IA	FC				146,000
MISSOURI RIVER - RULO TO MOUTH, IA, NE, KS & MO	N				5,250,000
MISSOURI RIVER - SIOUX CITY TO RULO, IA & NE	N				2,111,000
MISSOURI RIVER FISH AND WILDLIFE MITIGATION, IA, NE, KS & MO	E			12,000,000	
MISSOURI RIVER LEVEE SYSTEM, IA, NE, KS & MO	FC			4,400,000	
PERRY CREEK, IA	FC			7,178,000	
RATHBUN LAKE, IA	FC				2,058,000
RED ROCK DAM AND LAKE RED ROCK, IA	FC				3,827,000
SAYLORVILLE LAKE, IA	FC				4,074,000
UPPER MISS & ILLINOIS NAV IMPROVEMENTS, IL, IA, MN, MO & WI (SEE ILLINOIS)					
UPPER MISS RVR SYS FLOW FREQUENCY STUDY, IL, IA, MN, MO & WI (SEE ILLINOIS)					
UPPER MISS RVR SYSTEM ENV MGMT PROGRAM, IL, IA, MN, MO & WI (SEE ILLINOIS)					

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
KANSAS					
ARKANSAS CITY, KS	FC			5,100,000	
CIMARRON RIVER AND TRIBUTARIES, OK, KS, NM & CO (SEE OKLAHOMA)					
CLINTON LAKE, KS	FC				1,621,000
COUNCIL GROVE LAKE, KS	FC				1,197,000
EL DORADO LAKE, KS	FC				487,000
ELK CITY LAKE, KS	FC				728,000
FALL RIVER LAKE, KS	FC				1,429,000
HILLSDALE LAKE, KS	FC				908,000
INSPECTION OF COMPLETED WORKS, KS	FC				36,000
JOHN REDMOND DAM AND RESERVOIR, KS	FC				1,186,000
KANOPOLIS LAKE, KS	FC				1,541,000
KANSAS CITY, MO & KS (SEE MISSOURI)					
MARION LAKE, KS	FC				1,354,000
MELVERN LAKE, KS	FC				1,872,000
MILFORD LAKE, KS	FC				1,906,000
MISSOURI R MASTER WTR CONTROL MANUAL, NE, IA, KS, MO, MT, ND (SEE NEBRASKA)					
MISSOURI RIVER - RULO TO MOUTH, IA, NE, KS & MO (SEE IOWA)					
MISSOURI RIVER FISH AND WILDLIFE MITIGATION, IA, NE, KS & MO (SEE IOWA)					
MISSOURI RIVER LEVEE SYSTEM, IA, NE, KS & MO (SEE IOWA)					
MISSOURI RIVER LEVEE SYSTEM, UNITS L455 & R460-471, MO & KS (SEE MISSOURI)					

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
KANSAS (CONTINUED)					
PEARSON - SKUBITZ BIG HILL LAKE, KS	FC				1,074,000
PERRY LAKE, KS	FC				1,966,000
POMONA LAKE, KS	FC				1,830,000
SCHEDULING RESERVOIR OPERATIONS, KS	FC				193,000
TOPEKA, KS	RCP	200,000			
TORONTO LAKE, KS	FC				673,000
TURKEY CREEK BASIN, KS & MO	FC		353,000		
TUTTLE CREEK LAKE, KS	FC				2,546,000
WALNUT AND WHITEWATER RIVER WATERSHEDS, KS	E	200,000			
WILSON LAKE, KS	FC				2,017,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
KENTUCKY					
BANKLICK CREEK, KY	FDP	100,000			
BARKLEY DAM AND LAKE BARKLEY, KY & TN	MP			1,000,000	10,330,000
BARREN RIVER LAKE, KY	FC				2,544,000
BIG SANDY HARBOR, KY	N				1,497,000
BUCKHORN LAKE, KY	FC				1,685,000
CARR CREEK LAKE, KY	FC				1,542,000
CAVE RUN LAKE, KY	FC				868,000
DEWEY LAKE, KY	FC				1,429,000
DEWEY LAKE, KY (DAM SAFETY)	FC			3,832,000	
ELVIS STAHR (HICKMAN) HARBOR, KY	N				361,000
FISHTRAP LAKE, KY	FC				1,890,000
GRAYSON LAKE, KY	FC				1,366,000
GREEN AND BARREN RIVERS, KY	N				1,079,000
GREEN RIVER LAKE, KY	FC				2,917,000
GREENUP LOCKS AND DAM, OHIO RIVER, KY & OH	N		1,300,000		
INSPECTION OF COMPLETED WORKS, KY	FC				123,000
JOHN T MYERS LOCKS AND DAM, IN & KY (SEE INDIANA)					
KENTUCKY LOCK AND DAM, TENNESSEE RIVER, KY	N			14,900,000	
KENTUCKY RIVER, KY	N				1,149,000
LAUREL RIVER LAKE, KY	MP				1,357,000
LEVISA AND TUG FORKS AND UPPER CUMBERLAND RIVER, WV, VA & KY (SEE WEST VIRGINIA)					

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
KENTUCKY (CONTINUED)					
LICKING RIVER OPEN CHANNEL WORK, KY	N				21,000
LICKING RIVER, CYNTHIANA, KY	FDP	260,000			
MARTINS FORK LAKE, KY	FC				714,000
MCALPINE LOCKS AND DAM, OHIO RIVER, KY & IN	N			14,000,000	
METROPOLITAN LOUISVILLE, JEFFERSON COUNTY, KY	E	100,000			
METROPOLITAN LOUISVILLE, MILL CREEK BASIN, KY	FDP	250,000			
METROPOLITAN LOUISVILLE, POND CREEK, KY	FC			4,000,000	
METROPOLITAN LOUISVILLE, SOUTHWEST, KY	FDP	161,000			
MIDDLESBORO CUMBERLAND RIVER BASIN, KY	FC				100,000
NOLIN LAKE, KY	FC				2,285,000
OHIO RIVER LOCKS AND DAMS, KY, IL, IN & OH	N				31,813,000
OHIO RIVER LOCKS AND DAMS, WV, KY & OH (SEE WEST VIRGINIA)					
OHIO RIVER MAIN STEM SYSTEMS STUDY, KY, IL, IN, PA, WV & OH	N	4,141,000			
OHIO RIVER OPEN CHANNEL WORK, KY, IL, IN & OH	N				6,007,000
OHIO RIVER OPEN CHANNEL WORK, WV, KY & OH (SEE WEST VIRGINIA)					
OLMSTED LOCKS AND DAM, OHIO RIVER, IL & KY (SEE ILLINOIS)					
PAINTSVILLE LAKE, KY	FC				1,016,000
ROUGH RIVER LAKE, KY	FC				1,827,000
TAYLORSVILLE LAKE, KY	FC				1,048,000
WOLF CREEK DAM, LAKE CUMBERLAND, KY	MP				5,892,000
YATESVILLE LAKE, KY	FC				1,211,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
LOUISIANA					
AMITE RIVER AND TRIBUTARIES ECOSYSTEM RESTORATION, LA	E	200,000			
ATCHAFALAYA RIVER AND BAYOUS CHENE, BOEUF AND BLACK, LA	N				14,026,000
BARATARIA BAY WATERWAY, LA	N				570,000
BAYOU BODCAU RESERVOIR, LA	FC				509,000
BAYOU LAFOURCHE AND LAFOURCHE JUMP WATERWAY, LA	N				726,000
BAYOU PIERRE, LA	FC				25,000
BAYOU SEGNETTE WATERWAY, LA	N				735,000
BAYOU TECHE AND VERMILION RIVER, LA	N				48,000
BAYOU TECHE, LA	N				132,000
CADDO LAKE, LA	FC				127,000
CALCASIEU LOCK, LA	N	339,000			
CALCASIEU RIVER AND PASS, LA	N				12,117,000
CALCASIEU RIVER BASIN, LA	FDP	100,000			
COMITE RIVER, LA	FC			10,000,000	
FRESHWATER BAYOU, LA	N				5,354,000
GULF INTRACOASTAL WATERWAY, LA	N				19,478,000
HOUMA NAVIGATION CANAL, LA	N				3,175,000
INNER HARBOR NAVIGATION CANAL LOCK, LA	N			14,349,000	
INSPECTION OF COMPLETED WORKS, LA	FC				268,000
INTRACOASTAL WATERWAY LOCKS, LA	N	686,000			
JEFFERSON PARISH, LA	FC		215,000		
LAFAYETTE PARISH, LA	FC		200,000		

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
LOUISIANA (CONTINUED)					
LAKE PONTCHARTRAIN AND VICINITY, LA (HURRICANE PROTECTION)	FC			3,100,000	
LAKE PROVIDENCE HARBOR, LA	N				559,000
LAROSE TO GOLDEN MEADOW, LA (HURRICANE PROTECTION)	FC			1,414,000	
LOUISIANA COASTAL AREA ECOSYSTEM RESTORATION, LA	E	1,750,000			
MADISON PARISH PORT, LA	N				108,000
MERMENTAU RIVER, LA	N				1,933,000
MISSISSIPPI RIVER OUTLETS AT VENICE, LA	N				2,773,000
MISSISSIPPI RIVER SHIP CHANNEL, GULF TO BATON ROUGE, LA	N			719,000	
MISSISSIPPI RIVER, BATON ROUGE TO THE GULF OF MEXICO, LA	N				63,359,000
MISSISSIPPI RIVER, GULF OUTLET, LA	N				11,286,000
NEW ORLEANS TO VENICE, LA (HURRICANE PROTECTION)	FC			1,800,000	
ORLEANS PARISH, LA	FC		164,000		
OUACHITA AND BLACK RIVERS, AR & LA (SEE ARKANSAS)					
PEARL RIVER, MS & LA (SEE MISSISSIPPI)					
PROJECT CONDITION SURVEYS, LA	N				80,000
RED RIVER WATERWAY, MISSISSIPPI RIVER TO SHREVEPORT, LA	N			18,040,000	8,907,000
REMOVAL OF AQUATIC GROWTH, LA					2,000,000
SOUTHEAST LOUISIANA, LA	FC			47,260,000	
ST BERNARD PARISH URBAN FLOOD CONTROL, LA	FDP	100,000			
WALLACE LAKE, LA	FC				233,000
WATERWAY FROM INTRACOASTAL WATERWAY TO B DULAC, LA	N				45,000
WEST BANK VICINITY OF NEW ORLEANS, LA	FC			8,065,000	

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
LOUISIANA (CONTINUED)					
WEST SHORE, LAKE PONTCHARTRAIN, LA	FDP	346,000			

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
MAINE					
PROJECT CONDITION SURVEYS, ME	N				1,060,000
SURVEILLANCE OF NORTHERN BOUNDARY WATERS, ME	N				17,000
WELLS HARBOR, ME	N				1,455,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
MARYLAND					
ANACOSTIA RIVER AND TRIBUTARIES, MD & DC	E			3,951,000	
ANACOSTIA RIVER FEDERAL WATERSHED IMPACT ASSESSMENT, MD	E	500,000			
ANACOSTIA RIVER, PG COUNTY LEVEE, MD & DC	FDP	455,000			
ASSATEAGUE ISLAND, MD	SP			2,500,000	
ATLANTIC COAST OF MARYLAND, MD	SP			185,000	
BALTIMORE HARBOR (DRIFT REMOVAL), MD	N				455,000
BALTIMORE HARBOR (PREVENTION OF OBSTRUCTIVE DEPOSITS), MD	N				710,000
BALTIMORE HARBOR ANCHORAGES AND CHANNELS, MD & VA	N			5,000,000	
BALTIMORE HARBOR AND CHANNELS (50 FOOT), MD	N				16,354,000
BALTIMORE METROPOLITAN, GWYNNS FALLS, MD	FDP	68,000			
C&D CANAL, BALTIMORE HBR CONN CHANNELS, DE & MD (DEEPENING) (SEE DELAWARE)					
CHESAPEAKE BAY ENV RESTORATION AND PROTECTION, MD, VA & PA	E			608,000	
CUMBERLAND, MD AND RIDGELEY, WV	FC		700,000		141,000
EASTERN SHORE, MD	E	400,000			
HONGA RIVER AND TAR BAY, MD	N				55,000
INSPECTION OF COMPLETED WORKS, MD	FC				327,000
INTRACOASTAL WATERWAY, DELAWARE R TO CHESAPEAKE BAY, DE & MD (SEE DELAWARE)					
JENNINGS RANDOLPH LAKE, MD & WV	FC				1,616,000
LOWER POTOMAC ESTUARY WATERSHED, MATTAWOMAN, MD	E	100,000			
LOWER POTOMAC ESTUARY WATERSHED, ST MARY'S, MD	E	250,000			
OCEAN CITY HARBOR AND INLET AND SINEPUXENT BAY, MD	N				1,810,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
MARYLAND (CONTINUED)					
PATUXENT RIVER, PRINCE GEORGES COUNTY, MD	E		100,000		
POPLAR ISLAND, MD	E			19,190,000	
PROJECT CONDITION SURVEYS, MD	N				450,000
RHODES POINT TO TYLERTON, MD	N				70,000
SCHEDULING RESERVOIR OPERATIONS, MD	FC				140,000
SMITH ISLAND ENVIRONMENTAL RESTORATION, MD	E		100,000		
ST JEROME CREEK, MD	N				175,000
SUSQUEHANNA RIVER BASIN WATER MANAGEMENT, NY, PA & MD (SEE NEW YORK)					
TOLCHESTER CHANNEL, MD	N				5,801,000
TWITCH COVE AND BIG THOROFARE RIVER, MD	N				75,000
UPPER THOROFARE, MD	N				220,000
WICOMICO RIVER, MD	N				740,000
YOUGHIOGHENY RIVER LAKE, PA & MD (SEE PENNSYLVANIA)					

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
MASSACHUSETTS					
BARRE FALLS DAM, MA	FC				368,000
BIRCH HILL DAM, MA	FC				439,000
BLACKSTONE RIVER WATERSHED RESTORATION, MA & RI	E	310,000			
BOSTON HARBOR, MA (45-FOOT CHANNEL)	N	150,000			
BUFFUMVILLE LAKE, MA	FC				361,000
CAPE COD CANAL RAILROAD BRIDGE, MA (MAJOR REHAB)	N			8,600,000	
CAPE COD CANAL, MA	N				8,787,000
CHARLES RIVER NATURAL VALLEY STORAGE AREA, MA	FC				213,000
COASTAL MASSACHUSETTS ECOSYSTEM RESTORATION, MA	E	100,000			
CONANT BROOK LAKE, MA	FC				147,000
EAST BRIMFIELD LAKE, MA	FC				267,000
HODGES VILLAGE DAM, MA	FC				462,000
INSPECTION OF COMPLETED WORKS, MA	FC				125,000
KNIGHTVILLE DAM, MA	FC				390,000
LITTLEVILLE LAKE, MA	FC				461,000
NEW BEDFORD AND FAIRHAVEN HARBOR, MA	N				310,000
NEW BEDFORD FAIRHAVEN AND ACUSHNET HURRICANE BARRIER, MA	FC				480,000
PLYMOUTH HARBOR, MA	N				500,000
PROJECT CONDITION SURVEYS, MA	N				3,113,000
SALEM HARBOR, MA	N				200,000
SOMERSET AND SEARSBURG DAMS, DEERFIELD RIVER, MA & VT	E	100,000			
TOWN BROOK, QUINCY AND BRAINTREE, MA	FC			100,000	

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
MASSACHUSETTS (CONTINUED)					
TULLY LAKE, MA	FC				436,000
WEST HILL DAM, MA	FC				647,000
WESTVILLE LAKE, MA	FC				342,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
MICHIGAN					
ALPENA HARBOR, MI	N				203,000
ARCADIA HARBOR, MI	N				85,000
BLACK RIVER, PORT HURON, MI	N				306,000
CHANNELS IN LAKE ST CLAIR, MI	N				458,000
CHARLEVOIX HARBOR, MI	N				118,000
DETROIT RIVER, MI	N				2,342,000
FRANKFORT HARBOR, MI	N				130,000
GRAND HAVEN HARBOR, MI	N				1,264,000
HOLLAND HARBOR, MI	N				905,000
INLAND ROUTE, MI	N				33,000
INSPECTION OF COMPLETED WORKS, MI	FC				205,000
KEWEENAW WATERWAY, MI	N				256,000
LELAND HARBOR, MI	N				168,000
LUDINGTON HARBOR, MI	N				663,000
MANISTEE HARBOR, MI	N				272,000
MANISTIQUE HARBOR, MI	N				239,000
MENOMINEE HARBOR, MI & WI	N				174,000
MONROE HARBOR, MI	N				695,000
ONTONAGON HARBOR, MI	N				603,000
PENTWATER HARBOR, MI	N				450,000
PORTAGE LAKE HARBOR, MI	N				1,974,000
PROJECT CONDITION SURVEYS, MI	N				275,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
MICHIGAN (CONTINUED)					
ROUGE RIVER, MI	N				417,000
SAGINAW RIVER, MI	N				1,453,000
SAULT STE MARIE (REPLACEMENT LOCK), MI	N		1,000,000		
SEBEWAING RIVER (ICE JAM REMOVAL), MI	FC				10,000
SOUTH HAVEN HARBOR, MI	N				481,000
ST CLAIR RIVER, MI	N				996,000
ST JOSEPH HARBOR, MI	N				1,194,000
ST MARYS RIVER, MI	MP				20,502,000
SURVEILLANCE OF NORTHERN BOUNDARY WATERS, MI	N				3,197,000
WHITE LAKE HARBOR, MI	N				290,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
MINNESOTA					
BIGSTONE LAKE WHETSTONE RIVER, MN & SD	FC				178,000
DULUTH - SUPERIOR HARBOR, MN & WI	N				5,310,000
GRAND FORKS, ND - EAST GRAND FORKS, MN (SEE NORTH DAKOTA)					
GRAND MARAIS HARBOR, MN	N				186,000
INSPECTION OF COMPLETED WORKS, MN	FC				154,000
LAC QUI PARLE LAKES, MINNESOTA RIVER, MN	FC				453,000
LAKE TRAVERSE, SD & MN (SEE SOUTH DAKOTA)					
LOCK AND DAM 3, MISSISSIPPI RIVER, MN (MAJOR REHAB)	N			5,000,000	
MARSHALL, MN	FC			1,312,000	
MINNESOTA RIVER, MN	N				196,000
MISS RIVER BTWN MO RIVER AND MINNEAPOLIS (MVP PORTION), MN	N				42,765,000
ORWELL LAKE, MN	FC				315,000
PINE RIVER DAM, CROSS LAKE, MN (DAM SAFETY)	N			3,873,000	
PROJECT CONDITION SURVEYS, MN	N				25,000
RED LAKE RESERVOIR, MN	FC				101,000
RESERVOIRS AT HEADWATERS OF MISSISSIPPI RIVER, MN	N				2,805,000
SURVEILLANCE OF NORTHERN BOUNDARY WATERS, MN	N				64,000
TWO HARBORS, MN	N				208,000
UPPER MISS & ILLINOIS NAV IMPROVEMENTS, IL, IA, MN, MO & WI (SEE ILLINOIS)					
UPPER MISS RIVER WATERSHED MGMT, LAKE ITASCA TO L/D 2, MN	E	250,000			
UPPER MISS RVR SYS FLOW FREQUENCY STUDY, IL, IA, MN, MO & WI (SEE ILLINOIS)					

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
MINNESOTA (CONTINUED)					
UPPER MISS RVR SYSTEM ENV MGMT PROGRAM, IL, IA, MN, MO & WI (SEE ILLINOIS)					

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
MISSISSIPPI					
BILOXI HARBOR, MS	N				801,000
CLAIBORNE COUNTY PORT, MS	N				122,000
EAST FORK, TOMBIGBEE RIVER, MS	FC				150,000
GULFPORT HARBOR, MS	N				2,500,000
INSPECTION OF COMPLETED WORKS, MS	FC				360,000
MOUTH OF YAZOO RIVER, MS	N				133,000
OKATIBBEE LAKE, MS	FC				955,000
PASCAGOULA HARBOR, MS	N			6,663,000	3,406,000
PEARL RIVER, MS & LA	N				250,000
ROSEDALE HARBOR, MS	N				645,000
TENNESSEE - TOMBIGBEE WATERWAY, AL & MS (SEE ALABAMA)					
WOLF AND JORDAN RIVERS, MS	N			1,337,000	
YAZOO RIVER, MS	N				115,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
MISSOURI					
BLUE RIVER CHANNEL, KANSAS CITY, MO	FC			10,500,000	
CAPE GIRARDEAU, JACKSON, MO	FC			2,350,000	
CARUTHERSVILLE HARBOR, MO	N				184,000
CHESTERFIELD, MO	FC		250,000		
CLARENCE CANNON DAM AND MARK TWAIN LAKE, MO	MP				5,196,000
CLEARWATER LAKE, MO	FC				2,015,000
HARRY S TRUMAN DAM AND RESERVOIR, MO	MP				7,688,000
INSPECTION OF COMPLETED WORKS, MO	FC				473,000
KANSAS CITY, MO & KS	RCP	312,000			
LITTLE BLUE RIVER LAKES, MO	FC				854,000
LOCK AND DAM 24, MISSISSIPPI RIVER, IL & MO (MAJOR REHAB) (SEE ILLINOIS)					
LONG BRANCH LAKE, MO	FC				931,000
MELVIN PRICE LOCK AND DAM, IL & MO (SEE ILLINOIS)					
MERAMEC RIVER BASIN, VALLEY PARK LEVEE, MO	FC			3,000,000	
MISS RIVER BTWN THE OHIO AND MO RIVERS (REG WORKS), MO & IL	N			6,500,000	13,384,000
MISSOURI & MIDDLE MISSISSIPPI RIVERS ENHANCEMENT PROJECT, MO	COM	500,000			
MISSOURI R MASTER WTR CONTROL MANUAL, NE, IA, KS, MO, MT, ND (SEE NEBRASKA)					
MISSOURI RIVER - RULO TO MOUTH, IA, NE, KS & MO (SEE IOWA)					
MISSOURI RIVER FISH AND WILDLIFE MITIGATION, IA, NE, KS & MO (SEE IOWA)					

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
MISSOURI (CONTINUED)					
MISSOURI RIVER LEVEE SYSTEM, IA, NE, KS & MO (SEE IOWA)					
MISSOURI RIVER LEVEE SYSTEM, UNITS L455 & R460-471, MO & KS	RCP	220,000			
NEW MADRID HARBOR, MO	N				259,000
POMME DE TERRE LAKE, MO	FC				2,065,000
PROJECT CONDITION SURVEYS, MO	N				26,000
RIVER DES PERES, MO	FC		330,000		
SMITHVILLE LAKE, MO	FC				1,160,000
SOUTHEAST MISSOURI PORT, MISSISSIPPI RIVER, MO	N				401,000
ST LOUIS HARBOR, MO & IL	N		265,000		
ST. LOUIS FLOOD PROTECTION, MO	FC		445,000		
STE GENEVIEVE, MO	FC			6,000,000	
STOCKTON LAKE, MO	MP				3,486,000
SWOPE PARK INDUSTRIAL AREA, KANSAS CITY, MO	FC		170,000		
TABLE ROCK LAKE, MO	MP				6,485,000
TABLE ROCK LAKE, MO & AR (DAM SAFETY)	MP			5,920,000	
TURKEY CREEK BASIN, KS & MO (SEE KANSAS)					
UNION LAKE, MO	FC				10,000
UPPER MISS & ILLINOIS NAV IMPROVEMENTS, IL, IA, MN, MO & WI (SEE ILLINOIS)					
UPPER MISS RVR SYS FLOW FREQUENCY STUDY, IL, IA, MN, MO & WI (SEE ILLINOIS)					
UPPER MISS RVR SYSTEM ENV MGMT PROGRAM, IL, IA, MN, MO & WI (SEE ILLINOIS)					

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
MISSOURI (CONTINUED)					
WHITE RIVER BASIN COMPREHENSIVE, AR & MO (SEE ARKANSAS)					

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
MONTANA					
FT PECK DAM AND LAKE, MT	MP				3,620,000
LIBBY DAM, LAKE KOOCANUSA, MT	MP				2,273,000
MISSOURI R BETWEEN FORT PECK DAM AND GAVINS PT, SD, MT & ND (SEE SOUTH DAKOTA)					
MISSOURI R MASTER WTR CONTROL MANUAL, NE, IA, KS, MO, MT, ND (SEE NEBRASKA)					
YELLOWSTONE RIVER CORRIDOR, MT	COM	500,000			

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
NEBRASKA					
ANTELOPE CREEK, LINCOLN, NE	FC		275,000		
GAVINS POINT DAM, LEWIS AND CLARK LAKE, NE & SD	MP				6,151,000
HARLAN COUNTY LAKE, NE	FC				2,198,000
LOWER PLATTE RIVER AND TRIBUTARIES, NE	FDP	217,000			
MISSOURI NATIONAL RECREATIONAL RIVER, NE & SD	FC			300,000	
MISSOURI R MASTER WTR CONTROL MANUAL, NE, IA, KS, MO, MT, ND	MP				709,000
MISSOURI RIVER - KENSLERS BEND, NE TO SIOUX CITY, IA (SEE IOWA)					
MISSOURI RIVER - RULO TO MOUTH, IA, NE, KS & MO (SEE IOWA)					
MISSOURI RIVER - SIOUX CITY TO RULO, IA & NE (SEE IOWA)					
MISSOURI RIVER BASIN COLLABORATIVE WATER PLANNING (NWK), NE	MP				125,000
MISSOURI RIVER BASIN COLLABORATIVE WATER PLANNING (NWO), NE	MP				125,000
MISSOURI RIVER FISH AND WILDLIFE MITIGATION, IA, NE, KS & MO (SEE IOWA)					
MISSOURI RIVER LEVEE SYSTEM, IA, NE, KS & MO (SEE IOWA)					
PAPILLION CREEK AND TRIBUTARIES LAKES, NE	FC				721,000
SALT CREEK AND TRIBUTARIES, NE	FC				796,000
SAND CREEK WATERSHED, WAHOO, NE	FC		220,000		
SCHEDULING RESERVOIR OPERATIONS, NE	FC				327,000
WOOD RIVER, GRAND ISLAND, NE	FC			1,600,000	

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
NEVADA					
INSPECTION OF COMPLETED WORKS, NV	FC				34,000
LOWER LAS VEGAS WASH WETLANDS, NV	E	100,000			
MARTIS CREEK LAKE, NV & CA	FC				522,000
PINE AND MATHEWS CANYONS LAKES, NV	FC				193,000
TAHOE BASIN, CA & NV (SEE CALIFORNIA)					
TROPICANA AND FLAMINGO WASHES, NV	FC			20,000,000	
TRUCKEE MEADOWS, NV	FC		500,000		
WALKER RIVER BASIN, NV	E	100,000			

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
NEW HAMPSHIRE					
BLACKWATER DAM, NH	FC				389,000
EDWARD MACDOWELL LAKE, NH	FC				412,000
FRANKLIN FALLS DAM, NH	FC				478,000
HOPKINTON - EVERETT LAKES, NH	FC				984,000
OTTER BROOK LAKE, NH	FC				554,000
SURRY MOUNTAIN LAKE, NH	FC				469,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
NEW JERSEY					
ARTHUR KILL CHANNEL, HOWLAND HOOK MARINE TERMINAL, NY & NJ (SEE NEW YORK)					
BARNEGAT BAY, NJ	E		50,000		
BARNEGAT INLET, NJ	N				1,400,000
CAPE MAY INLET TO LOWER TOWNSHIP, NJ	SP			100,000	
COLD SPRING INLET, NJ	N				580,000
DELAWARE RIVER AT CAMDEN, NJ	N				19,000
DELAWARE RIVER MAIN CHANNEL, NJ, PA & DE	N			29,756,000	
DELAWARE RIVER, PHILADELPHIA TO THE SEA, NJ, PA & DE	N				16,355,000
DELAWARE RIVER, PHILADELPHIA, PA TO TRENTON, NJ	N				3,180,000
GREAT EGG HARBOR INLET AND PECK BEACH, NJ	SP			5,100,000	
HUDSON - RARITAN ESTUARY, NY & NJ (SEE NEW YORK)					
KILL VAN KULL AND NEWARK BAY CHANNEL, NY & NJ (SEE NEW YORK)					
NEW JERSEY INTRACOASTAL WATERWAY, ENV RESTORATION, NJ	E	218,000			
NEW JERSEY INTRACOASTAL WATERWAY, NJ	N				2,005,000
NEW YORK AND NEW JERSEY HARBOR, NY & NJ (SEE NEW YORK)					
NEW YORK HARBOR & ADJACENT CHANNELS, PORT JERSEY CHANNEL, NJ	N			5,649,000	
NEW YORK HARBOR (DRIFT REMOVAL), NY & NJ (SEE NEW YORK)					
NEWARK BAY, HACKENSACK AND PASSAIC RIVERS, NJ	N				120,000
PASSAIC RIVER FLOOD WARNING SYSTEMS, NJ	FC				425,000
PASSAIC RIVER PRESERVATION OF NATURAL STORAGE AREAS, NJ	FC			1,700,000	
RAMAPO RIVER AT OAKLAND, NJ	FC			2,717,000	

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
NEW JERSEY (CONTINUED)					
RARITAN BAY AND SANDY HOOK BAY, LEONARDO, NJ	SP	550,000			
RARITAN BAY AND SANDY HOOK BAY, UNION BEACH, NJ	SP	291,000			
RARITAN RIVER BASIN, GREEN BROOK SUB-BASIN, NJ	FC			4,000,000	
RARITAN RIVER TO ARTHUR KILL CUT-OFF, NJ	N				140,000
RARITAN RIVER, NJ	N				120,000
SALEM RIVER, NJ	N				278,000
SANDY HOOK TO BARNEGAT INLET, NJ	SP			6,383,000	
SHREWSBURY RIVER AND TRIBUTARIES IN MONMOUTH COUNTY, NJ	FDP	120,000			
SHREWSBURY RIVER, MAIN CHANNEL, NJ	N				175,000
SOUTH RIVER, RARITAN RIVER BASIN, NJ	FDP	450,000			
STONY BROOK, NJ	E	120,000			
UPPER PASSAIC RIVER AND TRIBS, LONG HILL, MORRIS COUNTY, NJ	FDP	300,000			
UPPER ROCKAWAY RIVER, MORRIS COUNTY, NJ	FDP	300,000			
WOODBRIDGE AND RAHWAY, NJ	FDP	200,000			

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
NEW MEXICO					
ABIQUIU DAM, NM	FC				1,315,000
ACEQUIAS IRRIGATION SYSTEM, NM	FC			900,000	
ALAMOGORDO, NM	FC			3,000,000	
CIMARRON RIVER AND TRIBUTARIES, OK, KS, NM & CO (SEE OKLAHOMA)					
COCHITI LAKE, NM	FC				1,766,000
CONCHAS LAKE, NM	FC				1,037,000
ESPANOLA VALLEY, RIO GRANDE AND TRIBUTARIES, NM	FDP	50,000			
GALISTEO DAM, NM	FC				305,000
INSPECTION OF COMPLETED WORKS, NM	FC				50,000
JEMEZ CANYON DAM, NM	FC				445,000
LAS CRUCES, NM	FC			2,841,000	
MIDDLE RIO GRANDE FLOOD PROTECTION, BERNALILLO TO BELEN, NM	FC			600,000	
RIO GRANDE BASIN, NM, CO & TX	COM	500,000			
RIO GRANDE FLOODWAY, SAN ACACIA TO BOSQUE DEL APACHE, NM	FC			600,000	
SANTA ROSA DAM AND LAKE, NM	FC				846,000
SCHEDULING RESERVOIR OPERATIONS, NM	FC				73,000
SW VALLEY FLOOD DAMAGE REDUCTION STUDY, ALBUQUERQUE, NM	E	330,000			
TWO RIVERS DAM, NM	FC				313,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
NEW YORK					
ALMOND LAKE, NY	FC				468,000
ARKPORT DAM, NY	FC				257,000
ARTHUR KILL CHANNEL, HOWLAND HOOK MARINE TERMINAL, NY & NJ	N		347,000	5,000,000	
ATLANTIC COAST OF NYC, ROCKAWAY INLET TO NORTON POINT, NY	SP			500,000	
AUSABLE RIVER BASIN, ESSEX AND CLINTON COUNTIES, NY	FDP	200,000			
BLACK ROCK CHANNEL AND TONAWANDA HARBOR, NY	N				2,966,000
BOQUET RIVER AND TRIBUTARIES, ESSEX COUNTY, NY	FDP	200,000			
BRONX RIVER BASIN, NY	FDP	250,000			
BUFFALO HARBOR, NY	N				176,000
CLINTON COUNTY, NY	FDP	150,000			
DUNKIRK HARBOR, NY	N				310,000
EAST RIVER, NY	N				750,000
EAST ROCKAWAY INLET TO ROCKAWAY INLET AND JAMAICA BAY, NY	SP			1,000,000	
EAST ROCKAWAY INLET, NY	N				2,250,000
EAST SIDNEY LAKE, NY	FC				473,000
FIRE ISLAND INLET TO JONES INLET, NY	SP			500,000	340,000
FIRE ISLAND INLET TO MONTAUK POINT, NY	SP			3,000,000	
FIRE ISLAND INLET, NY	N				1,000,000
FLUSHING BAY AND CREEK, NY	E	520,000			490,000
GREAT SOUTH BAY, NY	N				1,540,000
HUDSON - RARITAN ESTUARY, NY & NJ	E	800,000			
HUDSON RIVER CHANNEL, NY	N				1,265,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
NEW YORK (CONTINUED)					
HUDSON RIVER HABITAT RESTORATION, NY	N	50,000	50,000		
HUDSON RIVER, HUDSON, NY	N	120,000			
HUDSON RIVER, NY (MAINT)	N				2,485,000
HUDSON RIVER, NY (O&C)	N				1,340,000
INSPECTION OF COMPLETED WORKS, NY	FC				460,000
JAMAICA BAY, MARINE PARK AND PLUMB BEACH, ARVERNE, NY	SP	50,000			
JAMAICA BAY, MARINE PARK AND PLUMB BEACH, NY	SP	296,000			
JAMAICA BAY, NY	N				1,410,000
JONES INLET, NY	N				200,000
KILL VAN KULL AND NEWARK BAY CHANNEL, NY & NJ	N			53,000,000	
LINDENHURST, NY	FDP	100,000			
LONG ISLAND INTRACOASTAL WATERWAY, NY	N				2,190,000
MORICHES INLET, NY	N				980,000
MT MORRIS LAKE, NY	FC				1,958,000
NARROWS OF LAKE CHAMPLAIN, VT & NY (SEE VERMONT)					
NEW YORK AND NEW JERSEY CHANNELS, NY	N				6,720,000
NEW YORK AND NEW JERSEY HARBOR, NY & NJ	N		2,528,000		
NEW YORK HARBOR (DRIFT REMOVAL), NY & NJ	N				5,030,000
NEW YORK HARBOR (PREVENTION OF OBSTRUCTIVE DEPOSITS), NY	N				740,000
NEW YORK HARBOR ANCHORAGE AREAS, NY	N	259,000			
NEW YORK HARBOR, NY	N				12,319,000
NORTH SHORE OF LONG ISLAND, BAYVILLE, NY	SP	300,000			

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
NEW YORK (CONTINUED)					
ONONDAGA LAKE, NY	SPE	250,000			
OSWEGO HARBOR, NY	N				353,000
PORTCHESTER HARBOR, NY	N				200,000
PROJECT CONDITION SURVEYS, NY	N				3,038,000
ROCHESTER HARBOR, NY	N				725,000
SAG HARBOR, NY	N				1,600,000
SAW MILL RIVER AND TRIBUTARIES, NY	E	50,000			
SHINNECOCK INLET, NY	N				2,000,000
SOUTH SHORE OF LONG ISLAND, NY	E	90,000			
SOUTH SHORE OF STATEN ISLAND, NY	SP	400,000			
SOUTHERN NEW YORK FLOOD CONTROL PROJECTS, NY	FC				739,000
STURGEON POINT HARBOR, NY	N				15,000
SURVEILLANCE OF NORTHERN BOUNDARY WATERS, NY	N				564,000
SUSQUEHANNA RIVER BASIN WATER MANAGEMENT, NY, PA & MD	E		100,000		
UPPER DELAWARE RIVER WATERSHED, NY	E	776,000			
WHITNEY POINT LAKE, NY	FC				517,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
NORTH CAROLINA					
AIWW, NORFOLK, VA TO ST JOHNS RIVER, FL, GA, SC, NC & VA (SEE FLORIDA)					
AIWW, REPLACEMENT OF FEDERAL HIGHWAY BRIDGES, NC	N			1,000,000	
ATLANTIC INTRACOASTAL WATERWAY, NC	N				5,831,000
B EVERETT JORDAN DAM AND LAKE, NC	FC				1,500,000
BEAUFORT HARBOR, NC	N				350,000
BOGUE INLET AND CHANNEL, NC	N				627,000
CAPE FEAR RIVER ABOVE WILMINGTON, NC	N				897,000
CAROLINA BEACH AND VICINITY, NC	SP			2,000,000	
CAROLINA BEACH INLET, NC	N				1,430,000
CURRITUCK SOUND, NC	E	100,000			
DARE COUNTY BEACHES, NC	SP	50,000			
FALLS LAKE, NC	FC				1,276,000
INSPECTION OF COMPLETED WORKS, NC	FC				22,000
JOHN H KERR DAM AND RESERVOIR, VA & NC (MAJOR REHAB) (SEE VIRGINIA)					
JOHN H KERR DAM AND RESERVOIR, VA & NC (SECTION 216) (SEE VIRGINIA)					
JOHN H KERR LAKE, VA & NC (SEE VIRGINIA)					
LOCKWOODS FOLLY RIVER, NC	E	600,000			455,000
MANTEO (SHALLOWBAG) BAY, NC	N		250,000		4,995,000
MASONBORO INLET AND CONNECTING CHANNELS, NC	N				45,000
MOREHEAD CITY HARBOR, NC	N				4,737,000
NEUSE RIVER BASIN, NC	FDP	100,000			

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
NORTH CAROLINA (CONTINUED)					
NEW RIVER INLET, NC	N				825,000
NEW TOPSAIL INLET AND CONNECTING CHANNELS, NC	N				610,000
PAMLICO AND TAR RIVERS, NC	N				139,000
PROJECT CONDITION SURVEYS, NC	N				64,000
ROANOKE RIVER, NC	N				100,000
W KERR SCOTT DAM AND RESERVOIR, NC	FC				1,742,000
WILMINGTON HARBOR, NC	N			40,600,000	8,405,000
YADKIN - PEE DEE RIVER WATERSHED, SC & NC (SEE SOUTH CAROLINA)					

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
NORTH DAKOTA					
BOWMAN - HALEY LAKE, ND	FC				241,000
BUFORD-TRENTON IRRIGATION DISTRICT LAND ACQUISITION, ND	FC			4,700,000	
DEVILS LAKE EMERGENCY OUTLET, ND	FC			24,000,000	
DEVILS LAKE, ND	SPE	50,000			
GARRISON DAM AND POWER PLANT, ND (MAJOR REHAB)	MP			5,300,000	
GARRISON DAM, LAKE SAKAKAWEA, ND	MP				8,513,000
GRAFTON, PARK RIVER, ND	FC		900,000		
GRAND FORKS, ND - EAST GRAND FORKS, MN	FC			13,044,000	
HOMME LAKE, ND	FC				153,000
HOMME LAKE, ND (DAM SAFETY)	FC			8,000,000	
LAKE ASHTABULA AND BALDHILL DAM, ND	FC				1,230,000
MISSOURI R BETWEEN FORT PECK DAM AND GAVINS PT, SD, MT & ND (SEE SOUTH DAKOTA)					
MISSOURI R MASTER WTR CONTROL MANUAL, NE, IA, KS, MO, MT, ND (SEE NEBRASKA)					
OAHE DAM, LAKE OAHE, SD & ND (SEE SOUTH DAKOTA)					
PIPESTEM LAKE, ND	FC				401,000
SHEYENNE RIVER, ND	FC			2,600,000	
SOURIS RIVER, ND	FC				292,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
OHIO					
ALUM CREEK LAKE, OH	FC				790,000
ASHTABULA HARBOR, OH	N				750,000
ASHTABULA RIVER ENVIRONMENTAL DREDGING, OH	E		384,000		
BEACH CITY LAKE, MUSKINGUM RIVER LAKES, OH (DAM SAFETY)	FC			897,000	
BERLIN LAKE, OH	FC				3,270,000
BUTLER COUNTY, OH	FDP	100,000			
CAESAR CREEK LAKE, OH	FC				1,309,000
CLARENCE J BROWN DAM, OH	FC				1,175,000
CLEVELAND HARBOR, OH	N				3,915,000
COLUMBUS METROPOLITAN AREA, OH	FDP	600,000			
CONNEAUT HARBOR, OH	N				735,000
DEER CREEK LAKE, OH	FC				745,000
DELAWARE LAKE, OH	FC				777,000
DILLON LAKE, OH	FC				709,000
FAIRPORT HARBOR, OH	N				1,785,000
GREENUP LOCKS AND DAM, OHIO RIVER, KY & OH (SEE KENTUCKY)					
HOCKING RIVER BASIN ENV RESTORATION, MONDAY CREEK, OH	E	306,000			
HOCKING RIVER BASIN ENV RESTORATION, SUNDAY CREEK, OH	E	200,000			
HURON HARBOR, OH	N				790,000
INSPECTION OF COMPLETED WORKS, OH	FC				240,000
LORAIN HARBOR, OH	N				2,152,000
MASSILLON LOCAL PROTECTION PROJECT, OH	FC				25,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
OHIO (CONTINUED)					
METROPOLITAN REGION OF CINCINNATI, DUCK CREEK, OH	FC			3,024,000	
MICHAEL J KIRWAN DAM AND RESERVOIR, OH	FC				1,033,000
MILL CREEK, OH	FC			500,000	
MOSQUITO CREEK LAKE, OH	FC				1,329,000
MUSKINGUM BASIN SYSTEM STUDY, OH	E	100,000			
MUSKINGUM RIVER LAKES, OH	FC				7,993,000
NORTH BRANCH KOKOSING RIVER LAKE, OH	FC				544,000
OHIO RIVER LOCKS AND DAMS, KY, IL, IN & OH (SEE KENTUCKY)					
OHIO RIVER LOCKS AND DAMS, PA, OH & WV (SEE PENNSYLVANIA)					
OHIO RIVER LOCKS AND DAMS, WV, KY & OH (SEE WEST VIRGINIA)					
OHIO RIVER MAIN STEM SYSTEMS STUDY, KY, IL, IN, PA, WV & OH (SEE KENTUCKY)					
OHIO RIVER OPEN CHANNEL WORK, KY, IL, IN & OH (SEE KENTUCKY)					
OHIO RIVER OPEN CHANNEL WORK, PA, OH & WV (SEE PENNSYLVANIA)					
OHIO RIVER OPEN CHANNEL WORK, WV, KY & OH (SEE WEST VIRGINIA)					
PAINT CREEK LAKE, OH	FC				661,000
PROJECT CONDITION SURVEYS, OH	N				85,000
RICHLAND COUNTY, OHIO	FDP	100,000			
ROBERT C BYRD LOCKS AND DAM, OHIO RIVER, WV & OH (SEE WEST VIRGINIA)					
ROSEVILLE LOCAL PROTECTION PROJECT, OH	FC				30,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
OHIO (CONTINUED)					
SANDUSKY HARBOR, OH	N				870,000
SURVEILLANCE OF NORTHERN BOUNDARY WATERS, OH	N				174,000
TOLEDO HARBOR, OH	N				4,550,000
TOM JENKINS DAM, OH	FC				350,000
WEST COLUMBUS, OH	FC			6,000,000	
WEST FORK OF MILL CREEK LAKE, OH	FC				565,000
WILLIAM H HARSHA LAKE, OH	FC				821,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
OKLAHOMA					
ARCADIA LAKE, OK	FC				417,000
ARKANSAS RIVER NAVIGATION STUDY, AR & OK (SEE ARKANSAS)					
BIRCH LAKE, OK	FC				480,000
BROKEN BOW LAKE, OK	MP				1,471,000
CANDY LAKE, OK	FC				18,000
CANTON LAKE, OK	FC				2,656,000
CIMARRON RIVER AND TRIBUTARIES, OK, KS, NM & CO	E	200,000			
COPAN LAKE, OK	FC				823,000
EUFAULA LAKE, OK	MP				7,240,000
FORT GIBSON LAKE, OK	MP				5,954,000
FORT SUPPLY LAKE, OK	FC				838,000
GREAT SALT PLAINS LAKE, OK	FC				209,000
HEYBURN LAKE, OK	FC				557,000
HUGO LAKE, OK	FC				1,639,000
HULAH LAKE, OK	FC				447,000
INSPECTION OF COMPLETED WORKS, OK	FC				72,000
KAW LAKE, OK	FC				1,756,000
KEYSTONE LAKE, OK	MP				6,435,000
MCCLELLAN - KERR ARKANSAS RIVER NAVIGATION SYSTEM, AR & OK (SEE ARKANSAS)					
MCCLELLAN - KERR ARKANSAS RIVER NAVIGATION SYSTEM, OK	N				4,588,000
OOLOGAH LAKE, OK	FC				2,353,000
OPTIMA LAKE, OK	FC				63,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
OKLAHOMA (CONTINUED)					
PENSACOLA RESERVOIR, LAKE OF THE CHEROKEES, OK	FC				32,000
PINE CREEK LAKE, OK	FC				1,160,000
ROBERT S KERR LOCK AND DAM AND RESERVOIRS, OK	MP				4,001,000
SARDIS LAKE, OK	FC				944,000
SCHEDULING RESERVOIR OPERATIONS, OK	FC				386,000
SKIATOOK LAKE, OK	FC				947,000
SKIATOOK LAKE, OK (DAM SAFETY)	FC			2,400,000	
SOUTHEAST OKLAHOMA WATER RESOURCE STUDY, OK	E	200,000			
TENKILLER FERRY LAKE, OK	MP				3,178,000
TENKILLER FERRY LAKE, OK (DAM SAFETY)	MP			4,500,000	
WARR ACRES, OK	FDP	200,000			
WAURIKA LAKE, OK	FC				1,441,000
WEBBERS FALLS LOCK AND DAM, OK	MP				3,297,000
WISTER LAKE, OK	FC				729,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
OREGON					
APPLEGATE LAKE, OR	FC				748,000
BLUE RIVER LAKE, OR	FC				332,000
BONNEVILLE LOCK AND DAM, OR & WA	MP				6,250,000
BONNEVILLE POWERHOUSE PHASE II, OR & WA (MAJOR REHAB)	MP			6,110,000	
CHETCO RIVER, OR	N				435,000
COLUMBIA & LWR WILLAMETTE R BLW VANCOUVER, WA & PORTLAND, OR	N				16,274,000
COLUMBIA RIVER AT BAKER BAY, WA & OR (SEE WASHINGTON)					
COLUMBIA RIVER AT THE MOUTH, OR & WA	N				7,403,000
COLUMBIA RIVER BETWEEN VANCOUVER, WA AND THE DALLES, OR	N				357,000
COLUMBIA RIVER FISH MITIGATION, WA, OR & ID (SEE WASHINGTON)					
COLUMBIA RIVER NAVIGATION CHANNEL DEEPENING, OR & WA	N		923,000		
COLUMBIA RIVER TREATY FISHING ACCESS SITES, OR & WA	MP			5,000,000	
COOS BAY, OR	N				4,144,000
COQUILLE RIVER, OR	N				316,000
COTTAGE GROVE LAKE, OR	FC				919,000
COUGAR LAKE, OR	MP				705,000
DEPOE BAY, OR	N				3,000
DETROIT LAKE, OR	MP				672,000
DORENA LAKE, OR	FC				580,000
ELK CREEK LAKE, OR	FC			500,000	
FALL CREEK LAKE, OR	FC				619,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
OREGON (CONTINUED)					
FERN RIDGE LAKE, OR	FC				1,277,000
GREEN PETER - FOSTER LAKES, OR	MP				1,050,000
HILLS CREEK LAKE, OR	MP				408,000
INSPECTION OF COMPLETED WORKS, OR	FC				220,000
JOHN DAY LOCK AND DAM, OR & WA	MP				4,507,000
LOOKOUT POINT LAKE, OR	MP				1,990,000
LOST CREEK LAKE, OR	MP				2,919,000
LOWER COLUMBIA RIVER BASIN BANK PROTECTION, OR & WA	FC			200,000	
LOWER SNAKE RIVER FISH & WILDLIFE COMPENSATION, WA, OR & ID (SEE WASHINGTON)					
MCNARY LOCK AND DAM, OR & WA	MP				4,989,000
PORT ORFORD, OR	N				702,000
PROJECT CONDITION SURVEYS, OR	N				200,000
ROGUE RIVER, OR	N				641,000
SCHEDULING RESERVOIR OPERATIONS, OR	FC				67,000
SIUSLAW RIVER, OR	N				822,000
SKIPANON CHANNEL, OR	N				176,000
SURVEILLANCE OF NORTHERN BOUNDARY WATERS, OR	N				134,000
THE DALLES LOCK AND DAM, WA & OR (SEE WASHINGTON)					
THE DALLES POWERHOUSE (UNITS 1-14), WA & OR (MAJOR REHAB) (SEE WASHINGTON)					
TILLAMOOK BAY AND BAR, OR	N				148,000
TILLAMOOK BAY AND ESTUARY ECOSYSTEM RESTORATION, OR	E	274,000			

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
OREGON (CONTINUED)					
UMPQUA RIVER, OR	N				1,421,000
WILLAMETTE RIVER AT WILLAMETTE FALLS, OR	N				1,234,000
WILLAMETTE RIVER BANK PROTECTION, OR	FC				285,000
WILLAMETTE RIVER BASIN REVIEW, OR	COM	210,000			
WILLAMETTE RIVER ENVIRONMENTAL DREDGING, OR	E	114,000			
WILLAMETTE RIVER FLOODPLAIN RESTORATION, OR	E	200,000			
WILLAMETTE RIVER TEMPERATURE CONTROL, OR	E			8,200,000	
WILLOW CREEK LAKE, OR	FC				646,000
YAQUINA BAY AND HARBOR, OR	N				7,895,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
PENNSYLVANIA					
ALLEGHENY RIVER, PA	N				6,905,000
ALVIN R BUSH DAM, PA	FC				608,000
AYLESWORTH CREEK LAKE, PA	FC				216,000
BELTZVILLE LAKE, PA	FC				832,000
BLOOMSBURG, PA	FDP	441,000			
BLUE MARSH LAKE, PA	FC				2,121,000
CHESAPEAKE BAY ENV RESTORATION AND PROTECTION, MD, VA & PA (SEE MARYLAND)					
CONEMAUGH RIVER LAKE, PA	FC				1,259,000
COWANESQUE LAKE, PA	FC				1,785,000
CROOKED CREEK LAKE, PA	FC				1,491,000
CURWENSVILLE LAKE, PA	FC				859,000
DELAWARE RIVER MAIN CHANNEL, NJ, PA & DE (SEE NEW JERSEY)					
DELAWARE RIVER, PHILADELPHIA TO THE SEA, NJ, PA & DE (SEE NEW JERSEY)					
DELAWARE RIVER, PHILADELPHIA, PA TO TRENTON, NJ (SEE NEW JERSEY)					
EAST BRANCH CLARION RIVER LAKE, PA	FC				903,000
ERIE HARBOR, PA	N				125,000
FOSTER JOSEPH SAYERS DAM, PA	FC				713,000
FRANCIS E WALTER DAM, PA	FC				883,000
GENERAL EDGAR JADWIN DAM AND RESERVOIR, PA	FC				321,000
INSPECTION OF COMPLETED WORKS, PA	FC				95,000
JOHNSTOWN, PA	FC				13,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
PENNSYLVANIA (CONTINUED)					
JOHNSTOWN, PA (MAJOR REHAB)	FC			7,000,000	
KINZUA DAM AND ALLEGHENY RESERVOIR, PA	FC				1,472,000
LOCKS AND DAMS 2, 3 AND 4, MONONGAHELA RIVER, PA	N			35,000,000	
LOWER WEST BR, SUS RIVER, ENV RESTORATION, BUFFALO CREEK, PA	E	250,000			
LOYALHANNA LAKE, PA	FC				1,778,000
MAHONING CREEK LAKE, PA	FC				1,392,000
MONONGAHELA RIVER, PA	N				14,293,000
OHIO RIVER LOCKS AND DAMS, PA, OH & WV	N				22,407,000
OHIO RIVER MAIN STEM SYSTEMS STUDY, KY, IL, IN, PA, WV & OH (SEE KENTUCKY)					
OHIO RIVER OPEN CHANNEL WORK, PA, OH & WV	N				218,000
PRESQUE ISLE PENINSULA, PA (PERMANENT)	SP			580,000	
PROJECT CONDITION SURVEYS, PA	N				88,000
PROMPTON LAKE, PA	FC				437,000
PUNXSUTAWNEY, PA	FC				13,000
RAYSTOWN LAKE, PA	FC				3,533,000
SAW MILL RUN, PITTSBURGH, PA	FC			4,300,000	
SCHUYLKILL RIVER, PA	N				740,000
SHENANGO RIVER LAKE, PA	FC				2,644,000
STILLWATER LAKE, PA	FC				334,000
SURVEILLANCE OF NORTHERN BOUNDARY WATERS, PA	N				70,000
SUSQUEHANNA RIVER BASIN WATER MANAGEMENT, NY, PA & MD (SEE NEW YORK)					

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
PENNSYLVANIA (CONTINUED)					
TIOGA - HAMMOND LAKES, PA	FC				2,382,000
TIONESTA LAKE, PA	FC				1,788,000
TURTLE CREEK BASIN, UPPER TURTLE CREEK ENV RESTORATION, PA	E	66,000			
UNION CITY LAKE, PA	FC				258,000
WOODCOCK CREEK LAKE, PA	FC				817,000
WYOMING VALLEY, PA (LEVEE RAISING)	FC			23,092,000	
YORK INDIAN ROCK DAM, PA	FC				517,000
YOUGHIOGHENY RIVER LAKE, PA & MD	FC				2,011,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
PUERTO RICO					
ARECIBO RIVER, PR	FC			4,102,000	
PORTUGUES AND BUCANA RIVERS, PR	FC			9,590,000	
RIO DE LA PLATA, PR	FC			3,493,000	
RIO GRANDE DE LOIZA, PR	FC			743,000	
RIO GUANAJIBO, PR	FC		441,000		
RIO NIGUA AT SALINAS, PR	FC			198,000	
RIO PUERTO NUEVO, PR	FC			11,000,000	
SAN JUAN HARBOR, PR	N			6,940,000	

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
RHODE ISLAND					
BLACKSTONE RIVER WATERSHED RESTORATION, MA & RI (SEE MASSACHUSETTS)					
PROVIDENCE RIVER AND HARBOR, RI	N				584,000
RHODE ISLAND ECOSYSTEM RESTORATION, RI	E	191,000			
RHODE ISLAND SOUTH COAST, HABITAT REST & STRM DMG REDUCT, RI	E	54,000			

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
SOUTH CAROLINA					
AIWW, NORFOLK, VA TO ST JOHNS RIVER, FL, GA, SC, NC & VA (SEE FLORIDA)					
ATLANTIC INTRACOASTAL WATERWAY, SC	RCP	581,000			3,629,000
CHARLESTON ESTUARY, SC	E	150,000			
CHARLESTON HARBOR, SC	N				7,145,000
CHARLESTON HARBOR, SC (DEEPENING & WIDENING)	N			16,227,000	
COOPER RIVER, CHARLESTON HARBOR, SC	N				3,235,000
FOLLY RIVER, SC	N				266,000
GEORGETOWN HARBOR, SC	N				5,234,000
HARTWELL LAKE, GA & SC (SEE GEORGIA)					
INSPECTION OF COMPLETED WORKS, SC	FC				26,000
J STROM THURMOND LAKE, GA & SC (SEE GEORGIA)					
LOWER SAVANNAH RIVER BASIN, GA & SC (SEE GEORGIA)					
PAWLEYS ISLAND, SC	SP	219,000			
PORT ROYAL HARBOR, SC	N				21,000
PROJECT CONDITION SURVEYS, SC	N				60,000
RICHARD B RUSSELL DAM AND LAKE, GA & SC (SEE GEORGIA)					
SAVANNAH RIVER BASIN COMPREHENSIVE, GA & SC (SEE GEORGIA)					
SHIPYARD RIVER, SC	N				477,000
THURMOND LAKE POWERHOUSE, GA & SC (MAJOR REHAB) (SEE GEORGIA)					
TOWN CREEK, SC	N				398,000
YADKIN - PEE DEE RIVER WATERSHED, SC & NC	E		50,000		

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
SOUTH DAKOTA					
BIG BEND DAM, LAKE SHARPE, SD	MP				6,422,000
BIG SIOUX RIVER, SIOUX FALLS, SD	FC			1,500,000	
BIGSTONE LAKE WHETSTONE RIVER, MN & SD (SEE MINNESOTA)					
CHEYENNE RIVER SIOUX TRIBE, LOWER BRULE SIOUX, SD	E			4,000,000	
COLD BROOK LAKE, SD	FC				496,000
COTTONWOOD SPRINGS LAKE, SD	FC				172,000
FORT RANDALL DAM, LAKE FRANCIS CASE, SD	MP				8,852,000
GAVINS POINT DAM, LEWIS AND CLARK LAKE, NE & SD (SEE NEBRASKA)					
LAKE TRAVERSE, SD & MN	FC				580,000
MISSOURI NATIONAL RECREATIONAL RIVER, NE & SD (SEE NEBRASKA)					
MISSOURI R BETWEEN FORT PECK DAM AND GAVINS PT, SD, MT & ND	MP				586,000
OAHE DAM, LAKE OAHE, SD & ND	MP				11,192,000
PIERRE, SD	MP			4,000,000	
SCHEDULING RESERVOIR OPERATIONS, SD	FC				306,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
TENNESSEE					
BARKLEY DAM AND LAKE BARKLEY, KY & TN (SEE KENTUCKY)					
CENTER HILL LAKE, TN	MP				6,070,000
CHEATHAM LOCK AND DAM, TN	MP				5,307,000
CHICKAMAUGA LOCK, TN	N				1,900,000
CORDELL HULL DAM AND RESERVOIR, TN	MP				4,916,000
DALE HOLLOW LAKE, TN	MP				4,191,000
DAVIDSON COUNTY, TN	FDP	200,000			
DUCK RIVER WATERSHED, TN	E	50,000			
FRENCH BROAD WATERSHED, TN	E	500,000			
INSPECTION OF COMPLETED WORKS, TN	FC				5,000
J PERCY PRIEST DAM AND RESERVOIR, TN	MP				3,278,000
NORTH CHICKAMAUGA CREEK, TN	E	50,000			
OLD HICKORY LOCK AND DAM, TN	MP				6,326,000
TENNESSEE RIVER, TN	N				14,484,000
WOLF RIVER HARBOR, TN	N				348,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
TEXAS					
AQUILLA LAKE, TX	FC				738,000
ARKANSAS - RED RIVER BASINS CHLORIDE CONTROL - AREA VIII, TX	FC				1,340,000
BARBOUR TERMINAL CHANNEL, TX	N				314,000
BARDWELL LAKE, TX	FC				1,453,000
BAYPORT SHIP CHANNEL, TX	N				1,810,000
BELTON LAKE, TX	FC				3,103,000
BENBROOK LAKE, TX	FC				1,975,000
BOIS D'ARC CREEK, BONHAM, TX	FDP	200,000			
BRAYS BAYOU, HOUSTON, TX	FC			5,500,000	
BRAZOS ISLAND HARBOR, TX	N				4,802,000
BUFFALO BAYOU AND TRIBUTARIES, TX	FC				2,029,000
BUFFALO BAYOU AND TRIBUTARIES, WHITE OAK BAYOU, TX	FDP	230,000			
CANYON LAKE, TX	FC				2,689,000
CHANNEL TO PORT MANSFIELD, TX	N				2,627,000
CHANNEL TO VICTORIA, TX	N			6,104,000	
CLEAR CREEK, TX	FC			1,525,000	
CORPUS CHRISTI SHIP CHANNEL, LAQUINTA CHANNEL, TX	N	456,000			
CORPUS CHRISTI SHIP CHANNEL, TX	N	1,008,000			5,036,000
DALLAS FLOODWAY EXTENSION, TRINITY RIVER, TX	FC		100,000		
DENISON DAM, LAKE TEXOMA, TX	MP				5,517,000
DOUBLE BAYOU, TX	N				805,000
EL PASO, TX	FC			5,200,000	

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
TEXAS (CONTINUED)					
ESTELLINE SPRINGS EXPERIMENTAL PROJECT, TX	FC				10,000
FERRELLS BRIDGE DAM, LAKE O' THE PINES, TX	FC				2,801,000
FREEPORT HARBOR, TX	N				4,802,000
GALVESTON HARBOR AND CHANNEL, TX	N				87,000
GIWW MODIFICATIONS, TX	N	195,000			
GIWW, ARANSAS NATIONAL WILDLIFE REFUGE, TX	N			1,176,000	
GIWW, BRAZOS RIVER TO PORT O'CONNOR, TX	RCP	500,000			
GIWW, CHANNEL TO VICTORIA, TX	N				752,000
GIWW, HIGH ISLAND TO BRAZOS RIVER, TX	N	728,000			
GIWW, MATAGORDA BAY, TX	N		100,000		
GIWW, PORT O'CONNOR TO CORPUS CHRISTI BAY, TX	RCP	653,000			
GRANGER DAM AND LAKE, TX	FC				1,573,000
GRAPEVINE LAKE, TX	FC				2,433,000
GREENS BAYOU, HOUSTON, TX	FC		434,000		
GUADALUPE AND SAN ANTONIO RIVER BASINS, TX	E	200,000			
GULF INTRACOASTAL WATERWAY, TX	N				21,765,000
HORDS CREEK LAKE, TX	FC				1,203,000
HOUSTON - GALVESTON NAVIGATION CHANNELS, TX	N			53,492,000	
HOUSTON SHIP CHANNEL, TX	N				8,137,000
HUNTING BAYOU, HOUSTON, TX	FC		100,000		
INSPECTION OF COMPLETED WORKS, TX	FC				393,000
JIM CHAPMAN LAKE, TX	FC				1,144,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
TEXAS (CONTINUED)					
JOE POOL LAKE, TX	FC				759,000
LAKE KEMP, TX	FC				201,000
LAVON LAKE, TX	FC				2,439,000
LEWISVILLE DAM, TX	FC				2,959,000
LOWER COLORADO RIVER BASIN, TX	E	600,000			
MATAGORDA SHIP CHANNEL, TX	N				4,315,000
MIDDLE BRAZOS RIVER, TX	E	300,000			
MOUTH OF THE COLORADO RIVER, TX	N				2,953,000
NAVARRO MILLS LAKE, TX	FC				1,524,000
NECHES RIVER AND TRIBUTARIES SALTWATER BARRIER, TX	N			9,000,000	
NORTH BOSQUE RIVER, TX	E		50,000		
NORTH PADRE ISLAND, CORPUS CHRISTI, TX	E		164,000		
NORTH SAN GABRIEL DAM AND LAKE GEORGETOWN, TX	FC				1,785,000
NORTHWEST EL PASO, TX	FDP	280,000			
O C FISHER DAM AND LAKE, TX	FC				1,005,000
PAT MAYSE LAKE, TX	FC				941,000
PECAN BAYOU, BROWNWOOD, TX	FC		100,000		
PROCTOR LAKE, TX	FC				1,709,000
PROJECT CONDITION SURVEYS, TX	N				75,000
RAY ROBERTS LAKE, TX	FC				1,002,000
RAYMONDVILLE DRAIN, TX	FC		100,000		
RIO GRANDE BASIN, NM, CO & TX (SEE NEW MEXICO)					

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
TEXAS (CONTINUED)					
SABINE - NECHES WATERWAY, TX	N	544,000			10,013,000
SABINE PASS TO GALVESTON BAY, TX	E	114,000			
SAM RAYBURN DAM AND RESERVOIR, TX	MP				4,191,000
SAN ANTONIO CHANNEL IMPROVEMENT, TX	FC			900,000	
SCHEDULING RESERVOIR OPERATIONS, TX	FC				249,000
SIMS BAYOU, HOUSTON, TX	FC			11,820,000	
SOMERVILLE LAKE, TX	FC				2,773,000
SOUTH MAIN CHANNEL, TX	FC		574,000		
STILLHOUSE HOLLOW DAM, TX	FC				1,744,000
SULPHUR RIVER ENVIRONMENTAL RESTORATION, TX	E	50,000			
TEXAS CITY SHIP CHANNEL, TX	N				371,000
TOWN BLUFF DAM, B A STEINHAGEN LAKE, TX	MP				2,007,000
TRINITY RIVER AND TRIBUTARIES, TX	N				29,000
UPPER TRINITY RIVER BASIN, TX	FDP	500,000			
WACO LAKE, TX	FC				2,301,000
WALLISVILLE LAKE, TX	FC				1,208,000
WHITNEY LAKE, TX	MP				4,680,000
WRIGHT PATMAN DAM AND LAKE, TX	FC				2,643,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
UTAH					
INSPECTION OF COMPLETED WORKS, UT	FC				55,000
PROVO AND VICINITY, UT	FDP	100,000			
SCHEDULING RESERVOIR OPERATIONS, UT	FC				305,000
UPPER JORDAN RIVER, UT	FC			800,000	

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
VERMONT					
BALL MOUNTAIN LAKE, VT	FC				607,000
NARROWS OF LAKE CHAMPLAIN, VT & NY	N				46,000
NORTH HARTLAND LAKE, VT	FC				561,000
NORTH SPRINGFIELD LAKE, VT	FC				583,000
SOMERSET AND SEARSBURG DAMS, DEERFIELD RIVER, MA & VT (SEE MASSACHUSETTS)					
TOWNSHEND LAKE, VT	FC				629,000
UNION VILLAGE DAM, VT	FC				464,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
VIRGINIA					
AIWW, BRIDGE AT GREAT BRIDGE, VA	N			8,492,000	
AIWW, BRIDGES AT DEEP CREEK, VA	N	342,000	200,000		
AIWW, NORFOLK, VA TO ST JOHNS RIVER, FL, GA, SC, NC & VA (SEE FLORIDA)					
APPOMATTOX RIVER, VA	N				593,000
ATLANTIC INTRACOASTAL WATERWAY - ACC, VA	N				1,750,000
ATLANTIC INTRACOASTAL WATERWAY - DSC, VA	N				1,325,000
BALTIMORE HARBOR ANCHORAGES AND CHANNELS, MD & VA (SEE MARYLAND)					
CHANNEL TO NEWPORT NEWS, VA	N				120,000
CHESAPEAKE BAY ENV RESTORATION AND PROTECTION, MD, VA & PA (SEE MARYLAND)					
CHINCOTEAGUE INLET, VA	N				877,000
ELIZABETH RIVER BASIN, ENVIR RESTORATION, HAMPTON ROADS, VA	E	247,000			
GATHRIGHT DAM AND LAKE MOOMAW, VA	FC				1,485,000
HAMPTON RDS, NORFOLK & NEWPORT NEWS HBR, VA (DRIFT REMOVAL)	N				995,000
INSPECTION OF COMPLETED WORKS, VA	FC				77,000
JAMES RIVER CHANNEL, VA	N		277,000		4,294,000
JOHN H KERR DAM AND RESERVOIR, VA & NC (MAJOR REHAB)	MP			4,000,000	
JOHN H KERR DAM AND RESERVOIR, VA & NC (SECTION 216)	FDP	200,000			
JOHN H KERR LAKE, VA & NC	MP				8,041,000
JOHN W FLANNAGAN DAM AND RESERVOIR, VA	FC				1,525,000
LEVISA AND TUG FORKS AND UPPER CUMBERLAND RIVER, WV, VA & KY (SEE WEST VIRGINIA)					

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
VIRGINIA (CONTINUED)					
LITTLE WICOMICO RIVER, VA	N				605,000
LOWER RAPPAHANNOCK RIVER BASIN, VA	E	300,000			
NORFOLK HARBOR (PREVENTION OF OBSTRUCTIVE DEPOSITS), VA	N				225,000
NORFOLK HARBOR AND CHANNELS (DEEPENING), VA	N			600,000	
NORFOLK HARBOR AND CHANNELS, CRANEY ISLAND, VA	N	1,188,000			
NORFOLK HARBOR, VA	N				6,105,000
NORTH FORK OF POUND RIVER LAKE, VA	FC				406,000
PAGAN RIVER, VA	N				145,000
PHILPOTT LAKE, VA	MP				3,060,000
POTOMAC RIVER AT MT VERNON, VA	N				410,000
POWELL RIVER WATERSHED, VA	E	165,000			
POWELL RIVER, STRAIGHT, REEDS AND JONES CREEK, VA	E		200,000		
PRINCE WILLIAM COUNTY WATERSHED, VA	E	205,000			
PROJECT CONDITION SURVEYS, VA	N				617,000
RAPPAHANNOCK RIVER, EMBREY DAM, VA	E	257,000			
ROANOKE RIVER UPPER BASIN, HEADWATERS AREA, VA	FC			1,000,000	
RUDEE INLET, VA	N				646,000
STARLINGS CREEK, VA	N				551,000
THIMBLE SHOAL CHANNEL, VA	N				204,000
WATERWAY ON THE COAST OF VIRGINIA, VA	N				1,185,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
WASHINGTON					
BELLINGHAM BAY, WA	E	60,000			
BONNEVILLE LOCK AND DAM, OR & WA (SEE OREGON)					
BONNEVILLE POWERHOUSE PHASE II, OR & WA (MAJOR REHAB) (SEE OREGON)					
CENTRALIA, WA	FC		250,000		
CHEHALIS RIVER BASIN, WA	E	150,000			
CHIEF JOSEPH DAM, WA	MP				2,113,000
COLUMBIA & LWR WILLAMETTE R BLW VANCOUVER, WA & PORTLAND, OR (SEE OREGON)					
COLUMBIA RIVER AT BAKER BAY, WA & OR	N				3,000
COLUMBIA RIVER AT THE MOUTH, OR & WA (SEE OREGON)					
COLUMBIA RIVER BETWEEN CHINOOK AND SAND ISLAND, WA	N				6,000
COLUMBIA RIVER BETWEEN VANCOUVER, WA AND THE DALLES, OR (SEE OREGON)					
COLUMBIA RIVER FISH MITIGATION, WA, OR & ID	E			91,000,000	
COLUMBIA RIVER NAVIGATION CHANNEL DEEPENING, OR & WA (SEE OREGON)					
COLUMBIA RIVER TREATY FISHING ACCESS SITES, OR & WA (SEE OREGON)					
DUWAMISH AND GREEN RIVER BASIN, WA	E		222,000		
EVERETT HARBOR AND SNOHOMISH RIVER, WA	N				1,212,000
GRAYS HARBOR AND CHEHALIS RIVER, WA	N				9,820,000
HOWARD HANSON DAM, WA	FC		600,000		1,849,000
ICE HARBOR LOCK AND DAM, WA	MP				6,094,000
INSPECTION OF COMPLETED WORKS, WA	FC				146,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
WASHINGTON (CONTINUED)					
JOHN DAY LOCK AND DAM, OR & WA (SEE OREGON)					
LAKE WASHINGTON SHIP CANAL, WA	RCP	350,000			6,797,000
LITTLE GOOSE LOCK AND DAM, WA	MP				1,537,000
LOWER COLUMBIA RIVER BASIN BANK PROTECTION, OR & WA (SEE OREGON)					
LOWER GRANITE LOCK AND DAM, WA	MP				4,291,000
LOWER MONUMENTAL LOCK AND DAM, WA	MP				2,821,000
LOWER SNAKE RIVER FISH & WILDLIFE COMPENSATION, WA, OR & ID	E			1,000,000	
MCNARY LOCK AND DAM, OR & WA (SEE OREGON)					
MILL CREEK LAKE, WA	FC				925,000
MT ST HELENS SEDIMENT CONTROL, WA	FC			710,000	312,000
MUD MOUNTAIN DAM, WA	FC				2,440,000
MUD MOUNTAIN DAM, WA (DAM SAFETY)	FC			2,000,000	
OCEAN SHORES, WA	SP	100,000			
PROJECT CONDITION SURVEYS, WA	N				316,000
PUGET SOUND AND TRIBUTARY WATERS, WA	N				967,000
PUGET SOUND CONFINED DISPOSAL SITES, WA	N	250,000			
PUGET SOUND NEARSHORE MARINE HABITAT RESTORATION, WA	E	65,000			
QUILLAYUTE RIVER, WA	N				37,000
SCHEDULING RESERVOIR OPERATIONS, WA	FC				415,000
SEATTLE HARBOR, EAST WATERWAY CHANNEL DEEPENING, WA	N				100,000
SEATTLE HARBOR, WA	N				714,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
WASHINGTON (CONTINUED)					
SKAGIT RIVER, WA	FDP	270,000			
SKOKOMISH RIVER BASIN, WA	E	100,000			
STILLAGUAMISH RIVER BASIN, WA	E		225,000		
STILLAGUAMISH RIVER, WA	FC				205,000
SURVEILLANCE OF NORTHERN BOUNDARY WATERS, WA	N				56,000
TACOMA, PUYALLUP RIVER, WA	FC				78,000
THE DALLES LOCK AND DAM, WA & OR	MP				3,432,000
THE DALLES POWERHOUSE (UNITS 1-14), WA & OR (MAJOR REHAB)	MP			7,000,000	
TRI-CITIES AREA RIVERSHORE ENHANCEMENT, WA	E	250,000			

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
WEST VIRGINIA					
BEECH FORK LAKE, WV	FC				1,137,000
BLUESTONE LAKE, WV	FC				1,689,000
BLUESTONE LAKE, WV (DAM SAFETY)	FC			6,300,000	
BURNSVILLE LAKE, WV	FC				1,723,000
CUMBERLAND, MD AND RIDGELEY, WV (SEE MARYLAND)					
EAST LYNN LAKE, WV	FC				1,714,000
ELKINS, WV	FC				16,000
INSPECTION OF COMPLETED WORKS, WV	FC				91,000
ISLAND CREEK AT LOGAN, WV	FC		200,000		
JENNINGS RANDOLPH LAKE, MD & WV (SEE MARYLAND)					
KANAWHA RIVER LOCKS AND DAMS, WV	N				7,782,000
LEVISA AND TUG FORKS AND UPPER CUMBERLAND RIVER, WV, VA & KY	FC			12,100,000	
LONDON LOCKS AND DAM, KANAWHA RIVER, WV (MAJOR REHAB)	N			1,800,000	
LOWER MUD RIVER, WV	FC		650,000		
MARMET LOCK, KANAWHA RIVER, WV	N			6,500,000	
MERCER COUNTY, WV	FDP	107,000			
OHIO RIVER LOCKS AND DAMS, PA, OH & WV (SEE PENNSYLVANIA)					
OHIO RIVER LOCKS AND DAMS, WV, KY & OH	N				15,934,000
OHIO RIVER MAIN STEM SYSTEMS STUDY, KY, IL, IN, PA, WV & OH (SEE KENTUCKY)					
OHIO RIVER OPEN CHANNEL WORK, PA, OH & WV (SEE PENNSYLVANIA)					

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
WEST VIRGINIA (CONTINUED)					
OHIO RIVER OPEN CHANNEL WORK, WV, KY & OH	N				2,788,000
R D BAILEY LAKE, WV	FC				1,934,000
ROBERT C BYRD LOCKS AND DAM, OHIO RIVER, WV & OH	N			2,700,000	
STONEWALL JACKSON LAKE, WV	FC				1,216,000
SUMMERSVILLE LAKE, WV	FC				1,526,000
SUTTON LAKE, WV	FC				1,903,000
TYGART LAKE, WV	N				3,568,000
TYGART LAKE, WV (DAM SAFETY)	FC			4,293,000	
WINFIELD LOCKS AND DAM, KANAWHA RIVER, WV	N			300,000	

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
WISCONSIN					
ASHLAND HARBOR, WI	N				170,000
DULUTH - SUPERIOR HARBOR, MN & WI (SEE MINNESOTA)					
EAU GALLE RIVER LAKE, WI	FC				735,000
FOX RIVER, WI	N				3,252,000
GREEN BAY HARBOR, WI	N				1,640,000
KENOSHA HARBOR, WI	N				925,000
KEWAUNEE HARBOR, WI	N				490,000
LA FARGE LAKE, WI	FC				53,000
MANITOWOC HARBOR, WI	N				738,000
MENOMINEE HARBOR, MI & WI (SEE MICHIGAN)					
MILWAUKEE HARBOR, WI	N				819,000
ROCK RIVER, IL & WI (SEE ILLINOIS)					
SHEBOYGAN HARBOR, WI	N				290,000
STURGEON BAY HARBOR AND LAKE MICHIGAN SHIP CANAL, WI	N				1,534,000
SURVEILLANCE OF NORTHERN BOUNDARY WATERS, WI	N				28,000
TWO RIVERS HARBOR, WI	N				537,000
UPPER MISS & ILLINOIS NAV IMPROVEMENTS, IL, IA, MN, MO & WI (SEE ILLINOIS)					
UPPER MISS RVR SYS FLOW FREQUENCY STUDY, IL, IA, MN, MO & WI (SEE ILLINOIS)					
UPPER MISS RVR SYSTEM ENV MGMT PROGRAM, IL, IA, MN, MO & WI (SEE ILLINOIS)					

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
WYOMING					
JACKSON HOLE LEVEES, WY	FC				1,163,000
JACKSON HOLE RESTORATION, WY	E		100,000		

FLOOD CONTROL, MISSISSIPPI RIVER & TRIBUTARIES

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
ARKANSAS					
BAYOU METO BASIN, AR	FC		6,500,000		
CHANNEL IMPROVEMENT, AR, IL, KY, LA, MS, MO & TN	FC			35,690,000	58,954,000
FRANCIS BLAND FLOODWAY DITCH (EIGHT MILE CREEK), AR	FC			2,110,000	
GRAND PRAIRIE REGION, AR	FC			22,800,000	
HELENA AND VICINITY, AR	FC			2,450,000	
HELENA HARBOR, PHILLIPS COUNTY, AR	N				421,000
INSPECTION OF COMPLETED WORKS, AR	FC				442,000
L'ANGUILLE RIVER BASIN, AR	FC			750,000	
LOWER ARKANSAS RIVER, NORTH BANK, AR	FC				407,000
LOWER ARKANSAS RIVER, SOUTH BANK, AR	FC				10,000
MISSISSIPPI RIVER LEVEES, AR, IL, KY, LA, MS, MO & TN	FC			40,621,000	6,160,000
ST FRANCIS BASIN, AR & MO	FC			3,195,000	6,775,000
TENSAS BASIN, BOEUF AND TENSAS RIVERS, AR & LA	FC				2,384,000
WHITE RIVER BACKWATER, AR	FC				1,070,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
ILLINOIS					
CHANNEL IMPROVEMENT, AR, IL, KY, LA, MS, MO & TN (SEE ARKANSAS)					
INSPECTION OF COMPLETED WORKS, IL	FC				45,000
MISSISSIPPI RIVER LEVEES, AR, IL, KY, LA, MS, MO & TN (SEE ARKANSAS)					

FLOOD CONTROL, MISSISSIPPI RIVER & TRIBUTARIES

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
KENTUCKY					
CHANNEL IMPROVEMENT, AR, IL, KY, LA, MS, MO & TN (SEE ARKANSAS)					
INSPECTION OF COMPLETED WORKS, KY	FC				25,000
MISSISSIPPI RIVER LEVEES, AR, IL, KY, LA, MS, MO & TN (SEE ARKANSAS)					
REELFOOT LAKE, TN & KY (SEE TENNESSEE)					

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
LOUISIANA					
ALEXANDRIA, LA TO THE GULF OF MEXICO	FDP	750,000			
ATCHAFALAYA BASIN, FLOODWAY SYSTEM, LA	FC			10,000,000	1,499,000
ATCHAFALAYA BASIN, LA	FC			26,000,000	9,482,000
BATON ROUGE HARBOR, DEVIL SWAMP, LA	N				210,000
BAYOU COCODRIE AND TRIBUTARIES, LA	FC				56,000
BONNET CARRE, LA	FC				1,340,000
CHANNEL IMPROVEMENT, AR, IL, KY, LA, MS, MO & TN (SEE ARKANSAS)					
DONALDSONVILLE TO THE GULF, LA	FDP	1,100,000			
INSPECTION OF COMPLETED WORKS, LA	FC				389,000
LOUISIANA STATE PENITENTIARY LEVEE, LA	FC			5,500,000	
LOWER RED RIVER, SOUTH BANK LEVEES, LA	FC				5,739,000
MISSISSIPPI AND LOUISIANA ESTUARINE AREAS, LA & MS	FC			100,000	
MISSISSIPPI DELTA REGION, LA	FC			5,000,000	916,000
MISSISSIPPI RIVER LEVEES, AR, IL, KY, LA, MS, MO & TN (SEE ARKANSAS)					
MORGANZA, LA TO THE GULF OF MEXICO	FC		2,000,000		
OLD RIVER, LA	FC				4,720,000
SPRING BAYOU, LA	SPE	100,000			
TENSAS BASIN, BOEUF AND TENSAS RIVERS, AR & LA (SEE ARKANSAS)					
TENSAS BASIN, RED RIVER BACKWATER, LA	FC			2,330,000	3,048,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
MISSISSIPPI					
CHANNEL IMPROVEMENT, AR, IL, KY, LA, MS, MO & TN (SEE ARKANSAS)					
COLDWATER RIVER BASIN ABOVE ARKABUTLA LAKE, MS	FDP	350,000			
COLDWATER RIVER BASIN BELOW ARKABUTLA LAKE, MS	FDP	100,000			
GREENVILLE HARBOR, MS	N				626,000
INSPECTION OF COMPLETED WORKS, MS	FC				193,000
MEMPHIS METRO AREA, TN & MS (SEE TENNESSEE)					
MISSISSIPPI AND LOUISIANA ESTUARINE AREAS, LA & MS (SEE LOUISIANA)					
MISSISSIPPI RIVER LEVEES, AR, IL, KY, LA, MS, MO & TN (SEE ARKANSAS)					
NONCONNAH CREEK, FLOOD CONTROL FEATURE, TN & MS (SEE TENNESSEE)					
VICKSBURG HARBOR, MS	N				480,000
YAZOO BASIN, ARKABUTLA LAKE, MS	FC				6,242,000
YAZOO BASIN, BACKWATER PUMP, MS	FC			500,000	
YAZOO BASIN, BIG SUNFLOWER RIVER, MS	FC			3,500,000	137,000
YAZOO BASIN, ENID LAKE, MS	FC				3,376,000
YAZOO BASIN, GREENWOOD, MS	FC				1,007,000
YAZOO BASIN, GRENADA LAKE, MS	FC				4,232,000
YAZOO BASIN, MAIN STEM, MS	FC			25,000	1,254,000
YAZOO BASIN, REFORMULATION UNIT, MS	FC			300,000	
YAZOO BASIN, SARDIS LAKE, MS	FC				5,180,000
YAZOO BASIN, TRIBUTARIES, MS	FC			84,000	1,162,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
MISSISSIPPI (CONTINUED)					
VAZOO BASIN, UPPER VAZOO PROJECTS, MS	FC			6,786,000	
VAZOO BASIN, WILL M WHITTINGTON AUX CHAN, MS	FC				358,000
VAZOO BASIN, VAZOO BACKWATER AREA, MS	FC				431,000
VAZOO BASIN, VAZOO CITY, MS	FC				806,000

FLOOD CONTROL, MISSISSIPPI RIVER & TRIBUTARIES

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
MISSOURI					
CHANNEL IMPROVEMENT, AR, IL, KY, LA, MS, MO & TN (SEE ARKANSAS)					
INSPECTION OF COMPLETED WORKS, MO	FC				202,000
MISSISSIPPI RIVER LEVEES, AR, IL, KY, LA, MS, MO & TN (SEE ARKANSAS)					
ST FRANCIS BASIN, AR & MO (SEE ARKANSAS)					
ST JOHNS BAYOU AND NEW MADRID FLOODWAY, MO	FC			700,000	
WAPPAPELLO LAKE, MO	FC				7,000,000

PROJECT	TYPE OF PROJECT	SURVEYS	PRECONSTR. ENGN & DESIGN	CONSTRUCTION	OPERATION & MAINTENANCE
TENNESSEE					
CHANNEL IMPROVEMENT, AR, IL, KY, LA, MS, MO & TN (SEE ARKANSAS)					
INSPECTION OF COMPLETED WORKS, TN	FC				113,000
MEMPHIS HARBOR, MCKELLAR LAKE, TN	N				1,085,000
MEMPHIS METRO AREA, TN & MS	COM	657,000			
MISSISSIPPI RIVER LEVEES, AR, IL, KY, LA, MS, MO & TN (SEE ARKANSAS)					
NONCONNAH CREEK, FLOOD CONTROL FEATURE, TN & MS	FC			2,000,000	
REELFOOT LAKE, TN & KY	FC		318,000		
WEST TENNESSEE TRIBUTARIES, TN	FC			500,000	
WOLF RIVER, MEMPHIS, TN	FC		216,000		

SUMMARY, GENERAL INVESTIGATIONS

	APPROPRIATION
Studies and Projects Listed Under States:	
Surveys	66,619,000
Preconstruction Engineering and Design	36,181,000
Subtotal - Studies and Projects Listed Under States	**102,800,000**
Studies Not Listed Under States:	
National Shoreline	300,000
Subtotal - Studies Not Listed Under States	**300,000**
Items Not Listed Under States:	
Coordination Studies With Other Agencies	
Other Coordination Programs	8,900,000
Planning Assistance to States	6,500,000
Collection and Study of Basic Data:	
Coastal Field Data Collection	2,300,000
Environmental Data Studies	700,000
Flood Damage Data	400,000
Flood Plain Management Services	9,000,000
Hydrologic Studies	500,000
International Water Studies	500,000
Precipitation Studies (National Weather Service)	400,000
Remote Sensing/Geographic Information System Support	300,000
Scientific and Technical Information Centers	100,000
Stream Gaging (U.S. Geological Survey)	800,000
Transportation Systems	800,000
Tri-Service CADD/GIS Technology Center	650,000
Research and Development	26,000,000
Subtotal - Items Not Listed Under States	**58,150,000**
Reduction for Anticipated Savings and Slippage	(23,250,000)
TOTAL - GENERAL INVESTIGATIONS APPROPRIATION	**137,700,000**
Rivers and Harbors Contributed Funds	44,000,000 1/
TOTAL - GENERAL INVESTIGATIONS PROGRAM	**181,700,000**

1/ Anticipated cash contributions.

SUMMARY, CONSTRUCTION, GENERAL

	APPROPRIATION	
Listed Under States:	1,361,823,000	
Items Not Listed Under States:		
Aquatic Ecosystem Restoration (Section 206)	10,000,000	
Aquatic Plant Control Program	3,000,000	
Continuing Authorities Projects Not Requiring Specific Legislation:		
Emergency Streambank and Shoreline Protection Projects (Section 14)	9,000,000	
Flood Control Projects (Section 205)	25,000,000	
Navigation Mitigation Project (Section 111)	300,000	
Navigation Projects (Section 107)	7,000,000	
Shoreline Protection Projects (Section 103)	2,500,000	
Snagging and Clearing Project (Section 208)	200,000	
Dam Safety and Seepage/Stability Correction Program	3,000,000	
Dredged Material Disposal Facilities Program	5,000,000	
Employees' Compensation	19,200,000	
Inland Waterways Users Board - Board Expense	45,000	
Inland Waterways Users Board - Corps Expense	185,000	
Project Modifications for Improvement of the Environment (Section 1135)	14,000,000	
Beneficial Uses of Dredged Material (Section 204)	4,000,000	
Recreation Modernization Program	27,000,000	
Riverine Ecosystem Restoration and Flood Hazard Mitigation	20,000,000	
Subtotal - Items Not Listed Under States	149,430,000	
Reduction for Anticipated Savings and Slippage	(165,253,000)	
TOTAL - CONSTRUCTION, GENERAL APPROPRIATION	1,346,000,000	1/
Rivers and Harbors Contributed Funds	153,000,000	2/
TOTAL - CONSTRUCTION, GENERAL PROGRAM	1,499,000,000	

1/ Includes $74,000,000 from the Inland Waterways Trust Fund and $250,000,000 from the Harbor Services Fund.

2/ Cash contributions required by law for budgeted work and work anticipated to be done on a reimbursable basis.

SUMMARY, OPERATION AND MAINTENANCE, GENERAL

	APPROPRIATION
Listed Under States	**1,815,236,000**
Items Not Listed Under States:	
Coastal Inlet Research Program	3,000,000
Cultural Resources (NAGPRA/Curation)	3,000,000
Dredge Wheeler Ready Reserve	13,500,000
Dredging Operations And Environmental Research (DOER)	8,000,000
Dredging Operations Technical Support (DOTS) Program	2,100,000
Dredging Data and Lock Performance Monitoring System	1,166,000
Earthquake Hazards Program for Buildings and Lifelines	600,000
Harbor Maintenance Fee Data Collection	975,000
Management Tools For O&M	1,100,000
Monitoring of Coastal Navigation Projects	2,000,000
National Dam Safety Program	40,000
National Dam Security Program	25,000
National Emergency Preparedness Programs (NEPP)	6,000,000
Performance Based Budgeting Support Program	1,650,000
Protecting, Clearing and Straightening Channels (Sec. 3)	50,000
Recreation Management Support Program (RMSP)	1,950,000
Regional Sediment Management Sediment Demonstration Program	1,500,000
Reliability Models Program For Major Rehabilitation	675,000
Removal of Sunken Vessels	500,000
Water Operations Technical Support (WOTS) Program	1,500,000
Waterborne Commerce Statistics	4,600,000
Wetlands Functional Assessment Methodology	1,000,000
Zebra Mussel Control	700,000
Subtotal - Items Not Listed Under States	**55,631,000**
Reduction for anticipated Savings & Slippage (S&S)	(16,867,000)
TOTAL OPERATION AND MAINTENANCE, GENERAL, APPROPRIATION	**1,854,000,000**

SUMMARY, FLOOD CONTROL, MISSISSIPPI RIVER AND TRIBUTARIES

	APPROPRIATION
Listed Under States:	
General Investigations:	
Surveys	3,057,000
Preconstruction Engineering and Design	9,034,000
Construction	170,941,000
Maintenance	137,976,000
Subtotal - Items Listed Under States	**321,008,000**
Items Not Listed Under States:	
Collection and Study of Basic Data (General Investigations)	435,000
Mapping (Maintenance)	1,129,000
Subtotal - Items Not Listed Under States	**1,564,000**
Reduction for Anticipated Savings and Slippage	(13,572,000)
TOTAL - FC, MISSISSIPPI RIVER AND TRIBUTARIES APPROPRIATION	**309,000,000**
Rivers and Harbors Contributed Funds	42,000,000
TOTAL - FC, MISSISSIPPI RIVER AND TRIBUTARIES PROGRAM	**351,000,000**

1/ Cash contributions required by law for budgeted work and work anticipated to be done on a reimbursable basis.

SUMMARY, FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM

STATE	PROJECT NAME	APPROPRIATION
CT	CE, Windsor, CT	1,000,000
MD	W. R. Grace, Baltimore, MD	2,900,000
MA	Shpack Landfill, Norton, MA	400,000
MO	Downtown, St. Louis, MO	16,000,000
	Latty Avenue, St. Louis, MO	12,000,000
	St. Louis Airport Vicinity Properties, St. Louis, MO	1,550,000
	St. Louis Airport, St. Louis, MO	25,454,000
NJ	Dupont Chambers Works, Deepwater, NJ	1,000,000
	Maywood, NJ	29,000,000
	Middlesex, NJ	2,000,000
	Wayne, NJ	*
NY	Ashland 1, Tonawanda, NY	18,400,000
	Ashland 2, Tonawanda, NY	20,000
	Colonie, NY	8,035,000
	Linde Air Products, Tonawanda, NY	11,621,000
	Niagara Falls Storage Site, NY	6,000,000
	Seaway Industrial Park, Tonawanda, NY	20,000
OH	Luckey, OH	3,200,000
	Painesville, OH	1,400,000
	TOTAL	**140,000,000**

* Fiscal year 2001 requirement will be met with funding provided by settlement with W.R. Grace Corporation

U.S. ARMY CORPS OF ENGINEERS
CIVIL WORKS PROGRAM

CONGRESSIONAL SUBMISSION
FISCAL YEAR 2001

GREAT LAKES AND OHIO RIVER DIVISION

Budgetary information will not be released outside the Department of the Army until 7 February 2000

Justification of Estimates for Civil Function Activities
Department of the Army, Fiscal Year 2001

GREAT LAKES AND OHIO RIVER DIVISION

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Justification of Estimates for Civil Function Activities
Department of the Army, Corps of Engineers
Fiscal Year 2001

SUMMARY, GREAT LAKES AND OHIO RIVER DIVISION

	FY 2000 Allocation	FY 2001 Request	Increase or Decrease
General Investigations			
Surveys	12,180,000	8,356,000	-3,824,000
Preconstruction Engineering and Design	2,737,000	6,644,000	+3,907,000
Subtotal, General Investigations	14,917,000	15,000,000	+83,000
Construction General			
Construction	249,789,000 1/	191,594,000 2/	-58,195,000
Dam Safety Assurance	10,152,000	15,322,000	+5,170,000
Subtotal, Construction General	259,941,000	206,916,000	-53,025,000
Operation and Maintenance			
Project Operation	172,156,000	170,099,000	+2,057,000
Project Maintenance	178,837,000	185,799,000	+6,962,000
Subtotal, Operation and Maintenance	350,993,000	355,898,000	+4,905,000
Grand Total, Great Lakes and Ohio River Division	625,851,000	577,814,000	-48,037,000

1/ Includes an estimated $82,340,000 to be derived from the Inland Waterways Trust Fund in FY 2000.
2/ Includes an estimated $55,771,000 to be derived from the Inland Waterways Trust Fund in FY 2001.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
1. SURVEYS - NEW:					
a. Navigation Studies - None.					
b. Flood Damage Prevention Studies.					
Butler County, OH, Louisville District	100,000	0	0	100,000	0

The study area consists of Butler County, located in southwestern Ohio. Butler County covers approximately 513 square miles. The study area is drained by the Miami River; and its tributaries Seven Mile Creek, Four Mile Creek, and Indian Creek. In addition, the upper reaches of Mill Creek are located in the southeastern part of the county. In October of 1989, the unincorporated areas of the county joined the flood insurance program. The unincorporated areas cover almost 75% of the county. The most recent flooding occurred in March 1997, during which several communities suffered damages. Within the watershed approximately 1,200 homes and businesses, plus public facilities are subject to flood damages. Damages in 1997 were estimated at $20 million. Possible flood damage reduction measures include channel modification, clearing and snagging, detention basins, small flood damage reduction reservoirs and non-structural measures. This study will also assess opportunities for ecosystem restoration and restoration of wetlands. A Letter of Intent from the Butler County Board of Commissioners, dated June 18, 1998, has been received.

FY 2001 funds will be used to initiate and complete the reconnaissance phase of the study. The reconnaissance phase is scheduled to be completed in September 2001, which is 12 months after initiating the study.

TOTAL: Flood Damage Prevention Studies	100,000	0	0	100,000	0
TOTAL SURVEYS - NEW	100,000	0	0	100,000	0

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
2. SURVEYS - CONTINUING:					
a. Navigation Studies.					
Ohio River Main Stem Systems Study, KY, IL, IN, PA, WV and OH Louisville District	45,300,000	32,680,000	6,968,000	4,141,000	1,511,000

The study is an inland navigation systems analysis to address the level of investments needed to provide an efficient navigation system on the Ohio River Main Stem. The study will identify the operation and maintenance, major maintenance, major rehabilitation and new construction investment needs for the navigation locks and dams along the Ohio River Main Stem, and/or in the pools and channels controlled by these structures. These structures are crucial to the orderly development of navigation throughout the Ohio River Basin. As traffic grows through the Ohio River Valley, several lock structures will experience increasing delays, which may be particularly severe during times of maintenance (when the existing chambers must be closed for routine or emergency repairs or accidents). Any closure of the main locks will result in severe traffic impacts. For the past ten years, traffic on the Ohio River has grown at an annual average rate of 2.0 percent. In 1997, total tonnage reached 240 million tons, reflecting a 22 percent increase over 1987.

The study will investigate the economic, social, and environmental impacts of both large scale investments and small scale improvements. Large scale improvements could involve constructing a third lock chamber at certain facilities, lengthening existing 600' chambers to provide at least two 1200' chambers where justified, or provision of replacement locks and dams at older facilities (such as Elmsworth, Dashields, or Montgomery Locks & Dams). Small scale improvements could include installation of permanent mooring cells near lock approach points (which could enhance tow mooring in queuing situations and possibly speed up double-cut processing), providing spare lock gates, new procedures to speed up lock maintenance, and other infrastructure or procedural opportunities that could be identified during the study. The study will also address ecosystem restoration opportunities.

FY 2000 funds will be used to finalize feasibility level engineering designs and NEPA studies for the John T. Myers and Greenup site improvements, continue feasibility level engineering for other justifiable plans, continue engineering and economic system analyses, and complete feasibility level engineering designs and NEPA studies for Ecosystem Restoration. The interim feasibility report for John T. Myers and Greenup Locks and Dam is scheduled for completion in March 2000. The interim feasibility report for Ecosystem Restoration is scheduled for completion in September 2000.

FY 2001 funds will be used to continue feasibility level engineering and environmental efforts for other site specific improvements, and to continue engineering and economic system analyses. The feasibility study completion date is being determined.

TOTAL: Navigation Studies	45,300,000	32,680,000	6,968,000	4,141,000	1,511,000

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
b. Flood Damage Prevention Studies.					
Des Plaines River, IL & WI (Phase II) Chicago District	1,500,000	0	0	250,000	1,250,000

The Des Plaines River Basin starts in southwest Wisconsin and flows south into northeast Illinois. The study area, located in Lake and Cook Counties in northeastern Illinois and Kenosha County in Southeast Wisconsin, has a drainage area of approximately 630 square miles. The Des Plaines River has a long history of flooding which has caused significant economic losses. The maximum flood of record, in September 1986, caused an estimated $35 million in damage to 10,000 dwellings and 263 business and industrial sites and severely impacted local transportation network. Over 15,000 residents were evacuated from the flooded area. The feasibility study recently completed for the Des Plaines River basin addressed mainstem flooding and found several projects to be feasible. However, a significant amount of residual damages remain due to their localized nature. Section 419 of the Water Resources Development Act of 1999 directs that the Corps not exclude from consideration and evaluation flood damage reduction measures based on restrictive policies regarding the frequency of flooding, the drainage area, and the amount of runoff. The State of Illinois (Illinois Department of Natural Resources), the likely local sponsor, provided a letter of intent in January 2000. The Feasibility Cost Sharing Agreement for this phase of the study is scheduled to be executed in January 2001.

The estimated cost of the feasibility phase is $3,000,000 which is to be shared on a 50/50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of the cost sharing is as follows:

Total Estimated Study Cost	$3,000,000
Feasibility Phase (Federal)	1,500,000
Feasibility Phase (Non-Federal)	1,500,000

FY 2001 funds will be used to initiate Phase II of the feasibility study. The feasibility study completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Kankakee River Basin, IL and IN Chicago District.	1,770,000	733,000	254,000	300,000	483,000

The Kankakee River Basin covers approximately 5,200 square miles in northeastern Illinois and Northwestern Indiana. More than one million people live within the basin. Local government officials from both Indiana and Illinois have requested a comprehensive evaluation of basin-wide flooding problems. The flooding problems throughout the basin have increased in frequency and severity through time causing annual damages to properties, natural resources, and agricultural lands. Current estimates indicate annual flood damages of about $10.5 million. Additionally, ice jam flooding is a routine occurrence along the river, impacting a number of communities and causing major structural damage to infrastructure. Sedimentation within the watershed is also a contributing factor to flooding. As a result, a systematic analysis of the problems and development of a basin-wide, comprehensive solution is being evaluated to reduce the impact of flood damages. The study is concentrating on flood damage prevention using traditional structural flood control techniques and ecosystem restoration methodologies. Prior to the turn of the century, the Kankakee River Basin from Momence, Illinois to South Bend, Indiana was a major wildlife area comprised of over 400,000 acres of continuous wetland and woodland. This project will help to restore some of these former wetland /woodland areas. Possible solutions include levees, sedimentation traps, selective dredging, and wetland protection and ecosystem restoration. The two states, local communities and the Kankakee River Basin Commission have all expressed support for the study. The Feasibility Cost Sharing Agreement was executed in May 1999. Additionally, the Corps of Engineers and U.S. Fish and Wildlife Service have entered into an Inter Agency Agreement to pool their efforts and resources to coordinate the Corps and USFWS efforts.

FY 2000 funds are being used to continue the feasibility phase. FY 2001 funds will be used to continue the feasibility phase. The estimated cost of the feasibility phase is $3,260,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of the cost sharing is as follows:

Total Estimated Study Cost	$3,400,000
Reconnaissance Phase (Federal)	140,000
Feasibility Phase (Federal)	1,630,000
Feasibility Phase (Non-Federal)	1,630,000

The reconnaissance phase was completed in May 1999. The feasibility study completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Banklick Creek, KY Louisville District	850,000	0	100,000	100,000	650,000

The Banklick Creek watershed is located primarily in Kenton County, Kentucky and has a drainage area of 58.3 square miles. The stream drains into the Licking River, 4.6 miles upstream of the Ohio River in northern Kentucky. The last several years headwater flooding on Banklick Creek has caused serious flood damage and erosion problems. Nearly five inches of rain fell over Kenton County on 30 June 1996, damaging homes, personal property, and businesses. The flash flooding created major problems for both residents and local governments. There was extensive damage to the natural channel; along with private residences, public facilities, automobiles, and roads. Damage to the public facilities and roads included deterioration and undermining of county roads, almost complete destruction of a County owned recreation center, and debris, sizeable rock and silt build-up along and around bridges and sanitation sewer lines that were damaged. Damages from the 1996 event were estimated at $15 million with approximately 200 homes and businesses affected. Possible flood damage reduction measures to be evaluated include channel modifications, clearing and snagging, small flood damage reduction reservoirs, non-structural measures, and flood warning and emergency evacuation plans. The Kenton County Disaster and Emergency Services has requested assistance for this area. A Letter of Intent from the Kenton County Fiscal Court, dated June 9, 1998, has been received.

FY 2000 funds are being used to initiate and complete the reconnaissance phase of the study. If the section 905 (b) analysis is certified to be in accord with policy, FY 2001 funds will be used to initiate the feasibility study efforts consisting of hydrologic and hydraulic analysis, economic analysis, soil borings, design of the alternatives, real estate estimates, and cost estimates. The estimated cost of the feasibility phase is $1,500,000, which is cost shared on a 50-50 basis by the Federal Government and the non-Federal sponsor. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,600,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	750,000
Feasibility Phase (non-Federal)	750,000

The reconnaissance phase is scheduled to be completed in September 2000. The feasibility study completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Licking River, Cynthiana, KY Louisville District	850,000	150,000	215,000	260,000	225,000

Cynthiana, Kentucky is located on the South Fork of the Licking River in Harrison County, approximately 25 miles north of Lexington, Kentucky, and 50 miles south of Cincinnati, Ohio. The Cynthiana area is subject to repeated flooding from the Licking River. In March 1997, major flooding of the Licking River occurred with flood damages estimated at $45 million. The peak stage recorded at the gage at Cynthiana was 5 feet higher than any recorded previously in the nearly 60 years of record. Hundreds of people were left homeless in the aftermath of the flooding. In Cynthiana, 150 temporary housing units were provided for those who lost homes in the flooding. Homes, businesses, and roads were extensively damaged by the flooding. Harrison County was declared a Federal disaster area. Major flooding in the Licking River basin has also occurred in February 1989, March 1964, April 1948, and in January 1937. The Department for Local Government of the State of Kentucky is the study sponsor. The Feasibility Cost Sharing Agreement was executed in August 1999.

The reconnaissance study identified feasible alternatives including combinations of detention basins and channel modifications and non-structural measures that would provide significant flood damage reductions to Cynthiana, Paris and Millersburg.

The reconnaissance report was certified to be in accord with policy in September 1998. FY 2000 funds are being used to continue the feasibility study efforts consisting of surveying and mapping of the study area, hydrologic and hydraulic modeling of existing flood conditions, coordination with the general public, environmental scoping, and formulation of the potential project alternatives. FY 2001 funds will be used to continue the engineering, economic, and environmental analysis of the flood damage reduction components. The estimated cost of the feasibility phase is $1,500,000, which is cost shared on a 50-50 basis by the Federal Government and the non-federal sponsor. Up to one-half of the non-federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$ 1,600,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	750,000
Feasibility Phase (Non-Federal)	750,000

The reconnaissance phase was completed in August 1999. The feasibility study completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Metropolitan Louisville, Mill Creek Basin, KY Louisville District	850,000	106,000	261,000	250,000	233,000

The study area is located within the Mill Creek watershed in southwest Jefferson County, Kentucky. The study area is protected from flooding from the Ohio River by the Southwest Jefferson County Flood Protection system, which was completed in the late 1980's. However, there are nearly 3,300 homes and businesses, with an estimated value in excess of $100 million, that are still subject to flooding from local streams. Approximately 3.5 square miles, or 10 percent, of the basin's entire drainage area is located in the designated floodplain. The most recent flooding in the basin occurred in August, 1992. Damages for this flood, estimated to have a recurrence interval of 10 to 20 years, were in excess of $1 million. During the flood of record in March, 1964, approximately 900 residential properties were damaged. The study will evaluate solutions to the flooding problems. The solutions being considered are detention basins, as well as channel modifications, earth levees, and non-structural measures. The non-Federal sponsor for this study is the Louisville and Jefferson County Metropolitan Sewer District (MSD). MSD indicated by letter, dated February 9, 1996, that flooding in the Mill Creek Basin is one of its priority problem areas and that they understand the cost sharing requirements for the feasibility phase. The Feasibility Cost Sharing Agreement is scheduled to be executed in April 2000.

FY 2000 funds are being used to continue the feasibility study efforts consisting of hydrologic and hydraulic analysis, economic analysis, preliminary design of the alternatives, real estate estimates, and cost estimates. FY 2001 funds will be used to continue feasibility study efforts consisting of an engineering, economic, and environmental analysis of the flood damage reduction components. The estimated cost of the feasibility phase is $1,500,000, which is cost shared on a 50-50 basis by the Federal Government and the non-federal sponsor. Up to one-half of the non-federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,600,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	750,000
Feasibility Phase (non-Federal)	750,000

The reconnaissance phase was completed in April 2000. The feasibility study completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Metropolitan Louisville, Southwest, KY Louisville District	1,784,000	1,179,000	344,000	161,000	100,000

The Metropolitan Louisville, Southwest, study area encompasses a drainage area of approximately 24 square miles including the west and south ends of Louisville, Kentucky. The highly urbanized flood plain includes the campus area of the University of Louisville, the states second largest university, as well as the Churchill Downs neighborhood, site of historic Churchill Downs race course. The frequency of flooding has increased over the last few years as a result of overland and combined storm sewer overflows. Components of the existing local flood protection project are inadequate at high Ohio River stages. Flooding occurred in the study area in 1983, 1989, August 1992 (which included loss of life), and most recently in March 1997 when more than 5,000 residential and commercial structures, the Kentucky Fair and Exposition Center, the area around Churchill Downs, and the main campus of the University of Louisville were damaged. Average annual damages in the study area exceed $5,000,000. Louisville and Jefferson County Metropolitan Sewer District (MSD) is a strong local sponsor. MSD executed the Feasibility Cost Sharing Agreement in June 1999.

The reconnaissance report recommended initiation of feasibility phase studies which would evaluate operational modifications and/or physical improvements to the pump stations located on the Ohio River associated with the existing Federally constructed flood damage prevention project. FY 2000 funds are being used to continue feasibility study efforts consisting of environmental studies, formulation of the recommended plan, and design and cost estimates of plan components; and, completing the hydrologic and economic evaluation of project alternatives. FY 2001 funds will be used to continue the feasibility phase. The estimated cost of the feasibility phase is $2,320,000, which is cost shared on a 50-50 basis by the Federal Government and the non-federal sponsor. Up to one-half of the non-federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,944,000
Reconnaissance Phase (Federal)	624,000
Feasibility Phase (Federal)	1,160,000
Feasibility Phase (Non-Federal)	1,160,000

The reconnaissance phase was completed in June, 1999. The feasibility study completion date is being determined.

APPROPRIATION TITLE: General Investigations, Fiscal Year 2001 — Great Lakes and Ohio River Division

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Richland County, OH Huntington District	600,000	0	100,000	100,000	400,000

Richland County is located in north central Ohio approximately 65 miles north of Columbus. Portions of the Clear Fork and Black Fork River Basins are located within Richland County and are part of the Muskingum River Basin. Severe floods in the Clear Fork and Black Fork River Basins have repeatedly threatened lives and caused millions of dollars in damage. The most recent flooding occurred on 28 and 29 June 1998, during storms that led President Clinton to issue a disaster declaration for large parts of Ohio including the study area. The damage to Richland County communities of Belleville and Shelby was estimated to be $1.4 million. Just a decade earlier, severe flooding caused millions of dollars in losses in this same area.

The Richland County Board of Commissioners is the study sponsor and is aware of the cost sharing responsibilities. A Letter of Intent from the Richland County Board of Commissioners dated 9 January 1998 requested the Corps to initiate a reconnaissance study. The study will address the chronic and persistent flooding problems and environmental restoration needs in the Mohican River Basin in Ohio with particular emphasis on the Clear Fork, Black Fork and Cedar Creek watersheds including the Town of Belleville, Ohio and the City of Shelby, Ohio. FY 2000 funds are being used to initiate and complete the reconnaissance study phase. If the section 905 (b) analysis is certified to be in accord with policy, FY 2001 funds will be used to initiate the feasibility phase of the study.

Total Estimated Study Cost	$1,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	500,000
Feasibility Phase (Non-Federal)	500,000

The reconnaissance phase is scheduled for completion in January 2001. The feasibility study completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Davidson County, Mill Creek Watershed, TN Nashville District	1,350,000	100,000	25,000	200,000	1,025,000

The Cumberland River bisects Nashville and Davidson County, Tennessee. Mill Creek, Richland Creek and Browns Creek and numerous others are tributaries of the Cumberland River. Major floods occurred in 1926, 1937, 1975, 1979, 1984, 1986 and 1991. Based on 1999 dollars, damages in the Metro Nashville area were approximately $13.5 million from the 1975 flood. Corrective measures evaluated during the reconnaissance study include creation of floodwater detention ponds (dry dams), nonstructural measures, wetland restoration and enhancement to promote biodiversity. These outputs will be further refined during the feasibility phase. The sponsor is the Metropolitan Government of Nashville and Davidson County. Metro Nashville understands its cost sharing responsibilities and has expressed an interest in cost sharing the feasibility phase, by letter of intent dated June 8, 1998. The Feasibility Cost Sharing Agreement is scheduled to be executed in May 2000.

If the section 905 (b) analysis is certified to be in accord with policy, FY 2000 funds will be used to initiate the feasibility phase. FY 2001 funds will be used to continue the feasibility phase. The estimated cost of the feasibility phase is $2,500,000, which is to be shared on a 50-50 basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing follows:

Total Estimated Study Cost	$2,600,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,250,000
Feasibility Phase (Non-Federal)	1,250,000

The reconnaissance phase is scheduled for completion in May 2000. The feasibility study completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
French Broad Watershed, TN Nashville District	1,565,000	100,000	200,000	500,000	765,000

The French Broad watershed encompasses 5 east Tennessee counties; Knox, Blount, Jefferson, Sevier and Cocke. New economic development has stimulated growth. With this has come a need for a complete evaluation of the region's environmental infrastructure including flood control, water supply, wastewater treatment, fish and wildlife enhancement, water quality, and ecosystem restoration. A Major flood in 1994 damaged over 300 residences, motels, and businesses. On April 14, 1994, President Clinton approved federal disaster assistance for five of the hardest-hit Tennessee counties, including Blount, Sevier, Unicoi, Polk and Hamilton counties. Assistance in Sevier County included $352,000 for 130 temporary housing units, $509,630 to repair damage to infrastructure, $2,397,300 in SBA home loans and $2,042,000 in SBA business loans. The reconnaissance study evaluated opportunities for flood control improvements and ecosystem restoration. The watershed harbors several federally listed endangered species, such as the Peregrine falcon, Northern river otter, and the Orange-foot pimpleback. Corrective measures to be refined during feasibility phase studies include both structural and nonstructural flood damage reduction measures consisting of floodwater detention ponds (dry dams), levees and floodwalls, as well as wetland restoration and enhancement to promote biodiversity. The sponsors for this project include the cities of Pigeon Forge, Gatlinburg, Sevierville, and Knoxville. Each understands its cost sharing responsibilities and has expressed an interest in cost sharing the feasibility phase, by letters of intent dated November 24, 1998. The Feasibility Cost Sharing Agreement is scheduled for execution in April 2000.

If the section 905 (b) analysis is certified to be in accord with policy, FY 2000 funds will be used to continue into the feasibility phase. FY 2001 funds will used to continue the feasibility phase. The estimated cost of the feasibility phase is $2,930,000, which is to be shared on a 50-50 basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing follows:

Total Estimated Study Cost	$3,030,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,465,000
Feasibility Phase (Non-Federal)	1,465,000

The reconnaissance phase is scheduled for completion in April 2000. The feasibility study completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Mercer County, WV Huntington District	414,000	150,000	157,000	107,000	0

Mercer County located in the southern part of West Virginia has a desirable topography for economic development and the county has become one of the six leading growth centers in the state. Existing flood control measures in the Brush Creek basin, the primary area of growth, have proven to be inadequate to prevent flood damages. In 1995 and 1996, heavy flooding in the county resulted in substantial damages. The flooding in 1995 resulted in damages in excess of eight million dollars. Maintenance on stream channels has recently been accomplished; however, reconnaissance evaluations indicate that a feasibility study is needed to identify those measures required to provide adequate levels of flood protection. Channel modification and implementation of various non-structural measures appear to have the most potential for addressing flooding problems in Mercer County. The Mercer County Commission is the local sponsor. The Feasibility Cost Sharing Agreement was executed in August 1999.

The reconnaissance report was certified to be in accord with policy in December 1997. FY 2000 funds are being used to continue the feasibility phase of the study. FY 2001 funds will be used to complete the feasibility phase of the study. The estimated cost of the feasibility phase is $628,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal funds share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$728,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	314,000
Feasibility Phase (Non-Federal)	314,000

The reconnaissance phase was completed in August 1999. The feasibility study is scheduled for completion in December 2001.

TOTAL: Flood Damage Prevention Studies	11,533,000	2,518,000	1,656,000	2,228,000	5,131,000

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
c. Shoreline Protection Studies - None.					
d. Special Studies.					
Metropolitan Region of Louisville, Jefferson County, KY Louisville District	850,000	0	100,000	100,000	650,000

The study area covers approximately 386 square miles and includes the metropolitan region of Louisville and extends over six counties: north central Kentucky (Jefferson, Oldham and Bullitt) and south central Indiana (Clark, Floyd and Harrison). The study area is drained by the Ohio River, Salt River, Pond Creek, Floyds Fork, Harrods Creek, Beargrass Creek, and Mill Creek in Kentucky, and Silver Creek in Indiana. Federally constructed projects in the area that have directly impacted the environment include the Louisville, KY Floodwall, the Southwest Jefferson County Levee and Floodwall, and McAlpine Locks and Dam. Most of Jefferson County was historically riparian, and there are many small waterways with floodplains and riparian corridors in varying states of degradation and development. In particular, the wall and levee systems of Louisville have blocked the natural Ohio River overflows, which naturally recharged wetland areas. Habitat will be restored for endangered species, such as the gray and Indiana bats, and for locally threatened species such as the Louisville crayfish. Drainage and flood damage reduction efforts will be linked to restoration of natural floodplain values, through the restoration of wetlands and riparian overbank areas, serving as flood water attenuation and storage areas. Habitat improvement measures, water control structures, moist soil management units, and reforestation will be analyzed. Multiple governmental units, both state and local, are potential sponsors. A Letter of Intent from the Louisville and Jefferson County Metropolitan Sewer District, dated May 28, 1998, has been received.

FY 2000 funds are being used to initiate and complete the reconnaissance phase of the study. If the section 905 (b) analysis is certified to be in accord with policy, FY 2001 funds will be used to continue into the feasibility study efforts consisting of hydrologic and hydraulic analysis, economic analysis, preliminary design of the alternatives, real estate estimates, and cost estimates. The estimated cost of the feasibility phase is $1,500,000, which is cost shared on a 50-50 basis by the federal Government and the non-Federal sponsor. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,600,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	750,000
Feasibility Phase (non-Federal)	750,000

The reconnaissance phase is scheduled to be completed in April 2001. The feasibility study completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Onondaga Lake, NY Buffalo District	1,670,000	852,000	162,000	250,000	406,000

Onondaga Lake, which is part of the New York State Barge Canal System and Oswego River Basin, has a total drainage area of 245 square miles and a surface area of 4.6 square miles. The city of Syracuse is located along the south shore of the Lake. Major tributaries to the lake are Onondaga Creek, Ninemile Creek and Ley Creek. The major water resource problem associated with the Lake is its degraded water quality. Currently, there is a ban on swimming and on the consumption of fish caught in the Lake. The poor quality deters optimal use of economic growth of the surrounding area. The Onondaga Lake Management Conference (OLMC) was established by Section 411 of the Water Resources Development Act (WRDA) of 1990 to develop and oversee the implementation of a Management Plan that identifies the causes of poor lake water quality and recommends a plan to reduce or eliminate the causes. The Management Plan has been completed. The Onondaga Lake Partnership is authorized under Section 573 of the WRDA 1999. The WRDA 1999 legislation directs the Corps to establish a partnership with other Federal, State/local entities for the purpose of project development and implementation. The WRDA 1999 authorizes the Corps to plan, design, and construct projects for the environmental restoration, conservation, and management of Onondaga Lake.

FY 2000 funds are being used to close out the Onondaga Lake Management Conference component and transfer responsibility of on-going activities to the recently authorized Partnership. In establishing the Partnership, the structure and relationship between the Corps, other Federal agencies (including the Environmental Protection Agency and the state of New York) and political subdivisions of the state, will be defined for the purpose of development and implementation of projects. FY 2001 funds will be used to continue the coordination, management, technical assistance and required revisions to the Onondaga Lake Management Plan and administration of Partnership activities.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Columbus Metropolitan Area Big Darby Creek, OH Huntington District	1,600,000	100,000	258,000	600,000	642,000

This study investigated the water resource related problems, primarily urban flooding in the major population concentrations within the Columbus Metropolitan Statistical Area (MSA) and surrounding counties including Franklin, Pickaway, Delaware, Licking, Marion and Fairfield, Ohio. Nine potential projects were identified in the reconnaissance report consisting of three flood control projects, a stream bank erosion project, four environmental restoration projects and an acid mine drainage abatement project. Rapid industrial and commercial growth and increased residential construction have caused hydrological changes and contributed to the increased runoff and frequency of flooding. These changes have also caused a variety of aquatic ecosystem problems such as erosion and sedimentation. An estimated 600 acres of floodplain, aquatic and riparian habitat loss have been identified along the Scioto River. Significant erosion and habitat loss have occurred along reaches of Alum Creek, Walnut Creek, Big Darby Creek, and the Hocking River. Possible solutions include wetland construction and/or floodplain restoration. The Nature Conservancy has provided a Letter of Intent dated 20 October 1999 to share in the feasibility phase study for the environmental restoration project along Big Darby Creek which includes resource preservation and wetland creation for approximately 200 acres and hydrologic impact modeling. The Feasibility Cost Sharing Agreement is scheduled for execution in March 2000.

FY 1999 funds are being used to initiate and complete the reconnaissance phase. If the section 905 (b) analysis is certified to be in accord with policy, FY 2000 and FY 2001 funds will be used to continue into the feasibility phase of the study. The estimated cost of the feasibility phase is $3,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal funds share maybe in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$3,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,500,000
Feasibility Phase (Non-Federal)	1,500,000

The reconnaissance phase is scheduled for completion in March 2000. The feasibility study completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Hocking River Basin Environmental Restoration, Monday Creek, OH Huntington District	556,000	100,000	100,000	306,000	50,000

The Monday Creek watershed of the Hocking River basin study area encompasses 116 square miles of Perry, Athens, and Hocking Counties, Ohio. The focus of the study for the Monday Creek watershed is environmental restoration. Extensive portions of the Monday Creek watershed, of the Hocking River drainage area, have been subjected to underground and surface mining. Severe acid mine drainage problems occur and erosion from disturbed land areas have accelerated sedimentation and deposition of materials in over 100 miles of streams of the area. A number of stream reaches are essentially sterile and unable to support diverse aquatic life. Communities affected within this environmentally degraded watershed are Nelsonville, Buchtel, Murray City, Carbon Hill, New Straightsville, Gore, Greendale, Maxville, and Bristol.

The study will evaluate the applicability and feasibility of various restoration solutions to the overall degradation of the ecosystem. Environmental restoration activities include limited stream restoration, wetland creation and wildlife habitat restoration involving both active and passive treatment of acid mine drainage. The Ohio Department of Natural Resources, Division of Mines and Reclamation understands its cost sharing responsibilities and have indicated intent to share equally in the feasibility study phase. The Ohio Division of Mines and Reclamation has provided a letter of intent, dated October 28, 1996, indicating its interest in acting as a cost sharing sponsor for the project. The Ohio Environmental Protection Agency (OEPA) also has indicated its interest in the restoration project. The Feasibility Cost Sharing Agreement is scheduled to be executed in April 2000.

The reconnaissance report was certified to be in accord with policy in November 1997. FY 2000 funds are being used to continue the feasibility phase. FY 2001 funds will be used to continue the feasibility phase. The estimated cost of the feasibility phase is $1,012,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal funds share maybe in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,062,000
Reconnaissance Phase (Federal)	50,000
Feasibility Phase (Federal)	506,000
Feasibility Phase (Non-Federal)	506,000

The reconnaissance phase will be completed in April 2000. The feasibility study completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Hocking River Basin Environmental Restoration, Sunday Creek, OH Huntington District	700,000	50,000	0	200,000	450,000

The Sunday Creek watershed of the Hocking River basin study area encompasses 139 square miles of Perry, Athens, and Morgan Counties, Ohio. The focus of the study for the Sunday Creek watershed is environmental restoration. Extensive portions of the Sunday Creek watershed, of the Hocking River drainage area, have been subjected to underground and surface mining. Severe acid mine drainage problems occur and erosion from disturbed land areas have accelerated sedimentation and deposition of materials in over 110 miles of streams of the area. A number of stream reaches are essentially sterile and unable to support diverse aquatic life. Communities affected within this environmentally degraded watershed are Chauncey, Mill Field, Jacksonville, Tremble, Glouster, Corning, Rendville, Shawnee, and Hemlock.

The study will evaluate the applicability and feasibility of various restoration solutions to the overall degradation of the ecosystem. Environmental restoration activities would include limited stream restoration, wetland creation and wildlife habitat restoration involving both active and passive treatment of acid mine drainage. The Ohio Department of Natural Resources, Division of Mines and Reclamation understands its cost sharing responsibilities and have indicated intent to share equally in the feasibility study phase. The Ohio Division of Mines and Reclamation has provided a letter of intent, dated October 28, 1996, indicating its interest in acting as a cost sharing sponsor for the project. The Ohio Environmental Protection Agency (OEPA) also has indicated its interest in the restoration project. The Feasibility Cost Sharing Agreement is scheduled to be executed in January 2001.

The reconnaissance report was certified to be in accord with policy in November 1997. FY 2001 funds will be used to continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase of $1,300,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal funds share maybe in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,350,000
Reconnaissance Phase (Federal)	50,000
Feasibility Phase (Federal)	650,000
Feasibility Phase (Non-Federal)	650,000

The reconnaissance phase is scheduled to be completed in January 2001. The feasibility study completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Muskingum Basin System, OH Huntington District	1,600,000	0	100,000	100,000	1,400,000

The study area encompasses approximately 8,051 square miles in southeastern Ohio. The Muskingum River Lakes system includes 16 completed projects, regulating the runoff of a drainage area of 5,060 square miles, or 63 percent of the entire basin area. Mining is still prevalent within the basin. The original reservoir system, consisting of 14 projects (now between 56 and 59 years old), was completed in 1938. Two more projects were constructed and completed in 1959 and 1972. The 14 original projects are operated for flood control, recreation, and water conservation. The two newer projects are operated for flood control, general recreation, F&WL conservation, and low flood augmentation. The reservoirs (especially those constructed in the 1930's) were designed and are still operated in a manner intended to achieve objectives defined in the 1930's. However, a number of physical as well as cultural changes have occurred since that time. Muskingum River Basin lakes and rivers are negatively impacted by two primary influences: poor land use practices and acid mine drainage. Because of the poor regard for conservation measures associated with agriculture, forestry, and mining practices, Muskingum surface water ecosystems have become degraded by excessive sedimentation and mine drainage. Consequently riverene habitats have been rendered less diverse and appealing to the native fauna that once comprised the basin. The reconnaissance study will evaluate the overall degradation of the ecosystem including the existing environmental condition of the study area, without restoration. Potential solutions will include state of the art passive treatment systems for acid mine drainage, stream restoration, wetland creation, and wildlife habitat restoration. The study will also evaluate the potential contribution of existing projects and explore operational modifications, which could enhance environmental restoration efforts.

The Muskingum Watershed Conservancy District (MWCD) is the study sponsor. MWCD understands their cost sharing responsibilities and has indicated an intent to cost share in the feasibility phase study by letter dated January 11, 2000. FY 2000 funds are being used to initiate and complete the reconnaissance phase. If the section 905 (b) analysis is certified to be in accord with policy, FY 2001 funds will be used to continue into the feasibility phase of the study.

Total Estimated Study Cost	$3,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,500,000
Feasibility Phase (Non-Federal)	1,500,000

The reconnaissance phase is scheduled for completion in December 2000. The feasibility study completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Turtle Creek Basin, Upper Turtle Creek, PA Pittsburgh District	432,000	147,000	219,000	66,000	0

The Turtle Creek Basin lies within Allegheny and Westmoreland Counties, Pennsylvania, and drains an area of 147 square miles. Turtle Creek is a tributary of the Monongahela River, which it joins at River Mile 12.2, about one mile upstream from Locks and Dam No. 2 at Braddock, Pennsylvania. This basin consists of three sub-basins (Upper Turtle Creek, Lyons Run, and Brush Creek) which have degraded water and habitat quality as a result of acidic drainage from abandoned bituminous coal mines and coal spoil dumps. Acidity, heavy metals, and sediments originating from these pollution sources have resulted in both chronic and intermittent depression of all but the most tolerant fish and invertebrate species. In addition, the sediments eroding from the mine dumps have worsened flooding by diminishing the channel capacity of Turtle Creek. Corrective measures evaluated during the recon phase include piping the discharge 9000 feet to 25 acres of sedimentation ponds and 25 acres of wetlands, and would be further refined during the feasibility phase. Information sources would include the Corps of Engineers, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, US Fish and Wildlife Service, and the Turtle Creek Watershed Association. Westmoreland County is the cost sharing sponsor of the feasibility phase of the study. The Feasibility Cost Sharing Agreement is scheduled to be executed in April 2000.

The reconnaissance report was certified to be in accord with policy in January 1999. FY 2000 funds are being used to continue the feasibility phase. FY 2001 funds will be used to complete the feasibility phase. The estimated cost of the feasibility phase is $700,000 which will be shared on a 50-50 basis by Federal and non-Federal partners. Up to one-half of the non-Federal share may be in-kind services. A summary of the cost sharing is as follows:

Total Estimated Study Cost	$782,000
Reconnaissance Phase (Federal)	82,000
Feasibility Phase	350,000
Feasibility Phase (Non-Federal)	350,000

The reconnaissance phase is scheduled for completion in April 2000. The feasibility study is scheduled to be completed in October 2001.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Duck River Watershed, TN Nashville District	375,000	100,000	86,000	50,000	139,000

The Duck River, a tributary of the Tennessee River, has a total drainage area of approximately 3,500 square miles within southern middle Tennessee. The Duck River flows across parts of Bedford, Coffee, Hickman, Humphreys, Marshall, Maury and Perry counties before emptying into Kentucky Lake at Tennessee River Mile 110.8. The Tennessee Valley Authority has constructed one multipurpose project in the upper end of the basin and halted completion of the Columbia Dam in the middle of the watershed. Restoring the 60 miles of this unique riparian resource will benefit at least 7 endangered mussel species. The feasibility study is evaluating various measures to promote biodiversity and sustainability for targeted endangered species in the watershed (including mussels, fish, mammals and plants). Possible solutions include streambank stabilization, riparian zone restoration, weir and pool construction, and wetland creation and enhancement. The Duck River Agency (DRA), by letter dated October 2, 1997, indicated an interest in cost-sharing the feasibility study. The Feasibility Cost Sharing Agreement is scheduled for execution in August 2000.

The reconnaissance report was certified to be in accord with policy in December 1997. FY 2000 funds will be used to initiate the feasibility phase. FY 2001 funds will be used to continue the feasibility study. The estimated cost of the feasibility phase is $550,000, which is to be shared on a 50-50 basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing follows:

Total Estimated Study Cost	$650,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	275,000
Feasibility Phase (Non-Federal)	275,000

The reconnaissance phase is scheduled for completion in August 2000. The feasibility study completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
North Chickamauga Creek, TN Nashville District	650,000	150,000	248,000	50,000	202,000

North Chickamauga Creek forms on Walden's Ridge northwest of Chattanooga, Tennessee and flows into the Tennessee River immediately downstream of Tennessee Valley Authority's Chickamauga Dam. Conditions have improved in the lower reaches and the creek supports a reasonably high quality aquatic community. However, the uppermost portions of North Chickamauga Creek are severely impacted by acid mine drainage from abandoned underground mines that were worked in the early 1900's which degraded the ecosystem biodiversity. The reconnaissance study evaluated nonstructural, Flood Warning and Emergency Evacuation Plans, acid mine drainage remediation and wetlands creation. These measures will be further refined during the feasibility phase study. Hamilton County understands its cost sharing responsibilities and has expressed an interest in cost sharing the feasibility phase, as stated by its letter of intent dated June 20, 1996. The Feasibility Cost Sharing Agreement is scheduled to be executed in May 2000.

The reconnaissance report was certified to be in accord with policy in December 1998. FY 2000 funds are being used to continue the feasibility phase. FY 2001 funds will be used to continue the feasibility phase. The estimated cost of the feasibility phase is $1,100,000, which is to be shared on a 50-50 basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing follows:

Total Estimated Study Cost	$1,200,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	550,000
Feasibility Phase (Non-Federal)	550,000

The reconnaissance phase is scheduled for completion in May 2000. The feasibility study completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Powell River Watershed, VA Nashville District	1,477,000	850,000	172,000	165,000	290,000

The Powell River originates in southeast Virginia and flows southwest across the Tennessee border, where it empties into the Clinch River. Restoring the damaged portions of this unique ecosystem will benefit the eleven endangered mussel species and 2 threatened fish species. The Powell River Watershed Project Study Plan identified 12 contaminated creeks that contribute to the ecosystem degradation of the Powell River watershed. These creeks will be evaluated in 4 interim feasibility reports that will develop a watershed management plan containing potential corrective measures. The interim feasibility reports will evaluate measures which provide modification of hydrology or substrate by eliminating heavy metals in the water and increasing the ph of the water to normal levels through use of active (filtration) and passive (weirs, impoundment and wetland creation) systems for restoration of the ecosystem. The Lee-Norton-Wise-Scott-Planning District Commission (LENOWISCO), by letter of intent dated November 26, 1996, indicated an interest in cost-sharing the feasibility study. The Feasibility Cost Sharing Agreement was executed on July 20, 1998. The Ely and Puckett Creeks interim report will be completed in May 2000. The interim report for Straight, Reeds, Jones, and Cox Creeks will be completed in July 2001. Additional interim reports on Bundy Creek, Jordan Branch, and Craborchard Creek and on Pigeon Creek and Black Creek are scheduled in the future.

FY 2000 funds are being used to complete the Ely and Pucketts Creeks interim report and continue the Straight, Reeds, Jones and Cox Creeks interim report. FY 2001 funds will be used to complete the Straight, Reeds, Jones and Cox Creeks interim report. The estimated cost of the feasibility phase is $2,754,000 which is to be shared on a 50-50 basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing follows:

Total Estimated Study Cost	$2,854,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,377,000
Feasibility Phase (Non-Federal)	1,377,000

The feasibility study completion date is being determined.

TOTAL: Special Studies	9,910,000	2,349,000	1,445,000	1,887,000	4,229,000
TOTAL SURVEYS - CONTINUING	66,743,000	37,547,000	10,069,000	8,256,000	10,871,000
TOTAL SURVEYS - NEW & CONT	66,843,000	37,547,000	10,069,000	8,356,000	10,871,000

Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
3. PRECONSTRUCTION ENGINEERING AND DESIGN ACTIVITIES (PED) - NEW: None.					
4. PRECONSTRUCTION ENGINEERING AND DESIGN ACTIVITIES (PED) - CONTINUING:					
a. Navigation.					
Waukegan Harbor, IL (1970 Mod) Chicago District	450,000	0	150,000	300,000	0

Waukegan Harbor, Illinois is on the western shore of Lake Michigan, 16 miles south of Kenosha and 38 miles north of Chicago, Illinois. Waukegan Harbor is the only deep-draft commercial harbor between Milwaukee and Chicago capable of handling large shipments of cement, gypsum, and other building materials. Average annual waterborne commerce at the harbor during the last 10 years was 450,000 tons. Dredging at the Waukegan Inner Harbor area has not occurred since 1969 due to the presence of contaminated sediment and the lack of a confined disposal facility. A feasibility study is underway and scheduled for completion with a DE Notice in May 2000. The feasibility effort consists of evaluating a maintenance dredging plan in combination with harbor deepening and clean-up in two slip areas outside the authorized channel. Existing Federal improvements at Waukegan Harbor consist of dredged navigation channels, piers, and a breakwater. Uncompleted work authorized in 1970 includes deepening the existing entrance channel in the outer harbor from 22 to 25 feet; deepening the channel between piers from 18 to 23 feet; and deepening the inner basin from 18 to 23 feet and extending its limits approximately 275 feet northward. However, additional depths up to 27 feet in the inner harbor and 30 feet in the outer harbor are being evaluated. In order to clean the harbor, approximately 275,000 CY of contaminated sediment would be dredged from the harbor and placed in a confined disposal facility proposed at an existing settling basin located at an industrial site 2-miles north of the harbor. Another 25,000 CY is targeted for removal from the remaining non-Federal channel areas under the authority of Section 312 of the Water Resources Development Aact of 1990. The project cost is estimated to be $15 million of which up to 40-percent would be a non-Federal sponsor cost. The average annual navigation cost saving benefits amount to $2,500,000 and the benefit-cost ratio is 2 to 1 based upon a November 1999 economic analysis. The Waukegan Port District, which signed the Feasibility Cost Sharing Agreement in August 1998 is the local sponsor for Preconstruction Engineering and Design (PED).

PED will ultimately be cost shared in accordance with the Water Resources Development Act of 1996 at a minimum non-Federal share of 35 percent but will be financed through the PED period at a non-Federal share of 25 percent. Adjustments necessary to bring the non-Federal contribution in line with construction cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design	$600,000	Total Estimated Preconstruction Engineering and Design	$600,000
Initial Federal Share	450,000	Ultimate Federal Share	390,000
Initial Non-Federal Share	150,000	Ultimate Non-Federal Share	210,000

FY 2000 funds will be used to initiate PED. FY 2001 funds will be used to complete PED in September 2001.

Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
John T. Myers Locks and Dam, IN and KY Louisville District	8,000,000	0	476,000	2,210,000	5,314,000

John T. Myers Locks and Dam are located on the Ohio River 846.0 miles below Pittsburgh, Pennsylvania, near Uniontown, Indiana. The present navigation locks are on the Indiana side of the river near Mt. Vernon, Indiana, and consist of a 110 X 1,200-foot main lock and one auxiliary lock of 110 X 600 foot placed in operation in 1975. A proposed modernization of the existing facility would extend the auxiliary (110 X 600 foot lock) to become the second 110 X 1,200 foot lock. Tonnages through Myers locks are expected to grow annually from the 1996 figure of 77.6 million tons to 148.0 million tons in 2050. These tonnage projections indicate that Myers locks represent the next potential traffic bottleneck in the mainstem Ohio River system following Gallipolis and Olmsted. The need for a new lock is in response to identified annual increases in tonnage levels and delays. About 51 percent of the present traffic is coal. The feasibility report for the Myers interim is scheduled for completion in March 2000 with the issuance of the Division Commanders public notice. The reports anticipated recommendation is construction of an extension to the existing auxiliary lock. The estimated project cost is $230,000,000, with average estimated annual incremental benefits of $9,800,000 attributable to navigation. The benefit to cost ratio is 2 to 1 based on an interest rate of 6 7/8 percent. The project is not authorized for construction. In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, 50 percent of the costs of construction would be derived from the Inland Waterways Trust Fund.

FY 2000 funds are being used to initiate Preconstruction Engineering and Design for foundation explorations and hydraulic studies. FY 2001 funds will be used to continue foundation exploration analysis, hydraulic model studies and engineering analyses, and preparation of the project Design Documentation Report. The Preconstruction Engineering and Design completion date is being determined.

Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Greenup Locks & Dam, KY Huntington District	9,000,000	0	0	1,300,000	7,700,000

Greenup Locks & Dam project is located on the left descending bank of the Ohio River near Greenup, KY, 341.0 miles downstream of Pittsburgh, PA. The existing project consists of a non-navigable, high-lift gated dam with a top length of 1,287 ft. and two parallel lock chambers. The lock chambers, the main lock chamber is 110' X 1200' and the auxiliary lock is 110' X 600', came into service in 1959. Current projections indicate that by the year 2010, tonnage at the Greenup project will exceed 100 million tons. The 2010 traffic level will exceed the effective capacity of the main lock, so that the auxiliary lock will be regularly required to process traffic. At this point, closure of either lock, for maintenance or in the event of an accident, will generate massive delays and associated increased costs to industry. Additional lock capacity will be required or the delay experience of 1998 will become more likely and lengthier as these locks age. Industry costs associated with these closures will grow. This project enjoys the support of regional and national waterway interests, especially towing companies. Congressional authorization of a 600' extension of the existing auxiliary chamber (resulting in an auxiliary chamber dimension of 110' X 1200') is needed. The feasibility report is scheduled for completion in March 2000, with the issuance of the Division Commanders public notice. The NED plan is an extension of the existing 600' auxiliary lock. The current estimated project cost is $238,800,000 with average annual benefits of $12,700,000 attributable to navigation. The benefit to cost ratio is 2.6 to 1 based on an interest rate of 6 7/8 percent. The project is not authorized for construction. In accordance with the cost sharing and financing concepts in the Water Resources Development Act of 1986, 50 percent of the construction cost would be derived from the Inland Waterways Trust Fund.

FY 2001 funds will be used to initiate Preconstruction Engineering and Design consisting of preparation of the Design Documentation Report. The Preconstruction Engineering and Design completion date is being determined.

Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Sault Ste. Marie (Replacement Lock), MI Detroit District	2,488,000	1,316,000	172,000	1,000,000	0

The St. Marys River project at Sault Ste Marie, Michigan, the Soo Locks, provides a vital link between Lake Superior and the lower Great Lakes to facilitate the efficient flow of commerce. The project includes four navigation locks, connecting channels, compensating works for the regulation of Lake Superior, and a 21 megawatt hydroelectric power plant. During the 1998 navigation season, over 86 million tons of commerce, consisting principally of iron ore, western coal, and grain, passed through this facility. Over 75 percent of the iron ore produced in the U. S. transits through the Soo Locks to the steel mills in Indiana, Michigan, Ohio, Pennsylvania and West Virginia. Currently, two locks, the MacArthur and Poe, service loaded commercial vessel traffic. The larger Poe Class vessels, including the 1,000-footers, which comprise 70 percent of the carrying capacity of the U.S. Great Lakes Fleet, are restricted to the large Poe Lock. The Davis Lock is rarely used and the Sabin Lock is in disrepair and has been closed for several years. No major repairs have been implemented on the MacArthur Lock since its construction in 1948. The 1986 and 1990 Water Resource Development Acts (WRDA) authorized the construction of a new Poe-sized lock to replace the existing Davis and Sabin Locks at Sault Ste. Marie, Michigan. The 1996 WRDA includes a provision that the United States would pay the portion of the non-Federal share allocated to users calling at Canadian ports, and allows the non-Federal sponsor 50 years to contribute its share. The 1999 WRDA waived interest on the non-Federal payments. A Limited Reevaluation Report (LRR) completed in December 1999, documents average annual benefits of $649,500 attributable to navigation and a benefit-to cost ratio of 1.1 to 1 based on an interest rate of 6 5/8 percent. The recommended project, which consists of the construction of a new Poe-sized lock at the site of the Davis and Sabin Locks, is estimated to cost $174,491,000 (September 1999 price levels) with an estimated Federal cost of $130,606,600 and an estimated non-Federal cost of $43,884,500. Construction of this lock would minimize the impacts of a disruption at the Poe Lock. The Great Lakes States have expressed interest in the project and have agreed upon a cost sharing formula. The Great Lakes Commission passed a resolution in September 1999 to act as the local sponsor, representing the States. PED does not require non-Federal funds up front, but would be ultimately cost shared at the rate for the project.

Total Estimated Preconstruction		Total Estimated Preconstruction	
Engineering and Design	$2,488,000	Engineering and Design	$2,488,000
Initial Federal Share	2,488,000	Ultimate Federal Share	1,862,300
Initial Non-Federal Share	0	Ultimate Non-Federal Share	625,700

FY 2000 funds are being used for Limited Reevaluation Report (LRR) related activities and continuing engineering and environmental analyses. FY 2001 funds will be used to continue engineering, economic, and environmental analyses, and, upon Washington level concurrence in the recommendations of the LRR, funds would be used to initiate and complete the plans and specifications for the first construction contract and to discuss project cooperation requirements with the non-Federal sponsor. PED is scheduled for completion in September 2001.

TOTAL: Navigation	19,938,000	1,316,000	798,000	4,810,000	13,014,000

Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
b. Flood Control.					
Des Plaines River, IL Chicago District	1,350,000	49,000	212,000	400,000	689,000

The Des Plaines River Basin starts in southwest Wisconsin and flows south into northeast Illinois. The study area is located in Lake and Cook Counties in northeastern Illinois and has a drainage area of approximately 500 square miles. The Des Plaines River has a long history of flooding causing significant economic losses. The flood of record, in September 1986 caused an estimated $35 million in damage to 10,000 dwellings and 263 business and industrial sites and severely impacted local transportation networks. Over 15,000 residents were evacuated from the flooded area. The Division Engineer's Notice was signed on 18 June 1999. The recommended plan consists of six elements: two levee units, expansion of two flood storage areas, construction of one new storage area, and expansion of one existing dam to increase storage. Average annual costs are estimated at $3,400,000. Average annual benefits are estimated at $6,000,000. The benefit cost ratio for the proposed project is 1.8 to 1. Overall project costs are estimated at $48,800,000 (price level: October 1999; Federal $31,720,000; non-Federal $17,080,000). The Preconstruction Engineering and Design (PED) Agreement with the Illinois Department of Natural Resources acting as the primary local sponsor was signed on 26 October 1999. The project was authorized for construction by the Water Resources Development Act of 1999.

PED will ultimately be cost shared in accordance with the Water Resources Development Act of 1996 at a minimum non-Federal share of 35 percent but will be financed through the PED period at a non-Federal share of 25 percent. Adjustments necessary to bring the non-Federal contribution in line with construction cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction		Total Estimated Preconstruction	
Engineering and Design	$1,800,000	Engineering and Design	$1,800,000
Initial Federal Share	1,350,000	Ultimate Federal Share	1,170,000
Initial Non-Federal Share	450,000	Ultimate Non-Federal Share	630,000

FY 2000 and FY 2001 funds are being used to continue PED. The PED completion date is being determined.

Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Island Creek at Logan, WV Huntington District	2,500,000	1,575,400	400,000	200,000	324,600

The Island Creek at Logan, West Virginia Local Protection Project consists of channelization of the lower 0.7 miles of Island Creek to a bottom width of 80 feet. This area experienced major flooding in 1957, 1963, 1974, 1977 and 1984. The Corps completed a study in 1993 that recommended a project to reduce significant flooding which has a positive benefit-to-cost ratio of 1.3 to 1. The project, with an estimated cost of $18,061,000 (price level October 1999) with a Federal cost of $13,545,750 and non-Federal cost of $4,515,250, has been inactive since FY 94 at the request of the local sponsor, the Logan County Commission. The Commission, at that time, was unable to provide the non-Federal share of project implementation costs, but have recently received a commitment of financial support from the state of West Virginia and has indicated a willingness to act as non-Federal cost sharing sponsor for this project. The average annual benefits are estimated at $2,406,000 at the June 1999 price level. In a letter dated 27 July 1998, the West Virginia Soil Conservation Agency reaffirmed its intent to cooperate with the Logan County Commission to proceed with the project. PED will ultimately be cost shared at the rate for the project to be constructed (75% Federal/25% non-Federal) but will be financed through the Preconstruction, Engineering and Design (PED) phase at 100% Federal financing. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction	
Engineering and Design	$2,500,000
Initial Federal Share	2,500,000
Initial Non-Federal Share	0

Total Estimated Preconstruction	
Engineering and Design	$2,500,000
Ultimate Federal Share	1,875,000
Ultimate Non-Federal Share	625,000

The project is authorized for construction by Section 401 of the 1986 Water Resources Development Act, PL 96-662. FY 2000 funds are being used to review plan formulation, complete an economic update of project benefits, develop a project management plan, complete a General Reevaluation Report. FY 2001 funds would be used to continue detailed design and plans and specifications. The PED completion date is being determined.

Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Lower Mud River, WV Huntington District	1,575,000	300,000	300,000	650,000	325,000

The Lower Mud River flood control project is located in Milton, Cabell County, West Virginia and consists of channelization of approximately 3 miles of the Mud River. The drainage area of the Mud River is approximately 230,000 acres. The project area experienced major flooding in 1939, 1962, 1978, 1984, and 1996. The flood of record occurred in December 1978, with over 7 feet above flood stage. Approximately 500 homes and 100 businesses were flooded. A flood event of this magnitude today would cause flood damages in excess of $31,000,000. The Natural Resources Conservation Service (NRCS) completed a study in 1992, which demonstrated a positive benefit-cost ratio of 1.6 to 1. The recommended project is estimated to cost $25,000,000, with a Federal cost of $18,750,000 and a non-Federal cost of $6,250,000 (Oct. 99 price level) and consists of channel modification and diversion along a three mile section of the Lower Mud River. A letter of intent has been received from the sponsor, the West Virginia Soil Conservation Agency. The sponsor fully understands cost-sharing requirements, has funds available, and is ready to proceed with the project. Preconstruction Engineering and Design (PED) will be cost shared at the rate for the project to be constructed but will be financed through the PED phase at 25% non-Federal.

Total Estimated Preconstruction Engineering and Design	$2,100,000	Total Estimated Preconstruction Engineering and Design	$2,100,000
Initial Federal Share	1,575,000	Ultimate Federal Share	1,575,000
Initial Non-Federal Share	525,000	Ultimate Non-Federal Share	525,000

The project is authorized for construction by Section 580 of the 1996 Water Resources Development Act. FY 1998 Construction General funds and FY 1999 General Investigations funds were used to prepare and execute a Design Agreement, initiate and complete the Project Management Plan and initiate a Limited Re-evaluation Report (LRR) re-affirming continued project feasibility and environmental compliance to applicable laws. FY 2000 funds are being used to complete the LRR, and upon approval of the LRR and Natural Resources Conservation Service (NRCS) report as a decision document, proceed with detailed design. The Design Agreement was signed November 1999. The PED completion date is being determined.

TOTAL: Flood Control	5,425,000	1,924,400	912,000	1,250,000	1,338,600

Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
c. Watershed/Ecosystem.					
Ashtabula River Environmental Dredging, OH Buffalo District	900,000	0	516,000	384,000	0

The Ashtabula River is located on the south shore of Lake Erie, 59 miles east of Cleveland, Ohio. The feasibility study recommends a remediation plan for contaminated sediments in the Ashtabula River and Harbor system including the Federal channel, to provide depths required for commercial navigation, ecosystem restoration and water quality improvement. The Corps, in conjunction with the Ashtabula River Partnership (ARP), prepared the feasibility study known as a Comprehensive Management Plan and Environmental Impact Statement (CMP/EIS). The formal public review period has closed and responses to comments and associated revisions to the CMP/EIS are being made. This project is justified, funded and cost shared under three separate authorities: one project reach is justified based on a combination of existing O&M Authorities and Section 312(a) of the Water Resources Development Act (WRDA) of 1990, while the remainder of the project is justified under Section 312(b) of WRDA of 1990. The design work for 312(b) will be accomplished with Preconstruction Engineering and Design (PED) funding. The entire recommended project (O&M, 312(a) and 312(b)) has a total estimated cost of $42,380,000, with an estimated Federal cost of $28,430,000 and consists of dredging 696,000 cys of contaminated sediments, a transfer/dewatering facility, and construction of upland confined disposal facilities. The project sponsor, the Ashtabula County Port Authority, provided a Letter of Intent dated May 28, 1998. The 312(b) PED work is estimated to cost $1,200,000 ($600,000 for the dredging and $600,000 for the disposal). The ultimate non-Federal PED cost sharing is 35% for the dredging and disposal.

PED will ultimately be cost shared in accordance with project cost sharing, but will be financed through the PED period at a non-Federal share of 25 percent. Adjustments necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design	$1,200,000
Initial Federal Share	900,000
Initial Non-Federal Share	300,000

Total Estimated Preconstruction Engineering and Design	$1,200,000
Ultimate Federal Share	780,000
Ultimate Non-Federal Share	420,000

FY 2000 funds will be used to initiate PED for the portion of the project providing ecosystem restoration outputs. FY 2001 funds will be used to complete PED in September 2001.

Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Powell River, Straight, Reeds, Jones and Cox Creeks, VA Nashville District	300,000	0	0	200,000	100,000

The Straight, Reeds, Jones and Cox Creeks sub-basins of the Powell River Watershed originate in southwest Virginia and flow southwest across the Tennessee border, emptying into the Clinch River. The drainage area for the Straight, Reeds, Jones and Cox Creeks sub-basins includes approximately 7.8 square miles or 5,000 acres. Restoring the damaged portions of this unique ecosystem will benefit the eleven endangered mussel species and 2 threatened fish species. The feasibility study is evaluating existing flow and water quality data for the AMD (acid mine drainage) discharges and AMD receiving systems within the Straight, Reeds, Jones and Cox Creeks sub-basins. Both passive and active AMD measures for restoring the ecosystem are being examined within the Straight, Reeds, Jones and Cox Creeks sub-basins. The local sponsor Lee-Norton-Wise-Scott-Planning District Commission (LENOWISCO), strongly supports the project. The Feasibility Cost Sharing Agreement with LENOWISCO was executed July 1998. An updated letter of intent and financing plan will be included with the issuance of the Division Commander's notice scheduled for July 2001.

Total project cost is estimated at $5,000,000 with an estimated Federal share of $3,250,000 and an estimated non-Federal share of $1,750,000. Preconstruction Engineering and Design will ultimately be cost shared at the rate for the project to be constructed but will be financed through the Preconstruction Engineering and Design period at 25% non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction		Total Estimated Preconstruction	
Engineering and Design	$400,000	Engineering and Design	$400,000
Initial Federal Share	300,000	Ultimate Federal Share	260,000
Initial non-Federal Share	100,000	Ultimate non-Federal Share	140,000

The project is not authorized for construction. The cost sharing for construction of the project will be 65 percent Federal and 35 percent non-Federal in accordance with the Water Resources Development Act of 1996.

FY 2001 funds will be used to continue into Preconstruction Engineering and Design. The Preconstruction Engineering and Design completion date is being determined.

TOTAL: Watershed/Ecosystem	1,200,000	0	516,000	584,000	100,000

Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
TOTAL PED - CONTINUING	26,563,000	3,240,400	2,226,000	6,644,000	14,452,600
TOTAL PED - NEW & CONTINUING	26,563,000	3,240,400	2,226,000	6,644,000	14,452,600
GRAND TOTALS - SURVEYS & PED	93,406,000	40,787,400	12,295,000	15,000,000	25,323,600

APPROPRIATION TITLE: Construction, General (Recreation Projects – Specifically Funded)

PROJECT: Ohio River Greenway Corridor, Indiana (New Start)

LOCATION: The Ohio River Greenway is a seven-mile linear corridor that extends from the City of Jeffersonville through the Town of Clarksville to the City of New Albany, Indiana, along the Ohio River Shoreline. The project extends from Ohio River Mile 602 to Ohio River Mile 609. The corridor adjoins the McAlpine Locks and Dam project and the Falls of the Ohio National Wildlife Conservation Area on the Indiana side of the river.

DESCRIPTION: Federal participation in discrete recreation facilities is authorized, but these facilities will not be implemented as part of the project. The main project features consist of a vehicular parkway, pedestrian and multi-use paths, a bridge, and two levee cuts for additional access to the river. All work is programmed.

AUTHORIZATION: Water Resources Development Act of 1996.

REMAINING BENEFIT-COST RATIO: 1.4 to 1 at 6 5/8 percent

TOTAL BENEFIT COST RATIO: 1.4 to 1 at 6 5/8 percent

BASIS OF BENEFIT COST RATIO: Economic Analysis, Report on the Ohio River Greenway Corridor, dated January 2000 at 1999 price levels.

SUMMARIZED FINANCIAL DATA			STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$ 15,500,000	Entire Project	6	Being Determined
Estimated Non-Federal Cost		$ 15,500,000		PHYSICAL DATA	
Cash Contribution	10,500,000				
Other Costs	5,000,000		Levee Cuts		85 ft.
			Roadway		7 mi.
Total Estimated Project Cost		$ 31,000,000	Trails/Paths		14 mi.
			Gates		2
			Bridge		1

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SUMMARIZED FINANCIAL DATA (Continued)		ACCUM. PCT. OF EST. FED. COST
Allocations to 30 September 1999	$ 1,952,000	
Conference Allowance for FY 2000	0	
Allocation for FY 2000	0	
Allocations through FY 2000	1,952,000	13
Allocation Requested for FY 2001	1,500,000	22
Programmed Balance to Complete after FY 2001	12,048,000	100
Unprogrammed Balance to Complete after FY 2001	0	

JUSTIFICATION: The primary purpose of this project is to enhance public access to the amenities of the Ohio River in the vicinity of the local flood protection project. After the 1937 flood, which caused considerable damage to the southern Indiana communities of Jeffersonville, Clarksville, and New Albany, the Federal Government participated in the construction of a flood damage reduction project to protect these communities from future flooding. The existing local protection projects, which consists of approximately eight miles of earth levee, 2.5 miles of concrete wall, and 16 pumping plants, is operated and maintained by these three communities. The series of earth levees and concrete floodwalls was constructed between 1937 and 1953 and protects approximately 80,000 residents and physically separates them from the river. The local flood protection project continues to serve its function, however, it separates or cuts off the communities from the riverfront and provides them with limited access for operation and maintenance of the facilities. If constructed today, the project would provide the locals communities opportunities to more efficiently operate and maintain the existing flood control facilities and provide better access to the amenities of the Ohio River.

Average annual benefits are as follows:

Annual Benefits	Amount
Access	$2,100,000
Total	$2,100,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Real Estate Administration	50,000
Initiate Construction of New Albany Demonstration Project	540,000
Initiate Construction of Jeffersonville Demonstration Project	540,000
Planning, Engineering, and Design	300,000
Construction Management	70,000
Total	$ 1,500,000

NON-FEDERAL COSTS: In accordance with the cost sharing and financial concepts reflected in Water Resources Development Act 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation Maintenance, Repair Rehabilitation and Replacement Costs
Provide lands, easements, rights of way, relocations, and dredged material disposal areas.	$ 5,000,000	
Pay 33.9 percent of the costs allocated to access facilities, as reduced for credit to allow for non-Federal work, to bring the total non-Federal share of costs to 50 percent and bear all costs of operation, maintenance, repair, rehabilitation and replacement of access facilities.	10,500,000	$ 809,000
Total Non-Federal Costs	$ 15,500,000	$ 809,000

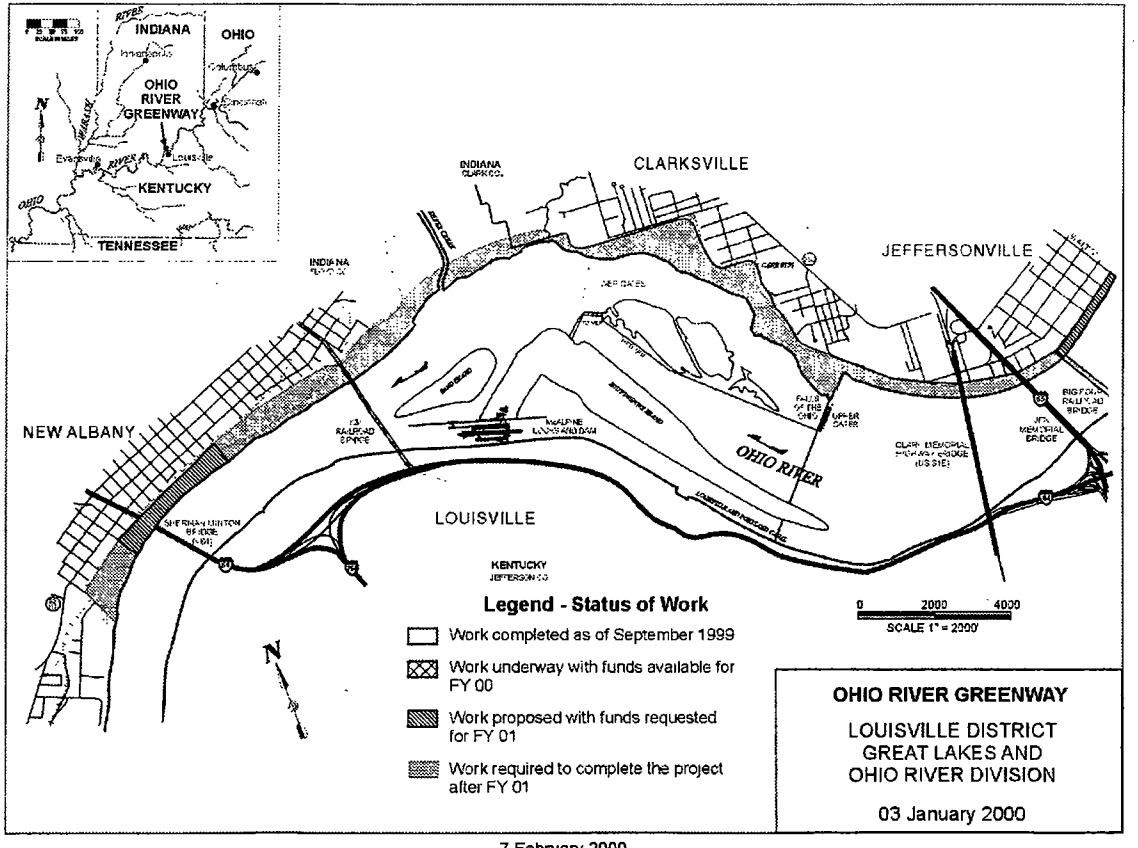
STATUS OF LOCAL COOPERATION: There are four non-Federal sponsors: The Ohio River Greenway Development Commission, the City of New Albany, the Town of Clarksville, and the City of Jeffersonville. Each has sent in Letters of Intent, dated 17 December 1999, indicating their williness to enter into binding agreements with the Federal Government to fulfill the required items of local cooperation. The Project Cooperation Agreement is scheduled for execution in January 2001 pending approval of the project report and a determination by the Assistant Secretary of the Army for Civil Works, in accordance with Section 559 (b) of the Water Resources Development Act of 1996, that the project is feasible. The local sponsors have spent about $1 million on the access road to this point, using mainly local funds. The Greenway Commission and local communities have recently obtained over $3 million in grant funds that will be used for the project. The sponsors' source of funding will mainly come from state and local sources.

COMPARISON OF FEDERAL COST ESTIMATES: The Federal cost estimate of $15,500,000 is the initial estimate presented to Congress.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: No Environmental Impact Statement is required. An Environmental Assessment and Finding of No Significant Impact was completed in January 2000.

OTHER INFORMATION: The Ohio River Greenway Corridor Report is scheduled for approval in March 2000. Funds to initiate preconstruction, engineering and design were first appropriated in FY 1993.

The scheduled completion date of the project is Being Determined.


INDIANA
OHIO
OHIO RIVER GREENWAY
KENTUCKY
TENNESSEE
CLARKSVILLE
JEFFERSONVILLE
NEW ALBANY
LOUISVILLE
OHIO RIVER
KENTUCKY
Legend - Status of Work
Work completed as of September 1999
Work underway with funds available for FY 00
Work proposed with funds requested for FY 01
Work required to complete the project after FY 01
0 2000 4000
SCALE 1" = 2000'
OHIO RIVER GREENWAY
LOUISVILLE DISTRICT
GREAT LAKES AND
OHIO RIVER DIVISION
03 January 2000

APPROPRIATION TITLE: Construction, General - Locks and Dams (Navigation)

PROJECT: Olmsted Locks and Dam, Illinois and Kentucky (Continuing)

LOCATION: The project is located in Pulaski County, Illinois and Ballard County, Kentucky on the Ohio River near Olmsted, Illinois, approximately 964 miles downstream from Pittsburgh, Pennsylvania.

DESCRIPTION: The project will replace Ohio River Locks and Dams 52 and 53. The new structure will consist of two 110 by 1200 foot locks adjacent to the Illinois shore and a dam comprised of tainter gates, navigable pass, and a fixed weir. All work is programmed.

AUTHORIZATION: Water Resources Development Act of 1988.

REMAINING BENEFIT-REMAINING COST RATIO: 8.6 at 8 7/8 percent.

TOTAL BENEFIT-COST RATIO: 3.7 at 8 7/8 percent.

INITIAL BENEFIT-COST RATIO: 3.7 at 8 7/8 percent (FY 1991).

BASIS OF BENEFIT-COST RATIO: Benefits are based on the Olmsted Locks and Dam Benefit Update, dated October, 1990.

SUMMARIZED FINANCIAL DATA		
Estimated Federal Cost		$1,000,000,000
General Appropriations	$500,000,000	
Inland Waterway Trust Fund	500,000,000	
Estimated Non-Federal Cost		0
Total Estimated Project Cost		$1,000,000,000

STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project	38	Being Determined

PHYSICAL DATA	
Lock - 110 by 1200 foot Chambers	2
Dam - Navigable Pass	1,400 ft.
Fixed Weir	561 ft.
Tainter Gates	744 ft.
Acres – Dam	123
Road	21
Disposal Area	114
Flow Easements	35

SUMMARIZED FINANCIAL DATA (Continued)	GENERAL APPNS.	INLAND WATERWAYS TRUST FUNDS	ACCUM. PCT. OF EST. FED. COST
Allocations to 30 September 1999	184,799,000	184,799,000	37
Conference Allowance for 2000	17,000,000	17,000,000	
Allocation for 2000	29,709,000 1/	29,709,000 2/	
Allocations through 2000	214,508,000	214,508,000	43
Allocation Requested for 2001	19,071,000	19,071,000	47
Programmed Balance to Complete after 2001	266,421,000	266,421,000	100
Unprogrammed Balance to Complete after 2000	0	0	

1/ Reflects a reduction of $2,421,000 assigned as savings and slippage and $15,130,000 reprogrammed to the project in FY2000.
2/ Reflects a reduction of $2,421,000 assigned as savings and slippage and $15,130,000 reprogrammed to the project in FY2000.

JUSTIFICATION: The project is in a strategic location on the inland waterway system. Virtually all waterway traffic moving between the Ohio River and tributaries and the Mississippi River and tributaries passes through the project area. Olmsted Locks and Dam will replace existing Ohio River Locks and Dams 52 and 53, which are over 60 years old. Both projects have temporary lock chambers that are inefficient and neither project conforms to current design criteria for structural stability. Commercial navigation in 1998 was 97.7 million tons through Lock 52. Historically, tonnage growth has been steady and is expected to continue in the long term. In the 19 year period 1980 to 1998, tonnage levels increased a total of 47 percent. The long term (2010-2030) average annual growth rate is projected to be 0.8 percent. The value of the commodities through the project area in 1998 was estimated at $20 billion. Energy-related commodities comprised approximately 50 percent of the total tonnage, with grains and chemicals each contributing approximately 11 and 10 percent, respectively, of total tonnage. The projected increases in waterway traffic demands in combination with the limited capacity of the existing locks will result in increased lockage delays.

The following counties qualify as areas of "substantial and persistent" unemployment: Illinois - Alexander, Johnson, Massac, Pope, Pulaski, and Union; Kentucky - Ballard, Carlisle, Graves, Livingston, and Marshall.

Average annual benefits are as follows:

Annual Benefits	Amount
Navigation	$ 526,253,300
Employment	837,000
Cost Reduction	27,333,400
Total	$ 554,423,700

FISCAL YEAR 2001: The requested amount of $38,142,000 for this project will be applied as follows:

Continue Real Estate Activities	$ 46,000
Continue Lock Construction	13,666,000
Replenishment of Judgment Fund	12,000,000
Continue Approach Wall Construction	7,212,000
Continue Washdown Barge	224,000
Continue Boat Ramp Construction	682,000
Cultural Resources	12,000
Planning, Engineering, and Design	2,900,000
Construction Management	1,400,000
Total	$ 38,142,000

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, 50% of the total cost of construction will be derived from the Inland Waterways Trust Fund.

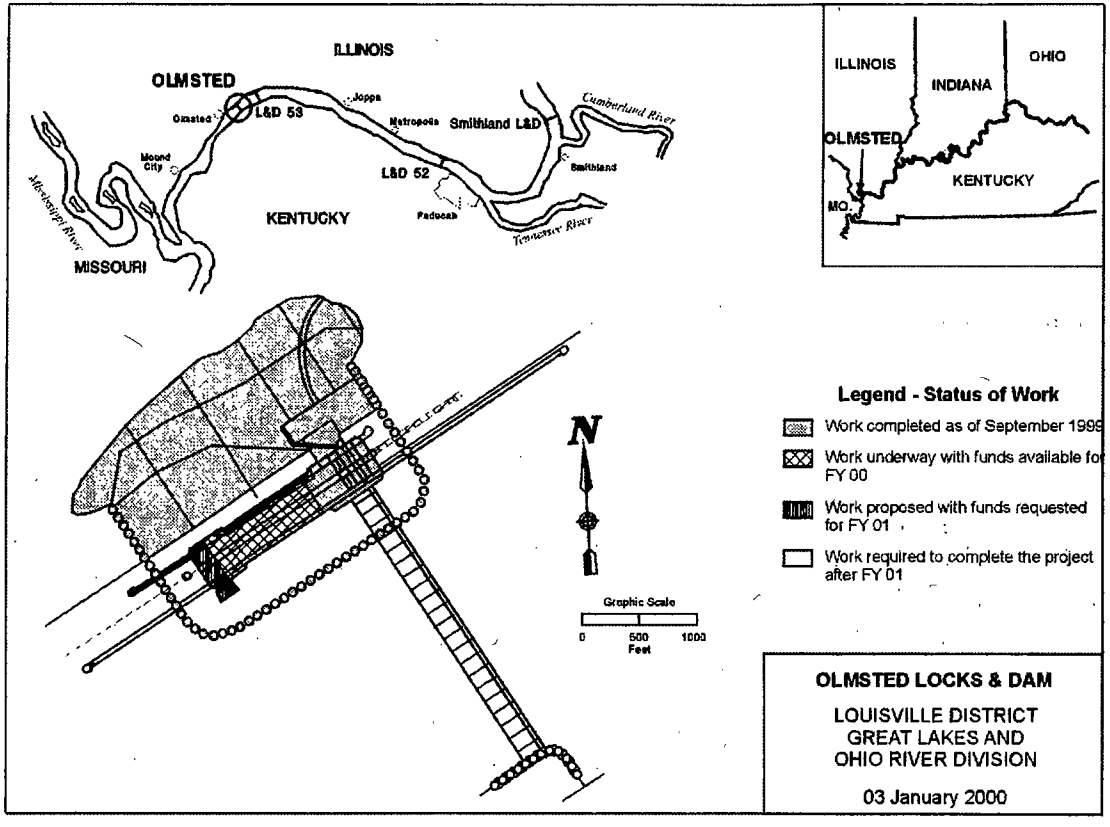
STATUS OF LOCAL COOPERATION: None required.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $1,000,000,000 is a decrease of $20,000,000 from the latest estimate ($1,020,000,000) presented to Congress (FY 2000). The change includes the following items.

Item	Amount
Price Escalation on Construction Features	$ 18,278,000
Design Changes	-112,798,000
Post Contract Award and Other Estimating Adjustments (including contingency adjustments)	74,520,000
Total	$ -20,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: A final Environmental Impact Statement (EIS) was filed with the Environmental Protection Agency on April 4, 1986. Due to project changes, a Draft Supplemental EIS was filed in November 1991. The Final Supplement to the EIS was filed on March 26, 1993, and the Record Of Decision was signed on May 5, 1993.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1986. Funds to initiate construction were appropriated in FY 1991. The scheduled completion date has changed from September 2010, the latest date presented to Congress (FY 2000), to Being Determined.


ILLINOIS
OLMSTED
Olmsted
L&D 53
Joppa
Metropolis
Smithland L&D
Cumberland River
Mound City
L&D 52
Smithland
Mississippi River
KENTUCKY
Paducah
Tennessee River
MISSOURI
ILLINOIS
INDIANA
OHIO
OLMSTED
KENTUCKY
MO
N
Graphic Scale
0
500
1000
Feet
Legend - Status of Work
Work completed as of September 1999
Work underway with funds available for FY 00
Work proposed with funds requested for FY 01
Work required to complete the project after FY 01
OLMSTED LOCKS & DAM
LOUISVILLE DISTRICT
GREAT LAKES AND
OHIO RIVER DIVISION
03 January 2000

APPROPRIATION TITLE: Construction, General – Channel and Harbor (Navigation)

PROJECT: Indiana Harbor and Canal, Confined Disposal Facility, Indiana (Continuing)

LOCATION: The project is located on the southwestern shore of Lake Michigan within the City of East Chicago, Lake County, Indiana, 4-1/2 miles east of the Indiana-Illinois state line and 17 miles from downtown Chicago, Illinois.

DESCRIPTION: Indiana Harbor and Canal (IHC) is an authorized Federal navigation project with an entrance channel and outer harbor protected by breakwaters, and an inner harbor which includes the Indiana Harbor Canal and its two branches, the Lake George Branch, which extends west for a distance of 6,800 feet, and the Calumet River Branch which extends south for about 2 miles where it joins the Grand Calumet River. A 4.8 million cubic yards capacity Confined Disposal Facility (CDF) will be constructed on the 164 acres of land adjacent to the Lake George Branch of the IHC, formerly occupied by an oil refinery owned by the Atlantic Richfield Company and subsequently acquired by Energy Cooperative Industries (ECI). The ECI property, which currently has open Resource Conservation and Recovery Act (RCRA) status, was transferred to the current local sponsor, the East Chicago Waterway Management District (ECWMD) in 1994. Use of this site for the CDF is contingent upon the construction of specific RCRA closure and corrective action features which will be integral aspects of the CDF construction. The elements of the CDF include construction of dikes; a subsurface cutoff wall; an on-site effluent treatment plant; and a rehandling area.

AUTHORIZATION: River and Harbor Acts of 1910 and 1960.

REMAINING BENEFIT - REMAINING COST RATIO: 2.1 to 1 at 7 3/8 percent.

TOTAL BENEFIT-COST RATIO: 2.1 to 1 at 7 3/8 percent.

INITIAL BENEFIT-COST RATIO: 2.1 to 1 at 7 3/8 percent.

BASIS OF BENEFIT COST RATIO: Benefits are from the Final Comprehensive Management Plan , Indiana Harbor and Canal Maintenance Dredging and Disposal Activities, dated January 1999 at October 1997 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM PCT. OF EST FED. COST
Estimated Total Appropriation Requirement		$ 69,000,000	
Future Non-Federal Reimbursement		$ 7,900,000	
Estimated Federal Cost (Ultimate)		$ 61,100,000	
Estimated Non-Federal Cost		$ 56,900,000	
Cash Contributions	47,400,000		
Other Costs	1,600,000		
Reimbursements	7,900,000		
Total Estimated Programmed Project Cost		$ 118,000,000	
Total Estimated Unprogrammed Project Cost		0	
Total Estimated Project Cost		$ 118,000,000	
Allocations to 30 September 1999		$ 600,000	
Conference Allowance for FY 2000		1,260,000	
Allocation for FY 2000		1,260,000	
Allocations through FY 2000		1,860,000	3
Allocation Requested for FY 2001		3,291,000	9
Programmed Balance to Complete After FY 2001		63,849,000	
Unprogrammed Balance to Complete after FY 2001		0	

STATUS: (1 JAN 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project	1	Being Determined

PHYSICAL DATA

Dikes	13,000 lin. ft.
RCRA Cap	948,000 cu. yds.
Rehandling Area	1
Effluent Treatment Plant	1
Cutoff Wall	341,715 sq. ft.

JUSTIFICATION: Indiana Harbor received over 15 million tons of waterborne commerce in 1990, second only to the Port of Chicago in tonnage received on Lake Michigan. The LTV Steel Company, Ispat Inland Steel Company, U.S. Gypsum Company, Safety-Kleen Company and the Amoco Oil Company are the primary users of the Indiana Harbor and Canal. LTV Steel Company and Ispat Inland Steel Company, the second and fourth largest steel manufacturers in the United States, respectively, are the largest users of the harbor. The Amoco Whiting Refinery is Amoco's oldest and second largest refinery.

JUSTIFICATION (continued):
There is an estimated 1 million cubic yards backlog of maintenance dredging at the Indiana Harbor and Canal. The resulting inadequate channel depths are causing deep-draft vessels to plow through sediments at various locations, pushing them into berthing areas and other areas located along dock faces outside of the Federal channel. In addition, ships come into the harbor loaded at less than optimum vessel drafts. There is also a problem due to restricted use of various docks and double handling of bulk commodities as a result of inadequate channel depths. These problems are currently causing increased transportation costs of waterborne commerce at this navigation project, presently estimated at $12.4 million annually. These additional costs are estimated to increase to $17.3 million by the year 2031. Ships trading into Indiana Harbor forfeit as much as 16 inches of draft, or more than 4,300 tons of cargo each arrival.

The Indiana Harbor and Canal navigation project and the Grand Calumet River region have been identified as one of the 43 Great Lakes Areas of Concern by the International Joint Commission primarily due to the quality of the watercourse sediments. Polluted sediments are continually put into suspension due to propeller action of commercial ships. Major storm events flush polluted sediments from the harbor into Lake Michigan. It is estimated that between 100,000 and 200,000 cubic yards of polluted sediment are being discharged from the harbor into the lake annually. The annual sediment load to the lake contains an estimated 67,000 pounds of chromium, 100,000 pounds of lead and 420 pounds of PCB's. Adverse impacts can be detected and measured for a distance of more than 5 miles from the harbor entrance, affecting water supply intakes, sport fishing and recreational areas. Dredging will remove approximately 4.7 million cubic yards of contaminated sediments from the ambient environment in Northwest Indiana and will partially mitigate the currently unrestricted migration of these polluted materials into the near shore areas of Lake Michigan.

The Indiana Harbor and Canal navigation project has not been dredged since 1972. The United States Environmental Protection Agency determined that disposal in Lake Michigan was no longer acceptable due to the polluted character of the dredged material, nor are they suitable for unconfined upland disposal or beneficial use. Therefore, a confined disposal facility must be constructed before maintenance dredging of the Federal channel can commence.

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Average annual benefits are as follows:

Annual Benefits	Amount
Navigation	$14,333,000

FISCAL YEAR 2001: The requested amount of $3,291,000 will be applied as follows:

Initiate Dike, Cap, Rehandling Area, Well Construction	$ 565,000
Continue Cutoff Wall Construction	2,000,000
Engineering & Design	425,000
Construction Management	301,000
Total	$3,291,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts contained in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payment During Construction and Reimbursements	Annual Operation, Maintenance, Repair Rehabilitation, and Replacement Costs
Pay 25 percent of the costs allocated to general navigation facilities during construction.	$ 23,000,000	
Reimburse an additional 10 percent of the costs of general navigation facilities allocated to commercial navigation within a period of 30 years following completion of construction, as partially reduced by a credit allowed for the value of lands, easements, rights of way, and relocations, allocated to general navigation facilities.	$ 7,900,000	
Pay 100 percent of the construction costs allocated to the local service facilities (berthing areas) and 100 percent of operations and maintenance costs allocated to the local service facilities.	$ 24,400,000	$ 370,000
Provide lands, easements, rights of way, and borrow areas.	$ 50,000	
Modify or relocate utilities, roads, bridges (except existing bridges over, Navigable waters) and other facilities, where necessary for the construction of the project.	$ 1,550,000	
Total Non-Federal	$56,900,000	$370,000

The non-Federal sponsor has agreed to make all payments required concurrently with construction and to make all required reimbursements within a period of 30 years following completion of construction.

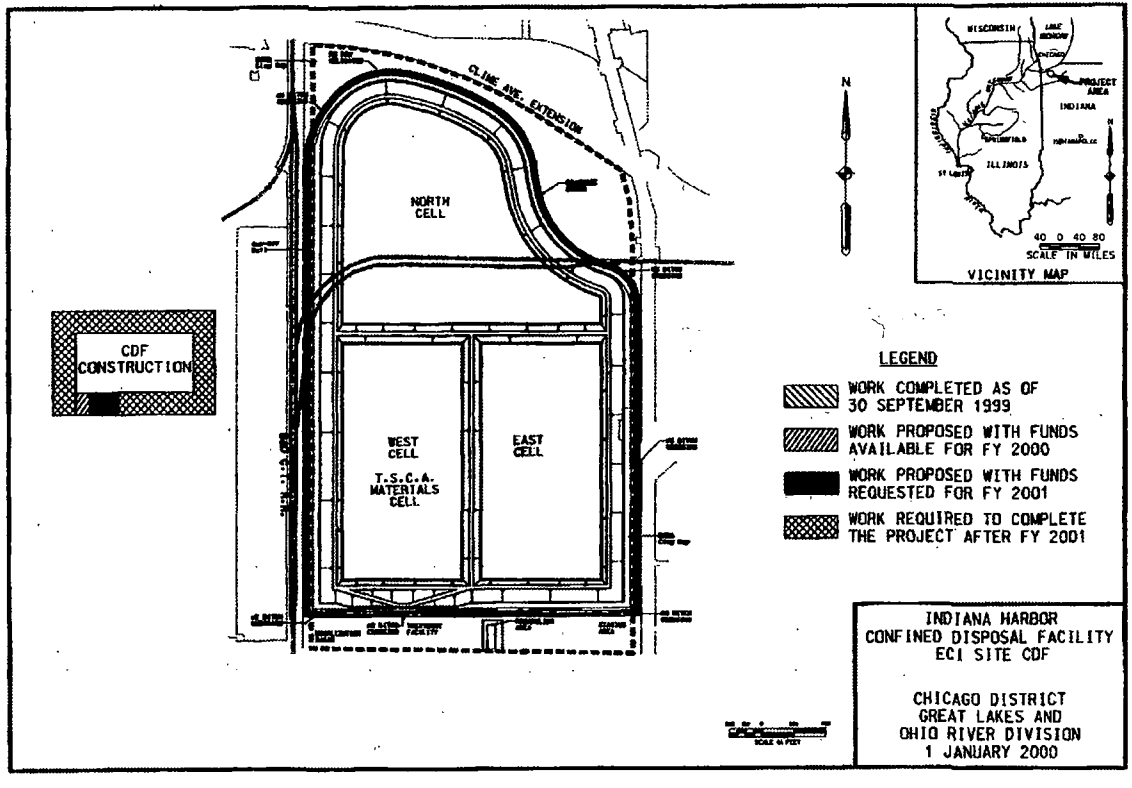
STATUS OF LOCAL COOPERATION: By letter dated August 18, 1999, the East Chicago Waterway Management District indicated its willingness to be the local sponsor. The Project Cooperation Agreement is scheduled to be executed in April 2000.

COMPARISON OF FEDERAL COST ESTIMATE: The Federal cost estimate (ultimate) of $61,100,000 is the initial estimate presented to Congress.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: Public and Agency review of final Environmental Impact Statement and the Comprehensive Management Plan was completed in November 1998. The Record of Decision for the FEIS for the entire project was signed February 2, 1999.

OTHER INFORMATION: The Comprehensive Management Plan, Indiana Harbor and Canal Maintenance Dredging and Disposal Activities, dated January 1999, was completed with Operation and Maintenance funds. Initial construction funds were received in FY 1999. The East Chicago Waterway Management District, the local project sponsor, has received letters of intent from Ispat Inland Steel and LTV Steel companies to participate with the local sponsor as users of the confined disposal facility project.

The scheduled project completion date is Being Determined.


CDF CONSTRUCTION
CLINE AVE. EXTENSION
NORTH CELL
WEST CELL
T.S.C.A. MATERIALS CELL
EAST CELL
N
WISCONSIN
LAKE MICHIGAN
CHICAGO
PROJECT AREA
INDIANA
ILLINOIS
ST LOUIS
MISSISSIPPI RIVER
40 0 40 80
SCALE IN MILES
VICINITY MAP
LEGEND
WORK COMPLETED AS OF 30 SEPTEMBER 1999
WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER FY 2001
INDIANA HARBOR
CONFINED DISPOSAL FACILITY
ECI SITE CDF
CHICAGO DISTRICT
GREAT LAKES AND
OHIO RIVER DIVISION
1 JANUARY 2000

APPROPRIATION TITLE: Construction General - Locks & Dams (Navigation)

PROJECT: Kentucky Lock and Dam, Tennessee River, Kentucky

LOCATION: The project is located on the Tennessee River at Mile 22.4 near Grand Rivers, Kentucky.

DESCRIPTION: The modernization of the existing facility will include the addition of a 110-foot x 1200-foot lock landward and adjacent to the existing 110-foot x 600-foot lock, and the relocation of an existing railroad, highway, and powerhouse access road. The railroad and highway will be relocated downstream of the new lock's lower gates and will require the construction of new bridges across the river. The powerhouse access road will be relocated from the east bank to the west bank and will require the construction of a new ramp.

AUTHORIZATION: The Water Resources Development Act of 1996.

REMAINING BENEFIT-REMAINING COST RATIO: 2.4 at 7 5/8 percent.

TOTAL BENEFIT-COST RATIO: 2.4 at 7 5/8 percent.

INITIAL BENEFIT-COST RATIO: 2.4 at 7 5/8 percent.

BASIS OF BENEFIT COST RATIO: Benefits are based on the Limited Reevaluation Report approved in November 1995 and costs are based on the Innovated Design/Cost Reduction Studies completed in June 1995.

SUMMARIZED FINANCIAL DATA

Estimated Federal Cost		$533,000,000
Construction General	$266,500,000	
Inland Waterways Trust Fund	$266,500,000	
Total Estimated Project Cost		$533,000,000

STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project	5	Being Determined

PHYSICAL DATA

Lock Chamber (New)	110 ft. x 1,200 ft.
Bridges	
Railroad (New)	3,100 ft.
Highway (New)	3,100 ft.
Powerhouse Access (New)	500 ft.

SUMMARIZED FINANCIAL DATA (Continued)

	CONSTRUCTION GENERAL	INLAND WATERWAYS TRUST FUND	ACCUM. PCT. OF EST. FED. COST
Allocations to 30 September 1999	12,833,000	12,833,000	5
Conference Allowance for FY 2000	7,500,000	7,500,000	
Allocation for FY 2000	11,712,000 1/	11,712,000 2/	
Allocations through FY 2000	24,545,000	24,545,000	7
Allocation Requested for FY 2001	7,450,000	7,450,000	
Programmed Balance to Complete after FY 2001	234,505,000	234,505,000	
Unprogrammed Balance to Complete after FY 2001	0	0	

1/ Reflects a reduction of $1,068,000 assigned as savings and slippage and $5,280,000 reprogrammed to the project in FY 2000.
2/ Reflects a reduction of $1,068,000 assigned as savings and slippage and $5,280,000 reprogrammed to the project in FY 2000.

JUSTIFICATION: The existing 110-foot x 600-foot Kentucky Lock is too small to handle a modern 15-barge tow without two lockages. This greatly increases the processing time resulting in Kentucky Lock having one of the highest transit times on the inland waterway system. Delays at the lock averaged over 5 hours per tow in 1998. System traffic is expected to grow annually from the 43 million tons recorded in 1998 to an estimated 77 million tons in 2050 resulting in a 38.4 hour average delay per tow. The addition of a new 1200-foot lock will greatly reduce these delays and generate $55.1 million in average annual benefits to the nation as a result of reduced cost to transport commodities through the system.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Planning, Engineering, and Design	$5,700,000
Construction Activities	8,800,000
Construction Management	400,000
Total	$14,900,000

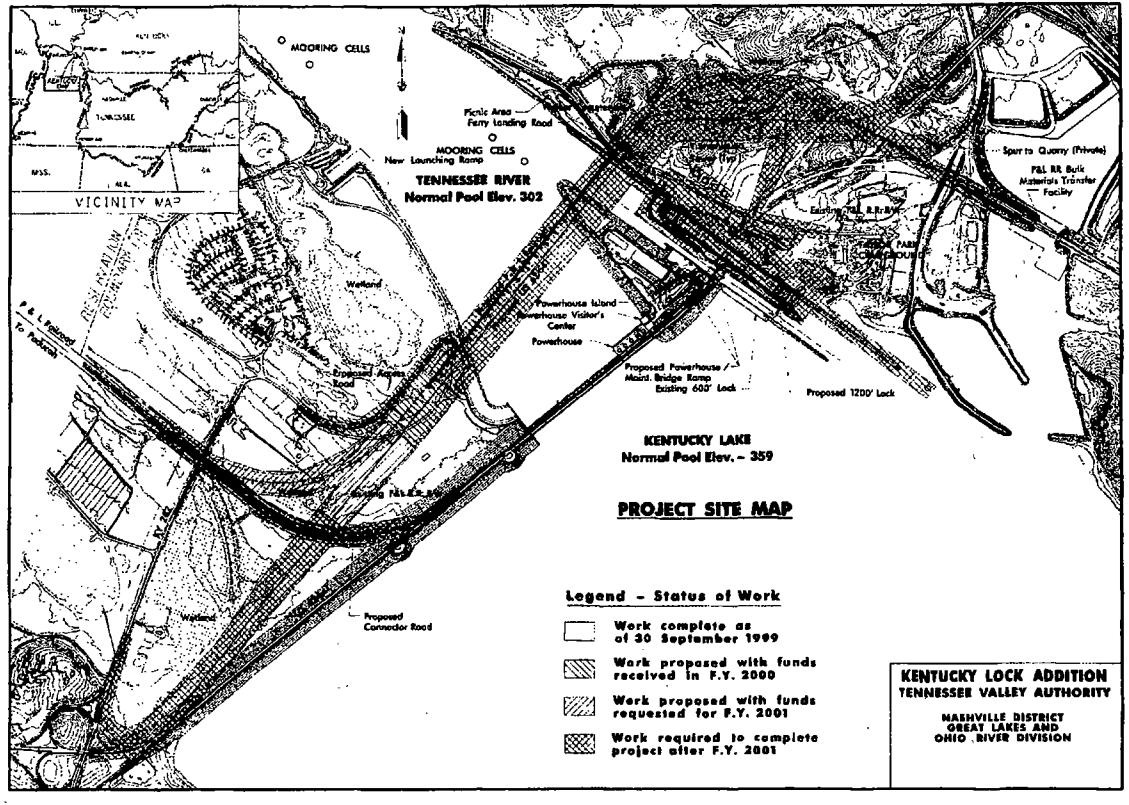
NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, 50 percent of the total cost for the project will be derived from the Inland Waterways Trust Fund.

STATUS OF LOCAL COOPERATION: None required.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $533,000,000 is the same as the latest estimate presented to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An Environmental Impact Statement was included in the Final Feasibility Report and the Record of Decision was signed on 26 March 1998. An Environmental Assessment has been prepared to address relocating the highway to an alignment below the lock and dam instead of across the dam. A supplemental Environmental Impact Statement to address the proposed changes and design refinements identified subsequent to the original report and Environmental Impact Statement will be initiated in 2000.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1993. Funds to initiate construction were appropriated in FY 1998. The scheduled completion date has been changed from September 2010, the latest date presented to Congress (FY 2000), to Being Determined.


VICINITY MAP
MOORING CELLS
Picnic Area
Ferry Landing Road
MOORING CELLS
New Launching Ramp
TENNESSEE RIVER
Normal Pool Elev. 302
Spur to Quarry (Private)
P&L RR Bulk Materials Transfer Facility
Wetland
Powerhouse Island
Powerhouse Visitor's Center
Powerhouse
Proposed Powerhouse / Maint. Bridge Ramp
Existing 600' Lock
Proposed 1200' Lock
Proposed Access Road
KENTUCKY LAKE
Normal Pool Elev. - 359
PROJECT SITE MAP
Legend - Status of Work
Work complete as of 30 September 1999
Work proposed with funds received in F.Y. 2000
Work proposed with funds requested for F.Y. 2001
Work required to complete project after F.Y. 2001
Proposed Connector Road
KENTUCKY LOCK ADDITION
TENNESSEE VALLEY AUTHORITY
NASHVILLE DISTRICT
GREAT LAKES AND OHIO RIVER DIVISION

APPROPRIATION TITLE: Construction, General - Locks & Dams (Navigation)

PROJECT: McAlpine Locks and Dams, Kentucky and Indiana (Continuing)

LOCATION: The project is located on the Ohio River at Louisville, Jefferson County, Kentucky, Ohio River mile 604.0 to 608.0.

DESCRIPTION: The modernization of the existing facility will replace a 600-foot auxiliary lock chamber and an inactive 360-foot 2-stage chamber with a 1,200-foot lock on the Kentucky bank side of the existing lock and dam. This effort will result in twin 1,200-foot locks for tow traffic. Construction of a new bridge is required to continue access to Shippingport Island and the Louisville Gas & Electric hydroelectric power facility.

AUTHORIZATION: The Water Resources Development Act of 1990.

REMAINING BENEFIT-REMAINING COST RATIO: 2.0 to 1 at 8 percent.

INITIAL BENEFIT-COST RATIO: 1.8 to 1 at 8 percent (FY 1996).

TOTAL BENEFIT-COST RATIO: 1.7 to 1 at 8 percent.

BASIS OF BENEFIT COST RATIO: Benefits are based on the General Design Memorandum, Project Economic Update approved in March, 1994, at 1994 price levels.

SUMMARIZED FINANCIAL DATA			STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$268,000,000	Entire Project	10	Being Determined
General Appropriations	134,000,000				
Inland Waterways Trust Fund	134,000,000				
Estimated Non-Federal Cost		0			
Total Estimated Project Cost		$268,000,000			

PHYSICAL DATA	
Fixed Bridge	2,100 ft.
Lock Chamber (New)	110 by 1,200 ft.
Buildings:	
Resident Engineer	6,100 SF
Operations Service	2,300 SF
Storage	5,100 SF

SUMMARIZED FINANCIAL DATA (Continued)	GENERAL APPNS	INLAND WATERWAYS TRUST FUNDS	ACCUM. PCT. OF EST. FED. COST
Allocations to 30 September 1999	$ 13,678,000	$ 13,678,000	
Conference Allowance for FY 2000	5,400,000	5,400,000	
Allocation for FY 2000	4,000,000 1/	4,000,000 2/	
Allocations through FY 2000	17,678,000	17,678,000	13
Allocation Requested for FY 2001	7,000,000	7,000,000	18
Programmed Balance to Complete after FY 2001	109,322,000	109,322,000	100
Unprogrammed Balance to Complete after FY 2001	0	0	

1/ Reflects a reduction of $769,000 assigned as savings and slippage and a reprogramming decrease of $631,000 in FY 2000.
2/ Reflects a reduction of $769,000 assigned as savings and slippage and a reprogramming decrease of $631,000 in FY 2000.

JUSTIFICATION: The existing navigation locks are on the Kentucky side of the river. They consist of a 110 by 1,200 foot main lock that was placed in operation in 1961 and two auxiliary locks that were completed in 1930 (110 by 600 foot) and 1921 (56 by 360 foot, closed since 1971). The modernization of the existing facility would replace the existing auxiliary locks with a new 110 by 1,200 foot lock. The new lock is in response to identified annual increases in tonnage levels and delays. Tonnages through the McAlpine Locks are expected to grow annually from the 1993 figure of 63.2 million tons to 127 million tons in 2060. About 55 percent of current traffic is coal. Currently, the average delay is 0.8 hours per tow. With the existing project, by the year 2060, the average delay is projected to be 40 hours per tow. With the lock addition, the average delay is projected to be 1.5 hours per tow. Other project components include a fixed bridge spanning 2,100 feet, including 840 feet of embankment, and three one-story buildings for offices, service, and storage.

Average annual benefits are as follows:

Annual Benefits	Amount
Navigation from Reduced Delays	$41,621,800
Total	$41,621,800

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continuing Cofferdam Construction	$ 10,500,000
Completion of Boat Mooring Construction	500,000
Planning, Engineering, and Design	1,965,000
Construction Management	1,000,000
Real Estate Admin	35,000
Total	$ 14,000,000

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, 50 percent of the total cost of construction will be derived from the Inland Waterways Trust Fund.

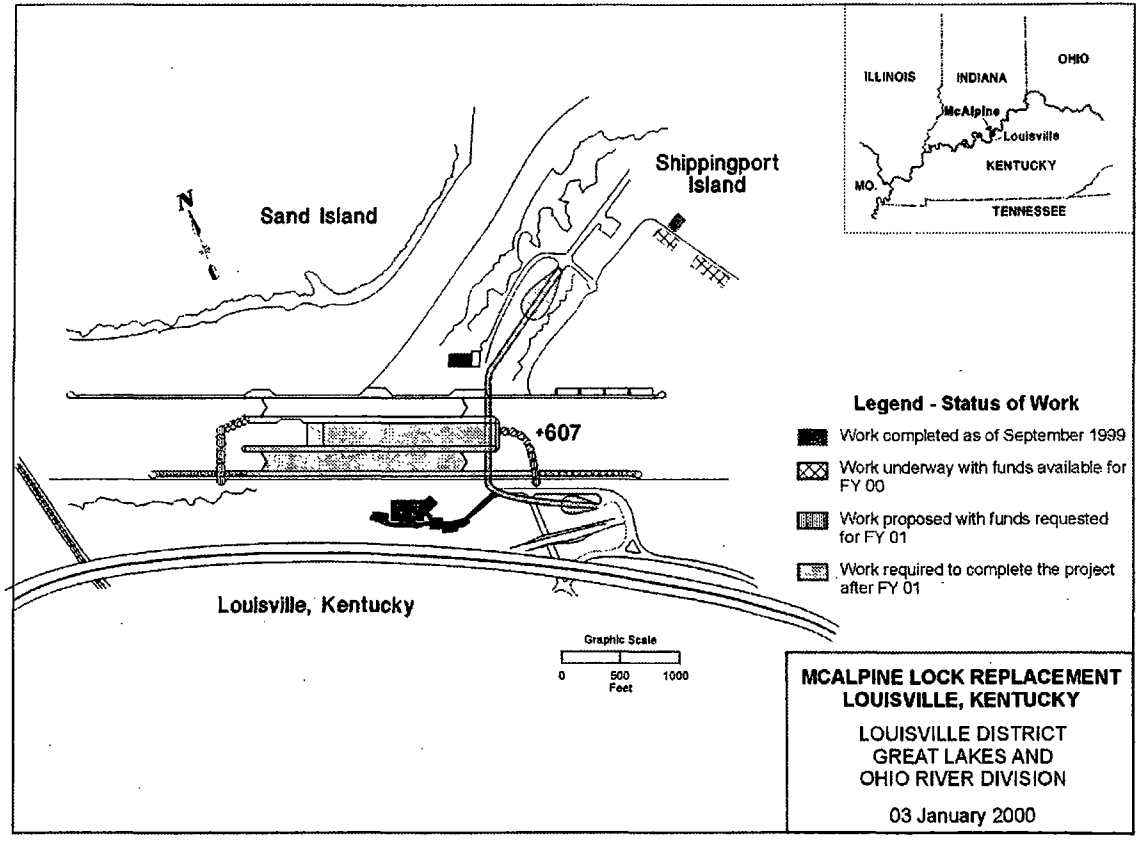
STATUS OF LOCAL COOPERATION: None required.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $268,000,000 is the same as last presented to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An Environmental Assessment (EA) and a Finding of No Significant Impacts (FONSI) have been signed and included in the Final Feasibility Report. In addition, a Section 404 (b) (1) Evaluation has been completed and 401 Water Quality Certification will be obtained from the Kentucky Division of Water. The final Environmental Impact Statement (EIS) was filed with the Environmental Protection Agency in August, 1990. A supplemental EIS updating project requirements was completed in FY 1998.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1990. Funds to initiate construction were appropriated in FY 1996.

The scheduled completion date has changed from September 2008, the latest date presented to Congress (FY2000), to Being Determined.


Sand Island
Shippingport Island
+607
Louisville, Kentucky
N
Graphic Scale
0
500
1000
Feet
ILLINOIS
INDIANA
OHIO
McAlpine
Louisville
KENTUCKY
MO.
TENNESSEE
Legend - Status of Work
Work completed as of September 1999
Work underway with funds available for FY 00
Work proposed with funds requested for FY 01
Work required to complete the project after FY 01
MCALPINE LOCK REPLACEMENT
LOUISVILLE, KENTUCKY
LOUISVILLE DISTRICT
GREAT LAKES AND
OHIO RIVER DIVISION
03 January 2000

APPROPRIATION TITLE: Construction General - Locks and Dams (Navigation)

PROJECT: Locks and Dams 2, 3 and 4, Monongahela River, Pennsylvania (Continuing)

LOCATION: Existing Locks and Dams 2, 3, and 4 are the last of the old and undersized locks on the Monongahela River system and have components which have been in service for nearly 100 years. The three projects are located on the lower portion of the Monongahela River near the city of Pittsburgh, Pennsylvania and are located in Allegheny, Washington and Westmoreland Counties. Measured from the Point in Pittsburgh, Locks and Dam 2 is located at river mile 11.2, Locks and Dam 3 at river mile 23.8, and Locks and Dam 4 at river mile 41.5. Six other navigation projects situated upstream of Locks and Dam 4 provide a navigable waterway to Fairmont, West Virginia. At the Point in Pittsburgh, the Monongahela River joins with the Allegheny River to form the Ohio River.

DESCRIPTION: Existing Locks and Dam 2 consists of a main lock with chamber dimensions of 110 by 720 feet, an auxiliary lock with chamber dimensions of 56 by 360 feet, and a 748-foot fixed-crest dam. Existing Locks and Dam 3 consists of locks with chamber dimensions of 56 by 720 feet and 56 by 360 feet and a 670-foot fixed-crest dam. Existing Locks and Dam 4 consists of locks with chamber dimensions of 56 by 720 feet and 56 by 360 feet and a gated dam consisting of five 84-foot gated sections and a 43-foot fixed weir section. The authorized projects consist of a new gated dam and a rehabilitated auxiliary chamber floodway bulkhead structure at Locks and Dam 2; new twin 84 by 720 foot locks and below-dam scour protection of Locks and Dam 4; raising pool 2 by 5 feet and lowering pool 3 by 3.2 feet; removal of Locks and Dam 3; and associated channel dredging, relocations and bank stabilization. Construction began in FY 1995 with the upgrade of the Locks 2 auxiliary chamber floodway bulkhead and relocations. All work is programmed.

AUTHORIZATION: Water Resources Development Act of 1992.

REMAINING BENEFIT - REMAINING COST RATIO: 4.6 to 1 at 6 7/8 percent.

TOTAL BENEFIT - COST RATIO: 3.7 to 1 at 6 7/8 percent.

INITIAL BENEFIT-COST RATIO: 3.9 to 1 at 8 3/4 percent (FY 1992).

BASIS OF BENEFIT - COST RATIO: Benefits are from an economic update completed in May 1994.

SUMMARIZED FINANCIAL DATA			STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$ 705,000,000	Entire Projects	13	Being determined
General Appropriations	$ 352,500,000				
Inland Waterway Trust Fund	$ 352,500,000				
Estimated Non-Federal Cost	0				
Total Estimated Project Cost		$ 705,000,000			

	GENERAL APPNS.	INLAND WATERWAYS TRUST FUND	ACCUM. PCT.OF EST. FED.COST
Allocations to 30 September 1999	$ 37,848,000	$ 37,848,000	
Conference Allowance for FY 2000	$ 22,500,000	$ 22,500,000	
Allocation for FY 2000	$ 26,500,000 1/	$ 26,500,000 2/	
Allocation thru FY 2000	$ 64,348,000	$ 64,348,000	18
Allocation Requested for FY 2001	$ 17,500,000	$ 17,500,000	23
Programmed Balance to Complete after FY 2001	$ 270,652,000	$ 270,652,000	
Unprogrammed Balance to Complete after FY 2001	0	0	

1/ Reflects a reduction of $3,204,000 assigned as savings and slippage and an increase of $7,204,000 reprogrammed to the project in FY 2000.
2/ Reflects a reduction of $3,204,000 assigned as savings and slippage and an increase of $7,204,000 reprogrammed to the project in FY 2000.

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PHYSICAL DATA

Locks and Dams 2 and 3:
- New gated dam 2
- Rehabilitated Auxiliary Chamber Floodway L&D 2
- Bulkhead Structure L&D 2
- Remove Locks and Dam 3
- Raise pool 2 by 5 feet and lower pool 3 by 3.2 feet

Locks and Dam 4:
- New twin 84 by 720 foot locks
- Scour Protection

JUSTIFICATION: The projects are located on the Monongahela River near Pittsburgh. The major problems with the projects are deteriorated structural condition and limited lock capacity. These problems are expected to become increasingly severe as the projects age and as traffic and tow size increase with the upstream construction of larger locks at the Grays Landing and Point Marion projects. The extreme structural deterioration of Dam 2 and Locks and Dam 3 is of paramount concern. Major repairs and rehabilitation will not prevent structural failure. The probability of major structural failure and catastrophic loss of navigation pools is unacceptable. The completion of the new gated dam at Locks and Dam 2, together with completion of the Pool 2 relocations and raising of Pool 2, will provide significant risk mitigation while the balance of the authorized plan is under design and construction. The continued viability of the Lower Monongahela River navigation system is vital to southwestern Pennsylvania and northeastern West Virginia. For example, Consolidation Coal Co. is constructing a coal transfer facility 16.6 river miles upstream of Locks and Dam 4 that will receive up to 6 million tons per year of coal via rail from inland mines and an unspecified amount of coal per year by barge. The coal will be blended and barged to riverside customers. This facility will benefit from the improved reliability and efficiency to be provided by the projects. Average annual benefits are as follows:

Annual Benefits	Amount
Commercial Navigation (Shallow Draft Locks)	$ 298,000,000
Replacement of Shoreside Utilities	$ 2,000,000
Total	$300,000,000

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FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Real Estate Acquisition	$ 300,000
Continue Municipal Relocations	8,700,000
Continue Planning, Engineering and Design	6,000,000
Continue Construction	18,000,000
Continue Construction Management	2,000,000
Total	$ 35,000,000

NON-FEDERAL COSTS: In accordance with the cost-sharing and financing concepts reflected in the Water Resource Development Act of 1986, 50% of the total cost of construction will be derived from the Inland Waterways Trust Fund.

Construction of the projects will require modification to privately owned shoreside facilities and submarine utility crossings, which were all constructed under Department of the Army permits pursuant to Section 10 of the Rivers and Harbors Act, approved March 3, 1899. The estimated cost to owners of adapting these facilities to new project conditions is $111,000,000.

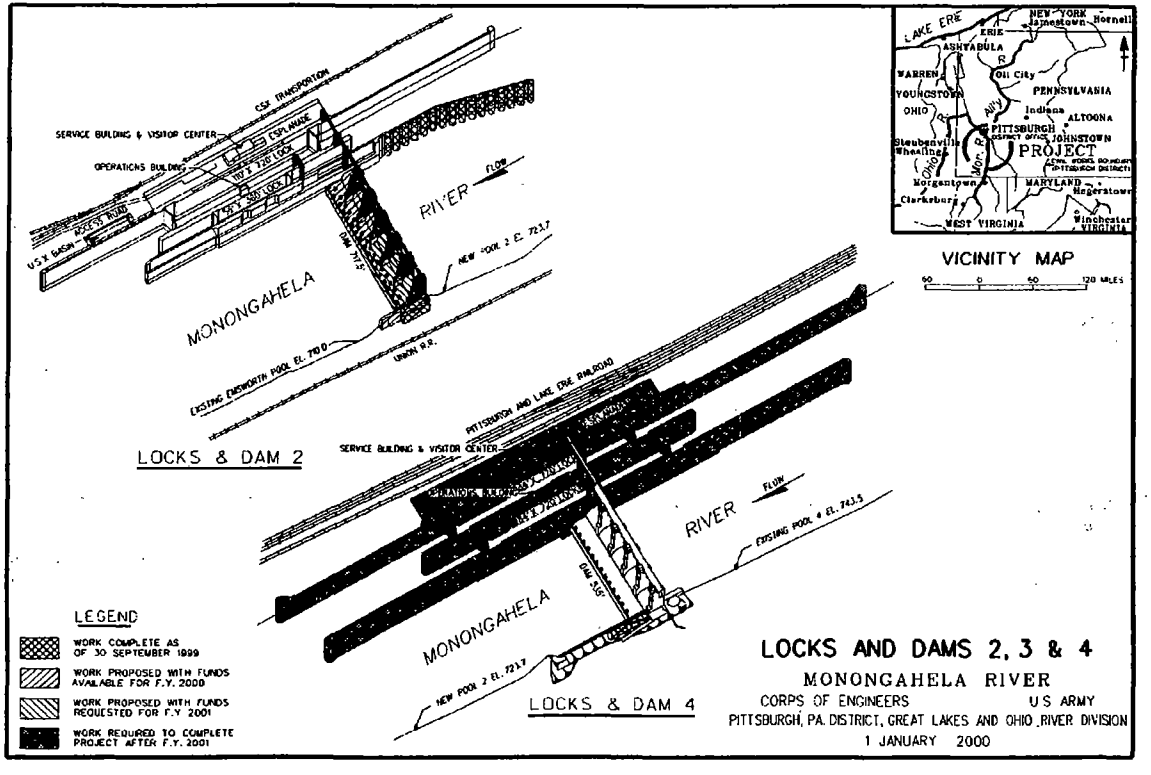
STATUS OF LOCAL COOPERATION: None required.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $705,000,000 is the same as the last estimate presented to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed with the Environmental Protection Agency on January 28, 1992. The Record of Decision was signed by the Director of Civil Works on December 17, 1992. An Environmental Assessment and Draft Finding of No Significant Impacts for federal relocations was circulated in September, 1994.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1992. Funds to initiate construction were appropriated in FY 1995.

The scheduled completion date has changed from September 2009, the latest completion date presented to Congress (FY 2000), to Being Determined.


LOCKS & DAM 2
SERVICE BUILDING & VISITOR CENTER
CSX TRANSPORTATION
OPERATIONS BUILDING
ACCESS ROAD
U.S.X. BASIN
RIVER
FLOW
MONONGAHELA
NEW POOL 2 EL. 723.7
EXISTING DAM WITH POOL EL. 710.0
UNION R.R.
PITTSBURGH AND LAKE ERIE RAILROAD
SERVICE BUILDING & VISITOR CENTER
LOCKS & DAM 4
EXISTING POOL 4 EL. 743.5
NEW POOL 2 EL. 723.7
LEGEND
WORK COMPLETE AS OF 30 SEPTEMBER 1999
WORK PROPOSED WITH FUNDS AVAILABLE FOR F.Y. 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR F.Y. 2001
WORK REQUIRED TO COMPLETE PROJECT AFTER F.Y. 2001
LAKE ERIE
NEW YORK
ERIE
ASHTABULA
WARREN
YOUNGSTOWN
OHIO
Oil City
PENNSYLVANIA
Indiana
ALTOONA
PITTSBURGH
PROJECT
Morgantown
MARYLAND
Hagerstown
Clarksburg
WEST VIRGINIA
Winchester
VIRGINIA
VICINITY MAP
60 0 60 120 MILES
LOCKS AND DAMS 2, 3 & 4
MONONGAHELA RIVER
CORPS OF ENGINEERS U.S. ARMY
PITTSBURGH, PA. DISTRICT, GREAT LAKES AND OHIO RIVER DIVISION
1 JANUARY 2000

APPROPRIATION TITLE: Construction, General - Locks and Dams (Navigation)

PROJECT: Marmet Locks and Dam, West Virginia (Continuing)

LOCATION: Marmet Locks and Dam is located in Kanawha County near Belle, West Virginia, on the Kanawha River approximately 68 miles above its confluence with the Ohio River. The pool is located entirely in West Virginia.

DESCRIPTION: The proposed modernization plan includes the construction of an additional 110 foot by 800 foot lock on the right descending bank landward of the existing locks. The plan includes the continued use of both existing 56 foot by 360 foot lock chambers as auxiliary locks. The existing dam and the hydroelectric power plant will also remain in operation. A total of 216 additional real estate tracts will be required to support the project. Of the 216 tracts, 179 are residential, 9 are commercial and 28 are vacant. All work is programmed.

AUTHORIZATION: Water Resources Development Act of 1996.

REMAINING BENEFIT-REMAINING COST RATIO: 4.7 to 1 at 6 7/8 percent interest rate.

TOTAL BENEFIT-COST RATIO: 4.2 to 1 at 6 7/8 percent interest rate.

INITIAL BENEFIT-COST RATIO: 3.3 to 1 at 7 5/8 percent interest rate (FY98).

BASIS OF BENEFIT-COST RATIO: Benefits are from an Economic Update dated June 1996 and at October 1995 price levels.

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SUMMARIZED FINANCIAL DATA			STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$313,000,000	Entire Project	11	Being Determined
Construction General	156,500,000				
Inland Waterways Trust Fund	156,500,000				
Total Estimated Project Cost		$313,000,000			

SUMMARIZED FINANCIAL DATA (Continued)

	GENERAL APPNS.	INLAND WATERWAYS TRUST FUNDS	ACCUM. PCT. OF EST. FED. COST
Allocations to 30 September 1999	$ 10,952,000	$ 10,951,000	
Conference Allowance for FY 2000	5,675,000	5,675,000	
Allocation for FY 2000	5,949,000 1/	5,950,000 2/	
Allocations through FY 2000	16,901,000	16,901,000	11
Allocation Requested for FY 2001	3,250,000	3,250,000	13
Programmed Balance to Complete after FY 2001	136,349,000	136,349,000	
Unprogrammed Balance to Complete after FY 2001	0	0	

1/ Reflects a reduction of $808,000 for savings and slippage, and $1,082,000 reprogrammed to the project in FY 2000.
2/ Reflects a reduction of $808,000 for savings and slippage, and $1,083,000 reprogrammed to the project in FY 2000.

PHYSICAL DATA

Lock:
Number – 3
Existing Chambers - 2 - 56 ft. x 360 ft.
Additional Chamber - 1 - 110 ft. x 800 ft.
Lift - 24 ft.

Lands and Damages:
Acres - 21, Existing Locks and Dam
- 103, New Lock
- 26, Temporary Work Area
Structures - 242 Residences
- 10 Businesses

JUSTIFICATION: Marmet Locks and Dam links the Kanawha Valley, an important chemical and coal producing area, to its product markets and supply areas. During 1996, 17.4 million tons of traffic locked through Marmet. Coal is the major commodity shipped on the Kanawha River, accounting for approximately 92 percent of the total tonnage. The Marmet project presents a significant impediment to the efficient flow of waterborne commerce due to its outdated features. To compound the effect on flow efficiency, Marmet traffic demand is projected to increase to 35 million tons by 2050. It is also projected that the traffic demand will increase to over 20 million tons, the current maximum lock capacity without switch boats, by the year 2005. Amendments to the Clean Air Act, passed in November 1990, have caused an increase in demand for the Kanawha River Basin's low-sulphur coal. When the new Winfield Lock came on line in November 1997, the industry's helper boats relocated from Winfield to Marmet. Lockages at Marmet immediately increased 30% to 50% in magnitude. The congestion is expected to increase as traffic on the river increases.

JUSTIFICATION: (continued)

Average Annual Benefits	Amount
Commercial Navigation	$ 55,163,000
Total	55,163,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Land Acquisition (including hardships)	$ 3,500,000
Initiate Buildings, Grounds, Utilities Construction	1,000,000
Continue Engineering and Design	2,000,000
Total	$ 6,500,000

NON-FEDERAL COST: In accordance with the cost sharing and financing contained in the Water Resources Development Act of 1986, 50 percent of the total costs of construction will be derived from the Inland Waterways Trust Fund.

STATUS OF LOCAL COOPERATION: None required.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $313,000,000 is an increase of $19,000,000 from the latest estimate ($294,000,000) presented to Congress (FY 2000). This change includes the following items.

Item	Amount
Price Escalation on Construction Features	$18,524,000
Price Escalation on Real Estate	476,000
Total	$19,000,000

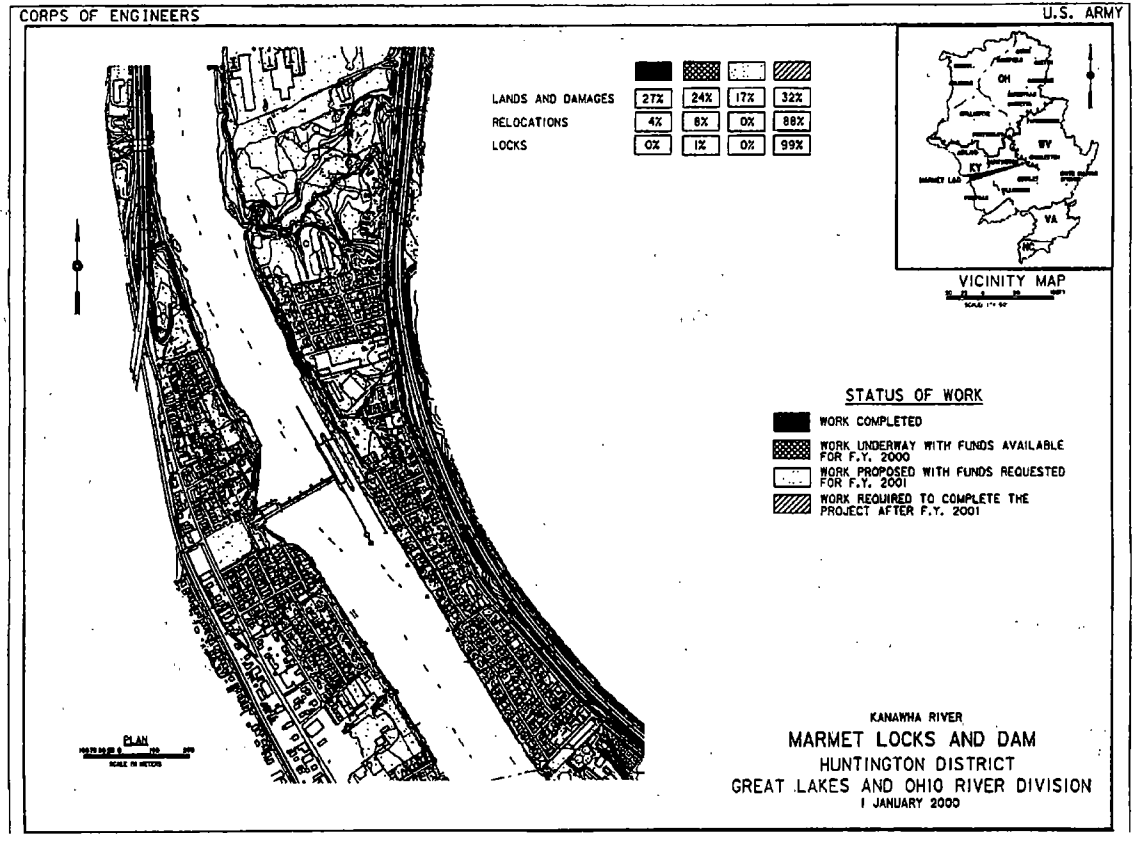
STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final EIS was filed with the Environmental Protection Agency (EPA) on January 26, 1994.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1994. Funds to initiate construction were appropriated in FY 1998.

Environmental Site Assessments (Phase I and II) identified soil contamination at levels sufficient to warrant remedial activity. None of the contamination identified is considered hazardous; rather, it is a non-hazardous contaminant which requires that the soil be disposed of in a landfill in conformance with Subtitle D of the Resource Conservation and Recovery Act (RCRA). No groundwater contamination was found.

The District has developed plans for the new lock construction to have minimum interference with river traffic during construction, but some interference is expected. The District had established dialogue with the towing industry to determine the best methods to use to minimize interference.

The scheduled completion date has changed from September 2009, the latest completion date presented to Congress (FY 2000), to Being Determined.


CORPS OF ENGINEERS
U.S. ARMY
LANDS AND DAMAGES 27% 24% 17% 32%
RELOCATIONS 4% 8% 0% 88%
LOCKS 0% 1% 0% 99%
OH
WV
KY
VA
VICINITY MAP
STATUS OF WORK
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR F.Y. 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR F.Y. 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER F.Y. 2001
PLAN
KANAWHA RIVER
MARMET LOCKS AND DAM
HUNTINGTON DISTRICT
GREAT LAKES AND OHIO RIVER DIVISION
1 JANUARY 2000

APPROPRIATION TITLE: Construction, General - Locks and Dams (Navigation)

PROJECT: Robert C. Byrd Locks and Dam (formerly Gallipolis Locks and Dam), West Virginia and Ohio (Continuing)

LOCATION: The project is situated in the Middle Ohio Valley at Ohio River mile 279.2, approximately 14 miles downstream from the mouth of the Kanawha River in West Virginia and approximately 30 miles upstream from the City of Huntington, West Virginia. The new locks are in Mason County, West Virginia and the abutment of the dam is in Gallia County, Ohio.

DESCRIPTION: The project includes the rehabilitation of the non-navigable, high-lift, gated, existing dam and construction of a new 1200 by 110 foot main lock and a new 600 by 110 foot auxiliary lock in a canal extending across a slight bend in the river, bypassing the existing locks and dam on the left descending (West Virginia) bank. The canal, in effect, straightens the river bend and provides a relatively straight down-bound approach for several miles. All work is programmed.

AUTHORIZATION: River and Harbor Act of 1935, Supplemental Appropriations Act, 1985, and the Water Resources Development Act of 1986. The Water Resources Development Act of 1992, Section 118, changed the project name to the Robert C. Byrd Locks and Dam.

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable because construction of the project is substantially complete.

TOTAL BENEFIT-COST RATIO: Not applicable because construction of the project is substantially complete.

INITIAL BENEFIT-COST RATIO: 11.3 to 1 at 8 1/8 percent (FY 1985).

BASIS OF BENEFIT-COST RATIO: Benefits are from the General Design Memorandum, dated November, 1982, at October, 1982 price levels.

SUMMARIZED FINANCIAL DATA			STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
New Construction Work			Entire Project	94	Being Determined
Estimated Federal Cost		$ 310,100,000	Lock Construction	100	Jan 1993
General Appropriations	155,050,000		Mitigation Sites	70	Being Determined
Inland Waterways Trust Fund	155,050,000		Dam Rehabilitation	97	Being Determined

SUMMARIZED FINANCIAL DATA (Continued)

Dam Rehabilitation		
Estimated Federal Cost		$ 68,900,000
General Appropriations	34,450,000	
Inland Waterways Trust Fund	34,450,000	
Total Estimated Federal Cost		$ 379,000,000
General Appropriations	189,500,000	
Inland Waterways Trust Fund	189,500,000	
Estimated Non-Federal Cost		0
Total Estimated Project Cost		$ 379,000,000

	GENERAL APPNS.	INLAND WATERWAYS TRUST FUNDS	ACCUM. PCT. OF EST. FED. COST
Allocations to 30 September 1999	$180,311,000 1/	$180,311,000	
Conference Allowance for FY 2000	3,575,000	3,575,000	
Allocation for FY 2000	3,869,000 2/	3,869,000 3/	
Allocations through FY 2000	184,180,000	184,180,000	97
Allocation Requested for FY 2001	1,350,000	1,350,000	98
Programmed Balance to Complete after 2001	3,970,000	3,970,000	
Unprogrammed Balance to Complete after FY 2001	0	0	

1/ Allocation thru FY 98 includes $9,526,000 paid by Department of Treasury Judgment Fund for settled claim.
2/ Reflects a reduction of $509,000 as savings and slippage, and $803,000 reprogrammed to the project in FY 2000.
3/ Reflects a reduction of $509,000 as savings and slippage, and $803,000 reprogrammed to the project in FY 2000.

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PHYSICAL DATA

Bypass Canal:
- Length - 1.7 miles
- Bottom Width - 500 feet (min)

Locks:
- Number - 2
- Main Lock - 110 x 1,200 feet
- Auxiliary Lock - 110 x 600 feet

Dam:
- Major rehabilitation of the existing navigation dam to include replacing the dam roller gates and strengthening the foundation.

Lands and Damages:

Total existing easement area	1798 acres
Existing locks and dam	82 acres
New locks and canal	546 acres
Mitigation	837 acres
Dam rehabilitation	28 acres

(Note: No residential structures are located in the affected area.)

JUSTIFICATION: Completion of the new locks has enabled tows to transit the project area efficiently and has completed a series of 110 by 1200 foot locks from near Pittsburgh to Cairo, Illinois. Reduced delays and transportation costs are benefiting the economy of the Nation directly and indirectly. The project is strategically located between the highly industrialized upper Ohio River Basin area and its product markets and supply regions. Robert C. Byrd Locks and Dam captures a significant portion of the commodities transiting the Ohio River. The traffic levels (number of lockages) have decreased and volume of commodities have increased at Robert C. Byrd Locks and Dam, as forecast in the authorization document. During 1998, 57.9 million tons of traffic locked through the Robert C. Byrd project. Commodity traffic projections reflect 61.6 and 75.9 million tons transiting the project in 2000 and 2020, respectively.

The new locks and the dam rehabilitation also remedy problems associated with the age, condition, and hazardous conditions of the existing facilities. The existing locks and dam are over 50 years old and have been increasingly difficult to operate and maintain. Lock outages have been a major problem and would have become very critical in the future. Accident reports and information from the navigation industry documented that the existing facilities were unsafe due to the location of the locks and velocities generated during above normal river conditions.

Average annual benefits for the project are estimated as follows:

Annual Benefits	Amount
Navigation	$161,178,000
Recreation	140,000
Total	$161,318,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

	New Construction	Major Rehabilitation
Initiate Construction of Vegetative Area	$ 415,000	
Initiate Painting of Bridge over Dam		$ 700,000
Complete Fishing Access Construction		250,000
Complete Construction of Mitigation Areas	450,000	
Complete Dam Rehabilitation		250,000
Planning, Engineering and Design	190,000	265,000
Construction Management	60,000	90,000
Total	$ 1,145,000	$ 1,555,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, 50 percent of the total costs of construction will be derived from Inland Waterways Trust Fund. The West Virginia Division of Natural Resources will be responsible for operation and management of mitigation lands at an estimated average annual cost of $55,000 for the Greenbottom area and $345,000 for the on-site mitigation (fish hatchery).

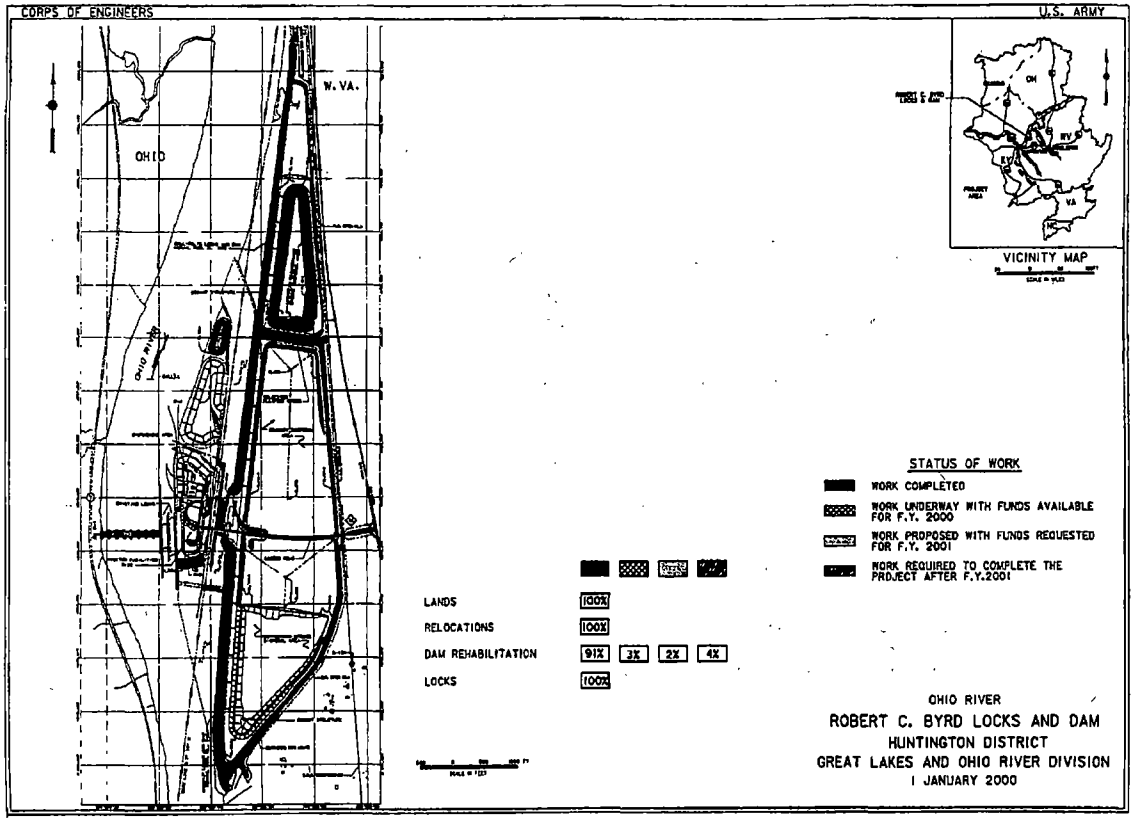
STATUS OF LOCAL COOPERATION: The West Virginia Division of Natural Resources by lease agreement has assumed responsibility for operation and management of the off-site mitigation area.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $379,000,000 is an increase of $6,000,000 from the latest estimate ($373,000,000) presented to Congress (FY 2000). This change includes the following items.

Item	Amount
Price Escalation on Construction Features	$ 1,338,000
Post Contract Award and Other Estimating Adjustments (including contingency adjustments)	4,662,000
Total	$ 6,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Final Environmental Impact Statement (EIS) was filed with Environmental Protection Agency on January 8, 1981. Supplement I to the EIS was filed on October 30, 1991.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1984. Funds to initiate construction were appropriated in FY 1985. The Water Resources Development Act of 1992, Section 118, changed the project name to the Robert C. Byrd Locks and Dam.
The scheduled completion date has changed from September 2004, the latest completion date presented to Congress (FY 2000), to Being Determined.


CORPS OF ENGINEERS
U.S. ARMY
W. VA.
OHIO
OHIO RIVER
VICINITY MAP
STATUS OF WORK
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR F.Y. 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR F.Y. 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER F.Y.2001
LANDS 100%
RELOCATIONS 100%
DAM REHABILITATION 91% 3% 2% 4%
LOCKS 100%
OHIO RIVER
ROBERT C. BYRD LOCKS AND DAM
HUNTINGTON DISTRICT
GREAT LAKES AND OHIO RIVER DIVISION
1 JANUARY 2000

APPROPRIATION TITLE: Construction, General - Locks and Dams (Navigation)

PROJECT: Winfield Locks and Dam, West Virginia (Continuing)

LOCATION: Winfield Locks and Dam is located in Putnam County, West Virginia, on the Kanawha River near Eleanor, approximately 31 miles above the confluence with the Ohio River. The pool is located entirely in West Virginia.

DESCRIPTION: The proposed modernization plan includes the construction of an additional 110 by 800 foot lock on the right descending bank landward of the existing locks and a 110-foot wide non-navigable gate bay between the old lock and the new lock. The new lock will be skewed six degrees landward (upstream to downstream) from the existing locks. The plan includes the continued use of both existing 56 by 360 foot lock chambers as auxiliary locks. The existing dam also will remain in use. All work is programmed.

AUTHORIZATION: The Supplemental Appropriations Act, 1985 for engineering and design and land acquisition, and the Water Resources Development Act of 1986 for construction.

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable because the project is substantially complete.

TOTAL BENEFIT-COST RATIO: Not applicable because the project is substantially complete.

INITIAL BENEFIT-COST RATIO: 6.2 to 1 at 8 1/8 percent (FY 1985).

BASIS OF BENEFIT-COST RATIO: Benefits are from Design Memorandum No. 1, General Design Memorandum, dated April, 1988.

SUMMARIZED FINANCIAL DATA			STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$227,500,000	Entire Project	98	Being Determined
General Appropriations	$113,750,000		Locks Operational	100	Nov 1997
Inland Waterways Trust Fund	113,750,000				
Estimated Non-Federal Cost		0			
Total Estimated Project Cost		$227,500,000			

SUMMARIZED FINANCIAL DATA (Continued)

	GENERAL APPNS.	INLAND WATERWAYS TRUST FUND	ACCUM. PCT. OF EST. FED. COST
Allocations to 30 September 1999	$112,211,000	$112,211,000	
Conference Allowance for FY 2000	700,000	700,000	
Allocation for FY 2000	600,000 1/	600,000 2/	
Allocations through FY 2000	112,811,000	112,811,000	99
Allocation Requested for FY 2001	150,000	150,000	99
Programmed Balance to Complete after FY 2001	789,000	789,000	
Unprogrammed Balance to Complete after FY 2001	0	0	

1/ Reflects a reduction of $100,000 assigned as savings and slippage.
2/ Reflects a reduction of $100,000 assigned as savings and slippage.

PHYSICAL DATA

Lock:
Number - 1
Chamber - 110 by 800 ft.
Lift - 28 ft.

Lands and Damages:
Acres - 1243 easement
- 41 existing Locks and Dam
- 316 new Lock
New Lock Site:
Mobile home park (37 units), two active
Industries, and one inactive industry.

JUSTIFICATION: Winfield Locks and Dam links the Kanawha Valley, an important chemical and coal producing area, to its product markets and supply areas. Up-bound traffic through Winfield is composed of important supplies of chemicals, feedstocks, aggregates, and petroleum fuels. Down-bound traffic is composed largely of coal produced in the upper Kanawha River Basin and destined for electric generating facilities and coking plants throughout the middle and upper Ohio River Basin. The average annual tonnage from 1989-98 was 21.4 million tons. During 1998, 21.3 million tons of traffic locked through Winfield. Coal accounts for approximately 76 percent of the total tonnage.

The existing Winfield project presents a significant impediment to the efficient flow of waterborne commerce due to its outdated features. Today, only 30 percent of the barges processed at Winfield are the size that the project originally was designed to serve and only two percent of the tows are small enough to be locked in a single operation. The average delay per tow was 4.0 hours in 1996 with an average of over 4 lockages per tow. The Total processing time (lockage plus

JUSTIFICATION (Continued): delay time) was 6.7 hours, the highest in the Ohio River system. Furthermore, Winfield traffic demand is projected to more than triple over the next 70 years, from 13 million tons in 1980 to 40 million tons by 2050, an annual growth rate of 1.8 percent. Navigation safety has not been a major problem at Winfield Locks, but the potential for navigation accidents is present. This problem stems from the orientation of the locks and the design of the lock walls. The locks are located on the inside of a bend in the river that requires tows to make several maneuvers to enter and exit the locks. This is especially difficult during high river flows. With 800 foot long tows becoming more common, the short upper guard wall also presents a problem. The upper guard wall is only 450 feet long, which means that about half of a tow extends beyond the end of the wall as lockage progresses. This presents a danger that the tow might break up and be swept down on the dam during high-flow conditions. As the number of large tows increases at Winfield, the probability of accidents occurring in such instances also increases.

Average annual benefits for the project total $56,109,000, all for commercial navigation.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Planning, Engineering and Design (remaining mitigation areas)	$ 300,000
Total	$ 300,000

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, 50 percent of the total costs of construction will be derived from the Inland Waterways Trust Fund.

STATUS OF LOCAL COOPERATION: Upon completion of the project, a Memorandum of Agreement will be prepared between West Virginia Division of Natural Resources (WVDNR) and the Corps of Engineers for WVDNR to assume responsibility for operation and management of the mitigation area. Annual costs are estimated to be $30,000.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $227,500,000 is an increase of $100,000 from the latest estimate ($227,400,000) presented to Congress (FY 2000). This change includes the following item.

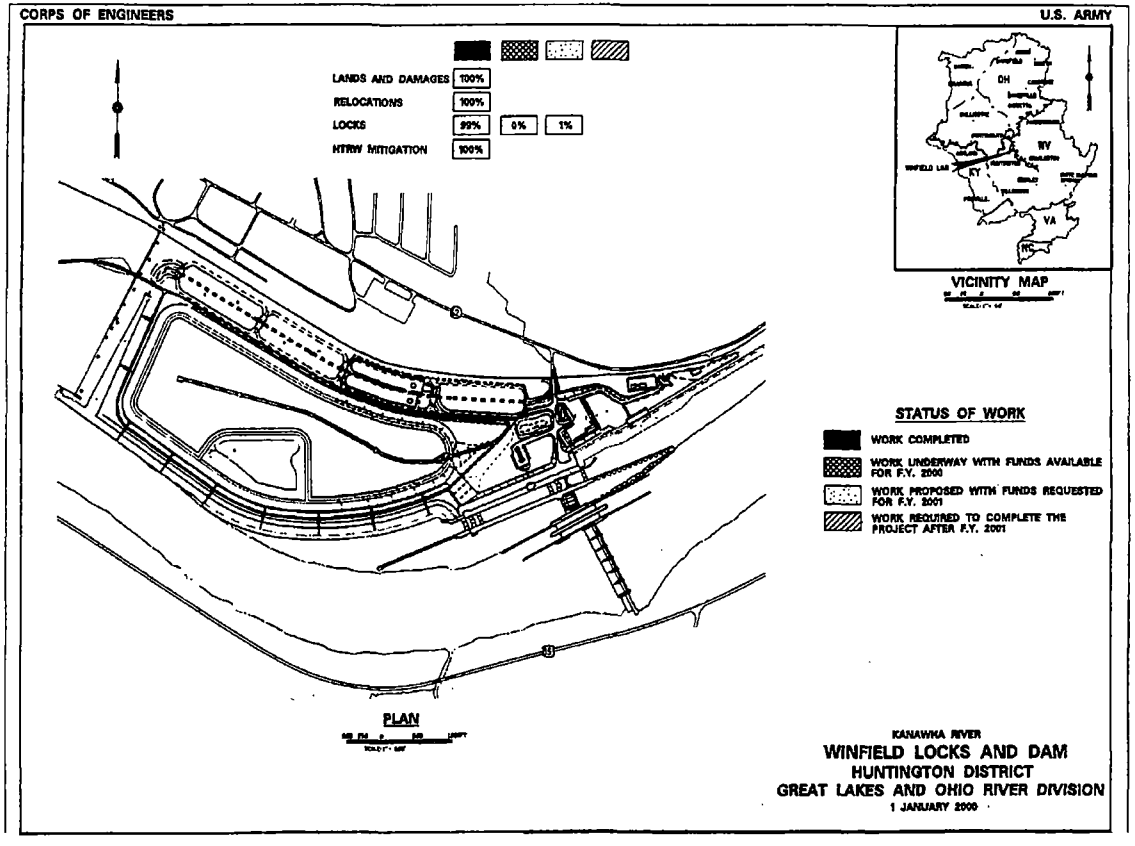
Item	Amount
Price Escalation on Construction Features	$ 100,000
Total	$ 100,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement (EIS) was filed with the Environmental Protection Agency on September 25, 1987. A Supplemental Environmental Impact Statement (SEIS) was signed by the Ohio River Division Commander on April 28, 1993. The SEIS was prepared because of the need to realign the new lock as a result of hydraulic model testing.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1985 and funds to initiate construction were appropriated in FY 1986.

Hazardous and toxic substances found on the site were removed by former landowner, ACF Industries. Temporary buildings constructed for storage of hazardous materials will be transferred to the National Guard Bureau for controlled storage of equipment. The West Virginia National Guard is interested in constructing a complex which would include a combined support maintenance shop, organizational maintenance shop, and armory facility on thirty acres of the downstream disposal area. Because this construction would affect the mitigation agreement between the Corps and resource agencies, a memorandum of agreement was executed between the National Guard, the resource agencies, and the Corps for off-site mitigation to replace mitigation acreage lost due to transfer to the Guard.

The scheduled completion date has changed from September 2004, the latest completion date presented to Congress (FY 2000), to Being Determined.


CORPS OF ENGINEERS
U.S. ARMY
LANDS AND DAMAGES 100%
RELOCATIONS 100%
LOCKS 99% 0% 1%
NTRW MITIGATION 100%
PLAN
VICINITY MAP
STATUS OF WORK
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR F.Y. 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR F.Y. 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER F.Y. 2001
KANAWHA RIVER
WINFIELD LOCKS AND DAM
HUNTINGTON DISTRICT
GREAT LAKES AND OHIO RIVER DIVISION
1 JANUARY 2000

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APPROPRIATION TITLE: Construction, General – Shoreline Protection

PROJECT: Chicago Shoreline, Illinois (Continuing)

LOCATION: The project is located in northeast Illinois on the southern shore of Lake Michigan within the City of Chicago in Cook County.

DESCRIPTION: The project consists of constructing revetments along 16,500 and 25,000 feet of the shoreline in the Lincoln Park and Burnham Park areas, respectively. Other project features include: revetments near the Adler Planetarium and at Meigs Field; a low concrete floodwall with detachable flashboards along Lake Shore Drive in the Oak Street Beach Area; a breakwater to protect the South Water Purification Plant near 78th Street; and nourishment of two short reaches of shoreline near Fullerton Avenue and at 31st Street.

AUTHORIZATION: Water Resources Development Act of 1996, and Water Resources Development Act of 1999.

REMAINING BENEFIT - REMAINING COST RATIO: 3.0 to 1 at 7 3/4 percent.

TOTAL BENEFIT-COST RATIO: 3.7 to 1 at 7 3/4 percent.

INITIAL BENEFIT-COST RATIO: 5.5 to 1 at 7 3/4 percent.

BASIS OF BENEFIT COST RATIO: Benefits are from the latest available evaluation approved in March 1998, at October 1997 price levels.

SUMMARIZED FINANCIAL DATA		FED. COST
Estimated Federal Cost		$170,071,000
Estimated Non-Federal Cost		$123,169,000
Cash Contributions	$ 123,169,000	
Other Costs	$ 0	
Total Estimated Project Cost		$293,240,000

STATUS: (1 JAN 2000)	PHYSICAL PERCENT COMPLETE	COMPLETION SCHEDULE
Entire Project	23	Being Determined

PHYSICAL DATA	
Step Stone Revetment	44,208 feet
Breakwater Reconstruction	2,670 feet
Beach Replenishment	2,000 feet

SUMMARIZED FINANCIAL DATA (Continued):

	FED COST	ACCUM PCT. OF EST
Allocations to 30 September 1999	$ 31,727,800	
Conference Allowance for FY 2000	13,129,000	
Allocation for FY 2000	13,591,200 1/	
Allocations through FY 2000	45,319,000	27
Allocation Requested for FY 2001	19,192,000	38
Programmed Balance to Complete After FY 2001	105,560,000	
Unprogrammed Balance to Complete after FY 2001	0	

1/ Reflects a reduction of $1,870,000 as savings and slippage, and $2,332,200 reprogrammed to the project in FY 2000.

JUSTIFICATION: The project area includes 11 miles of the 28 miles of publicly owned shoreline within the City of Chicago. The adjacent land mass and transportation network are protected by continuous revetments and seawalls, most of which were built in the early 1900's. Those constructed of wood pilings and stone cribs have begun to fail. As the land behind the structures is lost due to storms, the high capacity road network which runs parallel to the shoreline will be impacted. These roads carry an estimated 120,000 vehicles per day. Re-routing this traffic will cause serious disruption and significant traffic delay damages. In addition, facilities located on public property, with a capital investment of several billion dollars, will be destroyed. Over the past several years, significant degradation of the existing shore structures has occurred. Large sections of revetment have collapsed as a result of medium duration and intensity storm events. The rate of degradation is increasing, and short-term changes in sections are easily recognizable. The purification plant breakwater had collapsed to the point where gaps in the structure were visible. The breakwater protects the South Water Purification Plant, which services 2.5 million persons.

Average annual benefits are as follows:

Annual Benefits	Amount
Storm Damage Prevention	$45,127,000
Recreation	26,082,000
Total	$71,209,000

FISCAL YEAR 2001: The requested amount of $19,192,000 will be applied as follows:

Initiate Construction in Reach 4 (37th to 43rd St)	$ 2,000,000
Continue Construction in Reach 2 (Belmont to Diversey)	5,500,000
Continue construction in Reach 2 (Montrose North)	5,500,000
Continue Construction in Reach 2 (Irving to Belmont)	3,000,000
Complete Construction in Reach 4 (I55 to 30th St)	200,000
Complete Construction in Reach 4 (33rd to 37th St)	500,000
Engineering & Design	792,000
Construction Management	1,700,000
Total	$19,192,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts contained in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payment During Construction and Reimbursements	Annual Operation, Maintenance, Repair Rehabilitation, and Replacement Costs
Pay 35 percent of the costs allocated to hurricane and storm damage reduction for the Federally supportable plan as reduced for credit allowed for non-Federal work under Section 215 of the Flood Control Act of 1968 and/or Section 206 of the Water Resources Development Act of 1992, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of hurricane and storm damage reduction facilities	$ 91,954,000	$ 463,000
Pay all the incremental costs of the locally preferred plan over the Federally supportable plan as reduced for credit allowed for non-Federal work under Section 215 of the Flood Control Act of 1968 and/or Section 206 of the Water Resources Development Act of 1992.	$ 31,215,000	
Total Non-Federal Costs	$123,169,000	$ 463,000

NON-FEDERAL COST: (continued)
The non-Federal sponsor has agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The City of Chicago and the Chicago Park District are the local sponsors for the project. The reimbursement agreement for protection of the filtration plant (Reach 5) was executed on April 28, 1997. A Project Cooperation Agreement encompassing 31st Street to 33rd Street, 1,000 feet of protection at Belmont Avenue, and beach stabilization at 31st Street was executed in August 1998. The Project Cooperation Agreement for the remainder of the project was executed on May 17, 1999. The Chicago Park District currently owns all lands required for the project.

COMPARISON OF FEDERAL COST ESTIMATE: The current Federal cost estimate of $170,071,000 is an increase of $971,000 from the latest estimate ($169,100,000) presented to Congress (FY 2000).

Item	Amount
Price escalation on Construction Features	$ 971,000
Total	$ 971,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: One Environmental Assessment (EA) for entire project was signed on July 3, 1993, and another EA, for additional land at Reach 4, 51st to 54th Street was signed on June 25, 1999.

OTHER INFORMATION: Funds to initiate PED were appropriated in FY 1992. Funds to initiate construction were appropriated in FY 1997. The project authorization provides for reimbursement for the Federal share of construction work performed by the non-Federal sponsor in Reach 5. WRDA of 1999 authorized to provide credit for work that was performed at Reach 3, Solidarity Drive, prior to execution of the Project Cooperation Agreement.

The Federally supportable plan includes rubblemound revetments in Lincoln Park and Burnham Park. The locally preferred plan substitutes steel sheet pile, and concrete step-stone revetments for the rubblemound revetments. The non-Federal sponsor will pay the incremental costs of the locally preferred plan.

The scheduled completion date has changed from September 2005, the latest completion date presented to Congress (FY 2000), to Being Determined.

CHICAGO SHORELINE PROJECT
CHICAGO DISTRICT
GREAT LAKES AND
OHIO RIVER DIVISION
1 JANUARY 2000
SCALE IN THOUSAND FEET
VICINITY MAP
PROJECT AREA
WISCONSIN
ILLINOIS
INDIANA
LAKE MICHIGAN
SCALE IN MILES
REACH 5
REACH 4
REACH 3M
REACH 3
REACH 2F
REACH 2
19th St.
56th St.
47th St.
31st St.
26th St.
Roosevelt Rd.
Chicago Ave.
Oak St.
North Ave.
Fullerton Ave.
Addison St.
Lawrence Ave.
LOCAL SPONSOR WORK
N
LEGEND
WORK COMPLETED AS OF
30 SEPTEMBER 1999
WORK PROPOSED WITH FUNDS
AVAILABLE FOR FY 2000
WORK PROPOSED WITH FUNDS
REQUESTED FOR FY 2001
WORK REQUIRED TO COMPLETE
THE PROJECT AFTER FY 2001

APPROPRIATION TITLE: Construction General - Shoreline Protection

PROJECT: Presque Isle Peninsula, Pennsylvania (Permanent) (Continuing)

LOCATION: Presque Isle Peninsula is located in the city of Erie, Erie County, Pennsylvania, on the south shore of Lake Erie 78 miles southwest of Buffalo, New York and about 102 miles northeast of Cleveland, Ohio.

DESCRIPTION: The initial construction at Presque Isle State Park consisted of a system of 55 rubblemound breakwaters located offshore along the lakeward length of Presque Isle Peninsula and placement of approximately 560,000 tons of beach sand fill. Each breakwater is 150 feet long with a 350 foot gap between structures. The initial construction was completed in November 1992, but in order to maintain the beaches, a periodic nourishment program for 50 years following the initial project construction is required.

AUTHORIZATION: Water Resources Development Act of 1986 (Public Law 99-662)

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable because initial construction has been completed.

TOTAL BENEFIT-COST RATIO: 1.31 to 1 at 8-7/8 percent.

INITIAL BENEFIT-COST RATIO: 1.3 to 1 at 8-7/8 percent (FY 1988)

BASIS OF BENEFIT-COST RATIO: Benefits based on the Phase II General Design Memorandum approved 27 July 1988 at January 1986 price levels.

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SUMMARIZED FINANCIAL DATA:

Estimated Federal Cost			$ 66,335,000
Programmed Construction		$66,335,000	
Initial Construction	$13,435,000		
Periodic Nourishment	52,900,000		
Estimated Non-Federal Cost			66,335,000
Programmed Construction		66,335,000	
Initial Construction			
Cash Contribution	13,435,000		
Other Costs (Lands)	0		
Periodic Nourishment			
Cash Contribution	52,900,000		
Other Cost	0		
Total Estimated Project Cost			$132,670,000
Initial Construction	26,870,000		
Periodic Nourishment	105,800,000		

		Accum. Pct. of Est. Fed. Cost
Allocations to 30 September 1999	16,903,000	
Conference Allowance for FY 2000	520,000	
Allocations for FY 2000	520,000 1/	
Allocations through FY 2000	17,423,000	26
Allocation Requested for FY 2001	580,000	27
Programmed Balance to Complete(Annually) after FY 2001	48,332,000	
Unprogrammed Balance to Complete after FY 2000	0	

STATUS: (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Initial Construction	100	Nov 1992
Periodic nourishment	14	Being determined

PHYSICAL DATA

Initial Construction:
55 Rubblemound Offshore Breakwaters.
560,000 Tons of Beach Replenishment.
Removal of some existing shore protection structures.

Periodic nourishment:
55,000 Tons of Beach Nourishment

1/ Reflects $76,000 reduction assigned as savings and slippage and $76,000 reprogrammed to the project in FY 2000.

JUSTIFICATION: That portion of the project referred to herein as the Initial Construction as detailed in the Phase II General Design Memorandum, which was approved on 27 July 1988 and being a system of segmented breakwaters, was completed in November 1992. The annual benefits identified in that Design Memorandum updated to current price levels are as follows:

Annual Benefits	Amount
Decreased Maintenance Cost	$ 167,000
Structural Damage Prevented	7,000
Land Loss Prevention	21,000
Decreased Dredging Costs	430,400
Decreased Nourishment Cost	2,600,900
Total	$ 3,226,300

FISCAL YEAR 2001: The requested amount of $580,000 will be applied as follows:

Place sand (Annual Nourishment)	$ 438,000
Planning, Engineering and Design	112,000
Construction Management	30,000
Total	$ 580,000

NON-FEDERAL COST: In accordance with the cost-sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation and Replacement Costs
Pay one-half of the separable costs allocated to recreation, including periodic nourishment, and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of breakwater features.	$ 66,335,000	$ 94,094
Total Non-Federal Costs	$ 66,335,000	$ 94,094

NON-FEDERAL COST: (continued)
The non-Federal sponsor has agreed to make all required payments concurrently with project construction and its share of periodic nourishment costs within the life of the project.

STATUS OF LOCAL COOPERATION: The Local Cooperation Agreement was executed by the Assistant Secretary of the Army on 22 June 1989. The current non-Federal cost estimate of $66,335,000, is an increase of $8,250,000 from the non-Federal cost estimate of $58,085,000 based on changes in projected rates of inflation. In a letter dated 3 October 1988, the non-Federal sponsor indicated that it is financially capable and willing to contribute the non-Federal share of the project.

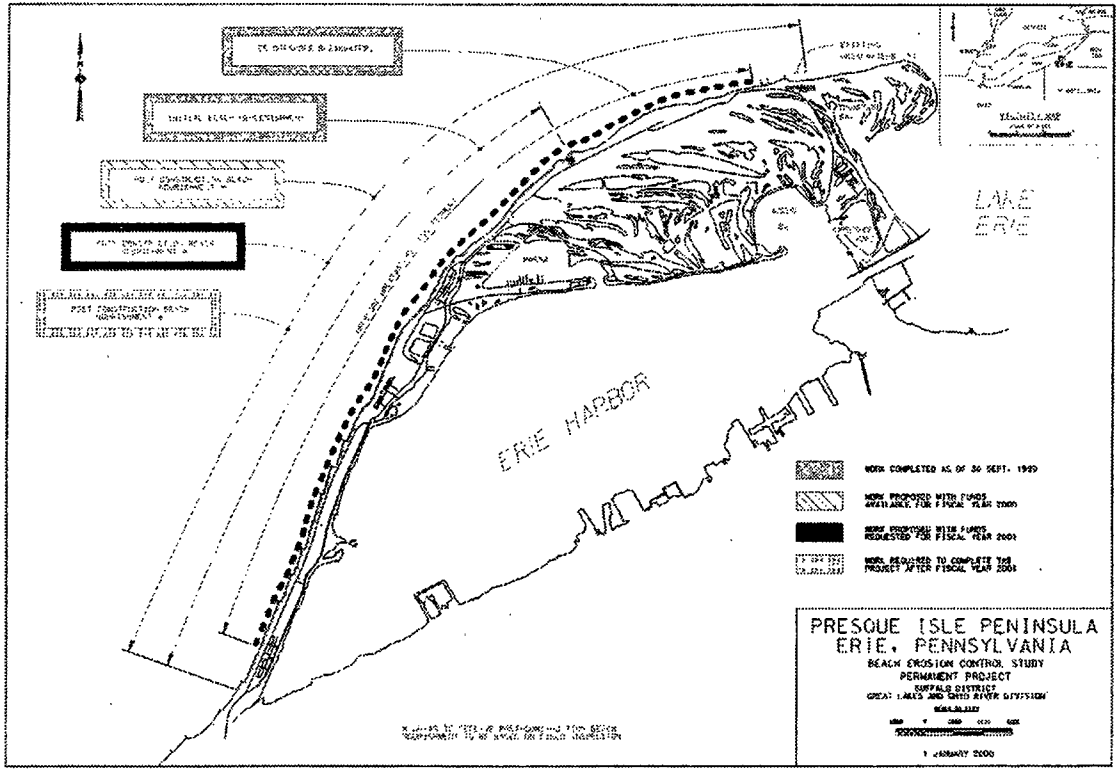
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal Cost Estimate of $66,335,000 is an increase of $8,250,000 from the latest estimate ($58,085,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price escalation on construction features and changes in projected inflation rates.	$ 8,207,000
Reanalysis of requirements	43,000
Total	$ 8,250,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Final Environmental Impact Statement was filed with USEPA on 13 March 1981. The provisions of Section 404 of the Clean Water Act were met by the Public Notice issued on 9 October 1979, a Section 404(b)(1) Evaluation dated 21 December 1979, and a Section 401 Water Quality Certificate issued by the Commonwealth of Pennsylvania dated 8 August 1988. The Record of Decision which completed the NEPA process was signed by the Director of Civil Works on 2 November 1988.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1988 and funds to initiate construction were appropriated in FY 1989.

The scheduled completion date has changed from June 2042, the latest completion date presented to Congress (FY 2000), to Being Determined.


LAKE ERIE
ERIE HARBOR
WORK COMPLETED AS OF 30 SEPT. 1999
PRESQUE ISLE PENINSULA
ERIE, PENNSYLVANIA
BEACH EROSION CONTROL STUDY
PERMANENT PROJECT
BUFFALO DISTRICT

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: McCook and Thornton Reservoirs, Illinois (Continuing)

LOCATION: The project area covers 341 square miles of the combined sewer area in Cook County in Chicago and 48 adjacent suburban communities.

DESCRIPTION: The authorized project consists of constructing two reservoirs in existing stone quarries located in McCook and Thornton, Cook County, Illinois, having floodwater storage capacities of 21,400 and 14,600 acre-feet, respectively. The Thornton Reservoir project authorization has been modified to evaluate inclusion of additional permanent storage attributable to the Natural Resource Conservation Service. This could increase the capacity of Thornton Reservoir to 24,200 acre-feet. Supporting facilities include connecting hydraulic structures, an aquifer protection system, and an aeration system. The reservoirs will serve as the terminus of the Metropolitan Water Reclamation District of Greater Chicago's TARP project (Tunnel and Reservoir Plan) Phase I tunnels. The TARP project is designed to control flooding due to sewer back-up. The McCook reservoir will control flooding on the Mainstream and Des Plaines Systems. The Thornton reservoir will control flooding on the Calumet System.

AUTHORIZATION: Water Resources Development Act of 1988, modified by the Water Resources Development Act of 1999.

REMAINING BENEFIT-REMAINING COST RATIO: 1.8 to 1 at 8 1/2 percent.

TOTAL BENEFIT-COST RATIO: 1.7 to 1 at 8 1/2 percent.

INITIAL BENEFIT-COST RATIO: 2.0 to 1 at 8 1/2 percent (FY 1994).

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluation in the Final Special Reevaluation Report dated February 1999 at October 1997 price levels.

SUMMARIZED FINANCIAL DATA		
Estimated Federal Cost		$ 503,828,000
Estimated Non-Federal Cost		167,354,000
Cash Contributions	129,600,000	
Other Costs	37,754,000	
Total Estimated Project Cost		$ 671,182,000

	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
McCook Reservoir		0	Being Determined
Thornton Reservoir		0	Being Determined

SUMMARIZED FINANCIAL DATA (Continued):		ACCUM. PCT. OF EST. FED. COST	PHYSICAL DATA	
Allocations to 30 September 1999	25,282,000			
Conference Allowance for FY 2000	4,500,000		McCook Reservoir	
Allocation for FY 2000	3,859,000 1/		Storage Capacity	21,400 acre-feet
Allocations through FY 2000	29,141,000	6	Thornton Reservoir	
			Storage Capacity	14,600 acre-feet
Allocation Requested for FY 2001	2,800,000	6		
Programmed Balance to Complete after FY 2001	471,887,000			
Unprogrammed Balance to Complete after FY 2001	0			

1/ Reflects a reduction of $641,000 assigned as savings and slippage.

JUSTIFICATION: The McCook and Thornton Reservoirs Project covers 341 square miles of the combined sewer area in Chicago and 48 adjacent suburban communities. Within this region, over 500,000 homes suffer flooding attributable to sewer outfall submergence caused by the inadequate capacity of the area watercourses. More than 170,000 structures are flooded to varying degrees on an average annual basis. The project will also improve water quality in area watercourses, increase the amount of Lake Michigan water available for water supply and reduce beach closures. Average annual benefits are as follows:

Annual Benefits	Amount
Flood Damage Prevention	$ 80,357,000
Water Quality	14,732,000
Water Supply	7,190,000
Recreation	1,030,000
Total	$ 103,309,000

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FISCAL YEAR 2001: The requested amount of $2,800,000 will be applied as follows:

McCook Reservoir	
Complete construction on Slurry Wall	$ 2,600,000
Engineering & Design	100,000
Construction Management	100,000
Total	$ 2,800,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payment During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
McCook Reservoir: Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$ 5,696,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	23,042,000	
Pay 20 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	103,262,000	4,300,000
Total McCook Reservoir	$132,000,000	$4,300,000
Thornton Reservoir: Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$ 8,214,000	

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NON-FEDERAL COST (continued) Modify or relocate utilities, roads, bridges (except railroad bridges), other facilities, where necessary for the construction of the project.	802,000	
Pay approximately 18 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	26,338,000	1,278,000
Total Thornton Reservoir	$ 35,354,000	$1,278,000
Total Non-Federal	$167,354,000	$5,578,000

The non-Federal sponsor is expected to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) is the local sponsor for the project. The Project Cooperation Agreement for McCook Reservoir was executed on 10 May 1999. PCA for Thornton Reservoir is scheduled for execution in the 2nd quarter of FY 2002.

COMPARISON OF FEDERAL COST ESTIMATE: The current Federal cost estimate of $503,828,000 is an increase of $13,828,000 from the latest estimate ($490,000,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	$13,828,000
Total	$13,828,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: Public and Agency review of final Environmental Impact Statement and the Special Re-evaluation Report (EIS/SRR) for the McCook Reservoir project was completed in December 1998. The Record of Decision (ROD) was signed on May 5, 1999.

OTHER INFORMATION: Funds to initiate PED were appropriated in FY 1988. Funds to initiate construction were appropriated in FY 1994.

The scheduled completion date has changed from January 2012, the latest completion date presented to Congress (FY 2000), to Being Determined.

SEPARABLE ELEMENT: McCook Reservoir, Illinois

SUMMARIZED FINANCIAL DATA

Estimated Federal Cost	$396,762,000
Non-Federal Cost	$132,000,000
Cash Contributions	$ 103,262,000
Other Costs	$ 28,738,000
Total Estimated Project Cost	$528,762,000

REMAINING BENEFIT-REMAINING COST RATIO: 1.8 to 1 at 8 1/2 percent

TOTAL BENEFIT-COST RATIO: 1.7 to 1 at 8 1/2 percent

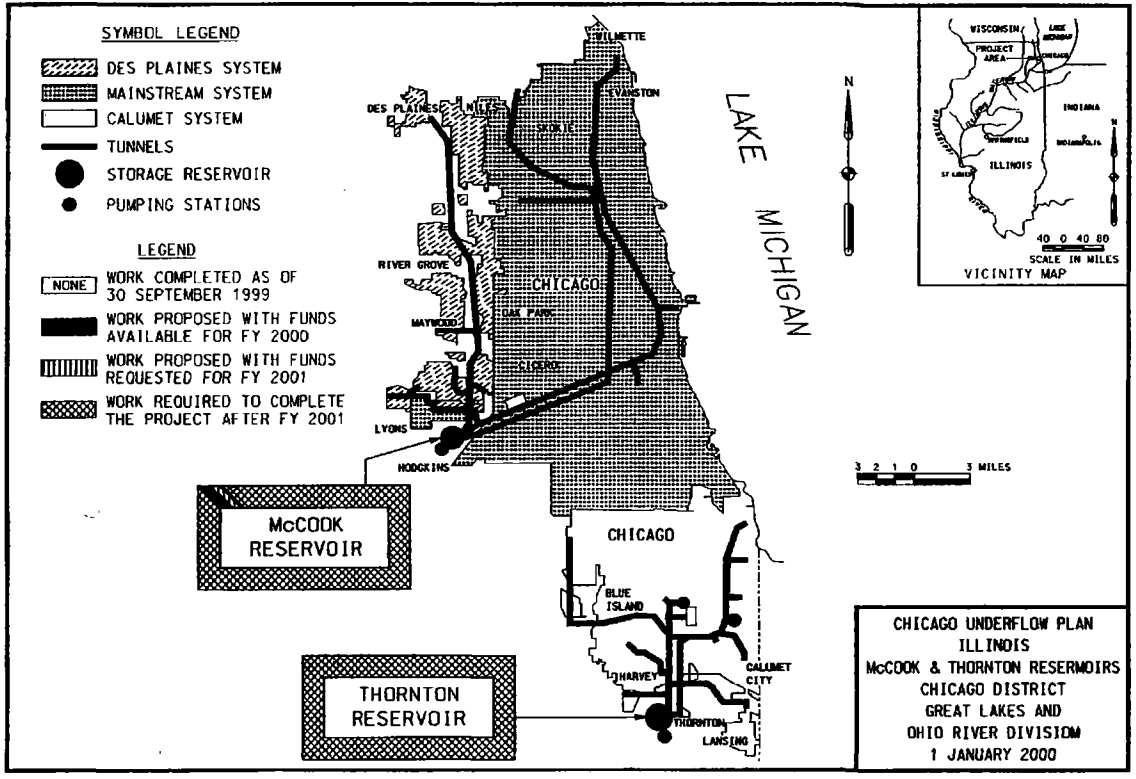
SEPARABLE ELEMENT: Thornton Reservoir, Illinois

SUMMARIZED FINANCIAL DATA

Estimated Federal Cost	$107,066,000
Non-Federal Cost	$ 35,354,000
Cash Contributions	$26,338,000
Other Costs	$ 9,016,000
Total Estimated Project Cost	$142,420,000

REMAINING BENEFIT-REMAINING COST RATIO: 2.0 to 1 at 8 1/2 percent

TOTAL BENEFIT-COST RATIO: 1.9 to 1 at 8 1/2 percent


SYMBOL LEGEND
DES PLAINES SYSTEM
MAINSTREAM SYSTEM
CALUMET SYSTEM
TUNNELS
STORAGE RESERVOIR
PUMPING STATIONS
LEGEND
NONE
WORK COMPLETED AS OF 30 SEPTEMBER 1999
WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER FY 2001
WILMETTE
EVANSTON
DES PLAINES
NILES
RIVER GROVE
CHICAGO
MAYWOOD
LYONS
HODGKINS
LAKE MICHIGAN
N
McCOOK RESERVOIR
THORNTON RESERVOIR
CHICAGO
BLUE ISLAND
HARVEY
CALUMET CITY
THORNTON
LANSING
3 2 1 0 3 MILES
WISCONSIN
PROJECT AREA
INDIANA
ILLINOIS
40 0 40 80
SCALE IN MILES
VICINITY MAP
CHICAGO UNDERFLOW PLAN
ILLINOIS
McCOOK & THORNTON RESERMOIRS
CHICAGO DISTRICT
GREAT LAKES AND
OHIO RIVER DIVISION
1 JANUARY 2000

212

APPROPRIATION TITLE: Construction, General – Local Protection (Flood Control)

PROJECT: Fort Wayne Metropolitan Area, Indiana (Continuing)

LOCATION: The Fort Wayne Metropolitan Area is located in northeastern Indiana, in Allen County.

DESCRIPTION: The project would provide 54,000 feet of new or upgraded levees, floodwalls, and road closures along the St. Marys, St Joseph, and Maumee Rivers, Spy Run Creek and Junk Ditch. The project would provide 100-year level of flood protection and includes a recreational development plan of hiking/biking trails and complementary features.

AUTHORIZATION: Water Resources Development Act of 1990 (Public Law 101-640)

REMAINING BENEFIT-COST RATIO: 4.2 to 1 at 6 5/8 percent.

TOTAL BENEFIT-COST RATIO: 2.5 to 1 at 6 5/8 percent.

INITIAL BENEFIT-COST RATIO: 2.3 to 1 at 8 1/2 percent (FY 1994).

BASIS OF BENEFIT-COST RATIO: Benefits are from the General Design Memorandum, dated May 1993 (revised August 1993).

SUMMARIZED FINANCIAL DATA:			Accum. Pct. of Est. Fed. Cost	STATUS (1 JAN 00)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$ 35,991,000				
Estimated Non-Federal Cost		12,452,000		Entire Project	89	November 2000
Cash Contribution	6,591,000					
Other Costs	5,861,000					
Total Estimated Project Cost		$ 48,443,000				

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SUMMARIZED FINANCIAL DATA: (Continued)

		Accum. Pct. of Est. Fed. Cost	PHYSICAL DATA
Allocations to 30 September 1999	31,303,000		
Conference Allowance for FY 2000	3,600,000		54,000 feet of levees, floodwalls,
Allocation for FY 2000	3,600,000 1/		steel pile walls and road closures.
Allocation through FY 2000	34,903,000	97	Four miles of hiking/biking trails.
Allocation for FY 2001	1,088,000	100	
Programmed Balance to Complete after FY 2001	0		
Unprogrammed Balance to Complete after FY 2001	0		

1/ Reflects $513,000 assigned as savings and slippage and $513,000 reprogrammed to the project in FY 2000.

JUSTIFICATION: In the city of Fort Wayne, the St. Joseph and St. Marys Rivers join to form the Maumee River. Generally, crucial flood periods occur with heavy winter and spring rains coupled with snowmelt. The flood of record occurred in March 1913. About 5,000 acres within the city limits were covered with up to four feet of water. The Maumee River crested at 26.1 feet, eleven feet over the current flood stage of 15.0 feet. In all, 5,500 homes and businesses in the city suffered extensive damage, the municipal lighting power plant was flooded, six people died, and approximately 15,000 people were homeless. Total damage due to the flood was $4,800,000 which would be over $80,000,000 in 1999 dollars. The flood of February 1982 crested at 0.2 feet below the flood of 1913 and caused over $80,000,000 in damages in 1999 dollars. The Maumee River remained above flood stage for two weeks, and affected about 1,800 residential structures and 184 businesses in the primary flood areas. The flood damaged approximately eight miles of levees in Fort Wayne. The most serious damage was to the Pemberton Dike, a 3,000 foot long levee, which protects a residential area. It was estimated that an additional $30,000,000 in damages would have occurred had the dike failed. The recommended project would provide approximately 54,000 linear feet of floodwall, levee, and slope protection along the Maumee, St. Marys, and St Joseph Rivers, and Spy Run Creek. Interior drainage improvements would be made as necessary. The project also includes a recreational development plan of hiking/biking trails and complimentary features. Average annual benefits (1993 price levels) are as follows:

Annual Benefits	Amount
Flood Damage Prevention	$ 8,236,400
Recreation	346,500
Total	$ 8,582,900

FISCAL YEAR 2001: The requested amount of $1,088,000 will be applied as follows:

Complete Construction of West Segment	$ 815,000
Engineering during Construction	10,000
Construction Management	263,000
TOTAL	$ 1,088,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights of way, and borrow and excavated or dredge material disposal areas.	$ 3,415,000	0
Modify or relocate utilities, roads, bridges (except) railroad bridges), and other facilities, where necessary for the construction of the project.	$ 2,446,000	0
Pay 5 percent of the costs allocated to flood control plus additional costs required to bring the total non-Federal share of flood control costs to 25 percent as reduced for credit based on prior work (Section 104 of the Water Resources Act of 1986) and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	$ 5,945,000	$ 85,000

NON-FEDERAL COST: (Continued)

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Pay one-half of the separable costs allocated to recreation (except recreational navigation) and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of recreation facilities.	$ 575,000	0
Pay all costs allocated to project betterments.	$ 71,000	0
Total Non-Federal Cost	$ 12,452,000	$ 85,000

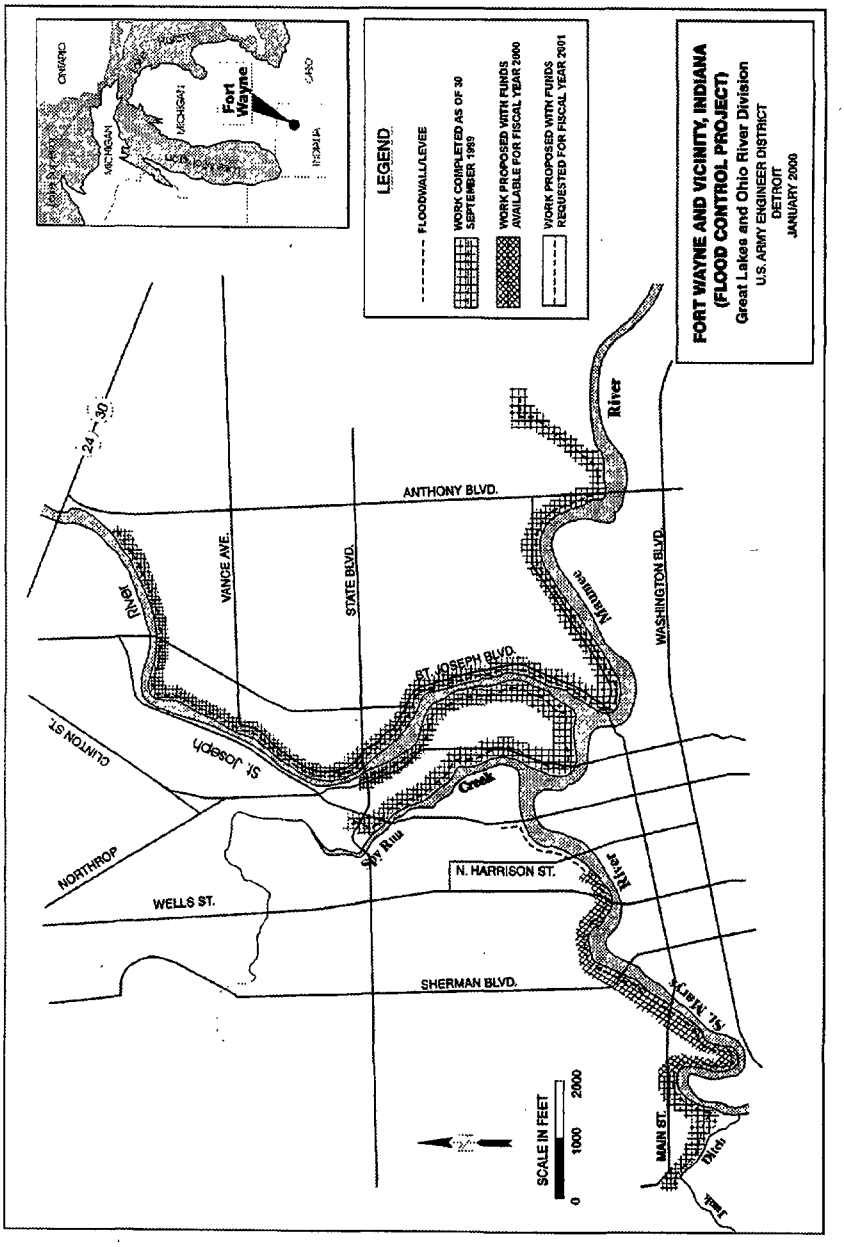
STATUS OF LOCAL COOPERATION: The Project Cooperation Agreement was signed on 22 August 1994. The current non-Federal cost estimate is $12,452,000, which includes a cash contribution of $6,591,000. The non-Federal cost has decreased $264,000. This decrease is primarily due to the real estate costs for the project being lower than originally estimated. The local sponsors obtained $6.5 million of the non-Federal share through the sale of bonds in November 1994. The remaining funds were set aside by the local sponsors out of their capital improvement funds. The non-Federal sponsor is financially capable and willing to contribute the non-Federal share.

COMPARISON OF FEDERAL COST ESTIMATE: The current Federal cost estimate of $35,991,000 is a decrease of $1,030,000 over the estimate last presented to Congress (FY 2000). This changes reflects an overall reduction in the flood control costs due to the real estate costs being lower than anticipated.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement (EIS) was filed with EPA in August 1988. An Environmental Assessment was completed with a Finding of No Significant Impact in August 1993. This project is in compliance with the Clean Water Act of 1977.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1988. Funds to initiate construction were appropriated in FY 1994.

The scheduled physical completion date has changed from December 2000, the latest completion date presented to Congress (FY 2000), to November 2000.



7 February 2000

99

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Indianapolis, White River (North), Indiana (Continuing)

LOCATION: The project encompasses approximately 3.0 miles of the White River in the City of Indianapolis, Indiana.

DESCRIPTION: The recommended plan consists of a combination of floodwall and levee flood protection along approximately 3.0 miles of the east bank of the White River in Indianapolis. The project will be constructed in three phases. The first phase will consist of the rehabilitation of an existing pump station and the development of a flood warning plan and system. The second phase will consist of 2 mitigation sites totaling 37 acres of reforestation and mitigation. The third phase will consist of the construction of 19,150 feet of sheetpile floodwall with concrete facing and 1,220 feet of earthen levee.

AUTHORIZATION: Project is authorized under the Flood Control Act of 1936 as amended by the Flood Control Act of 1938 and subject to WRDA 86 cost sharing.

REMAINING BENEFIT-COST RATIO: 2.58 to 1 at 7 1/8 percent

TOTAL BENEFIT-COST RATIO: 2.44 to 1 at 7 1/8 percent

INITIAL BENEFIT COST RATIO: 2.42 to 1 at 7 1/8 percent

BASIS OF BENEFIT COST RATIO: Benefits are from the latest available evaluation conducted in May 1997 at October 1995 price levels.

SUMMARIZED FINANCIAL DATA		
Estimated Federal Cost		$ 12,746,000
Estimated Non-Federal Cost		4,249,000
Cash Contribution	2,971,000	
Other Costs	1,278,000	
Total Estimated Project Cost		$ 16,995,000

	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Phase I		10	Being Determined
Phase II		10	Being Determined
Phase III		10	Being Determined
Entire Project		10	Being Determined

PHYSICAL DATA

Floodwall	(Phase III)	19,150 ft.
Levees	(Phase III)	1,220 ft.
Mitigation sites	(Phase II)	2
Pump Station Rehab	(Phase I)	1
Flood Warning Plan and System	(Phase I)	1

		ACCUM. PCT OF EST. FED. COST
Allocations to 30 September 1999	$ 638,000	
Conference Allowance for FY 2000	500,000	
Allocation for FY 2000	429,000 1/	
Allocations through FY 2000	1,067,000	9
Allocation Requested for FY 2001	934,000	16
Programmed Balance to Complete after FY 2001	10,745,000	100
Unprogrammed Balance to Complete after FY 2001	0	

1/ Reflects a reduction of $71,000 as savings and slippage.

JUSTIFICATION: Urban expansion in Hamilton County to the north and Hancock County to the east is impacting hydrologic characteristics of the urbanized watersheds in Marion County. The recent flooding of January 1991 forced evacuation of 500 to 600 homes and damaged many more. Roadways were flooded causing severe damage and loss of access; and several serious injuries were reported. Based on current flood damage survey data, a one percent annual flood event would cause damages of $57,930,000 (1995 price levels) in the Warfleigh area. The recommended plan reduces average annual flood damages by 90 percent in the Warfleigh area. The recommended plan would have a 0.35% annual exceedance probability.

Average annual benefits are as follows:

Annual Benefits	Amount
Flood Control	$ 2,898,000
Flood Insurance	49,000
Total	$ 2,947,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Lands and Damages Federal Administration	$ 23,600
Initiate Fish & Wildlife Facilities	56,000
Continue Pump Station Construction Contract	658,900
Planning, Engineering, and Design	125,500
Construction Management	70,000
Total	$ 934,000

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NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Const/Reimb	Annual OMRR&R Costs
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$ 1,243,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	35,000	
Pay approximately 17.3 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent and bear all costs of operation, maintenance, repair, replacement, and rehabilitation of flood control facilities.	2,971,000	21,000
Total Non-Federal Costs	$ 4,249,000	

The non-Federal sponsor will be required to make all payments concurrently with project construction.

Floodplain Management Requirement.

A flood warning preparedness plan will provide significant benefit to the project area and will continue to be developed in close cooperation with City officials. In addition, the sponsor will be required to participate in and comply with applicable Federal Floodplain Management and Flood Insurance Programs in accordance with Section 402 of Public Law 99-662 as amended by Section 202(c)of Public Law 104-303. Finally, the sponsor will be required to publicize floodplain information in the area concerned and provide this information to zoning and other regulatory agencies for their use in preventing unwise future development in the floodplain and in adopting such regulations as may be necessary to prevent unwise future development and to ensure compatibility with protection levels provided by the project. The sponsor must prepare a flood plain management plan within 1 year after signing a Project Cooperation Agreement for construction and must implement such plan not later than 1 year after completion of construction of the project.

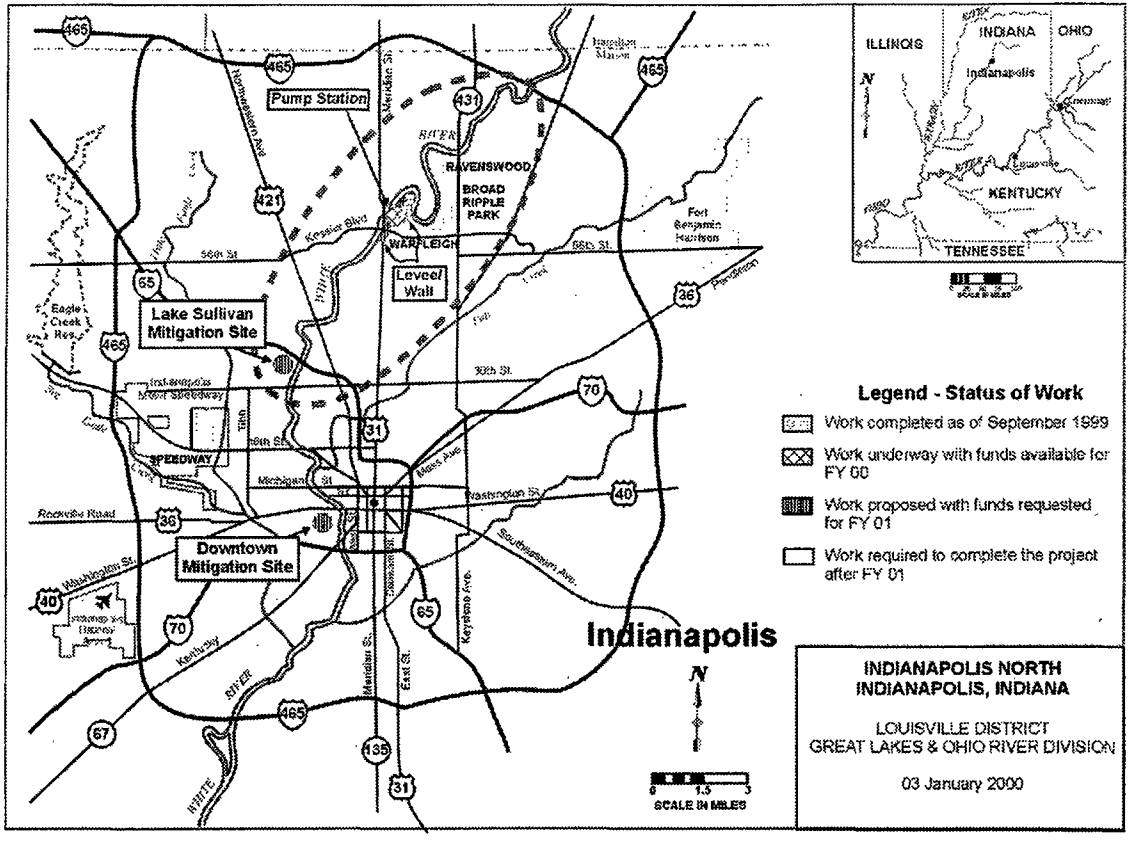
STATUS OF LOCAL COOPERATION: The non-Federal sponsor is the City of Indianapolis, Indiana. The sponsor has provided all necessary local assurances for this stage of project development. The City of Indianapolis is a legally constituted public body with the full power, authority, and capability to perform the terms of the Project Cooperation Agreement (PCA). The terms of the PCA have been discussed with the sponsor and they understand their responsibilities. Execution of the PCA is scheduled for July 2000. The City of Indianapolis will fund its share of project costs through revenue generated from the flood district tax which is part of the property tax mechanism for the entire county.

COMPARISON OF FEDERAL COST ESTIMATES: The Federal Cost estimate of $12,746,000 is the initial estimate presented to Congress.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: A draft Environmental Impact Statement was circulated in May 1996 to all concerned agencies and the public for review. A final EIS was completed in September 1996 incorporating agency and public comments.

OTHER INFORMATION: Funds to initiate Preconstruction Engineering and Design were received in FY 1996. Initial construction funds were received in FY 2000. Fish & Wildlife mitigation cost is $106,400.

The scheduled completion date is Being Determined.


Pump Station
Lake Sullivan Mitigation Site
Levee/ Wall
Downtown Mitigation Site
RAVENSWOOD
BROAD RIPPLE PARK
WARFLEIGH
SPEEDWAY
Indianapolis
ILLINOIS
INDIANA
OHIO
KENTUCKY
TENNESSEE
Legend - Status of Work
Work completed as of September 1999
Work underway with funds available for FY 00
Work proposed with funds requested for FY 01
Work required to complete the project after FY 01
INDIANAPOLIS NORTH
INDIANAPOLIS, INDIANA
LOUISVILLE DISTRICT
GREAT LAKES & OHIO RIVER DIVISION
03 January 2000
SCALE IN MILES

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Little Calumet River, Indiana (Continuing)

LOCATION: The Little Calumet River Basin, Northwest Indiana, Lake County.

DESCRIPTION: The project consists of replacing 9.5 miles of existing spoil bank levees with 12.1 miles of new levees, floodwalls, and closure and appurtenant structures between the Illinois-Indiana State line and Cline Avenue in Gary, Indiana; constructing 9.7 miles of set-back levees and appurtenant drainage structures; installing a flow control structure at Hart Ditch; permanent evacuation of 37 structures in the Black Oak area of Gary, Indiana; construct a betterment levee from Cline to Clark; modifying 7 miles of channel with 3 accompanying bridge culvert modifications; modifying 1 highway bridge; constructing 16.8 miles of hiking/biking trails and accompanying recreation support facilities, and preserving 788 acres of wildlife habitat. A Post Authorization Change Report was approved in May 1999 extending the eastern limit of the project to include the Marshal town area.

AUTHORIZATION: Water Resources Development Act of 1986.

REMAINING BENEFIT-REMAINING COST RATIO: 1.55 to 1 at 8 5/8 percent.

TOTAL BENEFIT-COST RATIO: 1.29 to 1 at 8 5/8 percent.

INITIAL BENEFIT-COST RATIO: 2.1 to 1 at 8 5/8 percent (FY 1990).

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluation approved in October 1994 at 1993 price levels.

SUMMARIZED FINANCIAL DATA		
Estimated Federal Cost		$134,509,000
Estimated Non-Federal Cost		49,491,000
Cash Contributions	12,941,000	
Other Costs	36,550,000	
Total Estimated Project Cost		$184,000,000

STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project	44	Being Determined

PHYSICAL DATA

Levees and Floodwalls	21.8 miles
Pumping Plant Modifications	17
Structures Removed	37
Structures Floodproofed	53
Channel Modification	7 miles
Hiking Trails	6.8 miles

		ACCUM. PCT. OF EST. FED. COST
Allocations to 30 September 1999	$62,505,000	
Conference Allowance for FY 2000	9,400,000	
Allocation for FY 2000	8,061,000 1/	
Allocations through FY 2000	70,566,000	52
Allocation Requested for FY 2001	5,343,000	56
Programmed Balance to Complete After FY 2001	58,600,000	
Unprogrammed Balance to Complete after FY 2001	0	

1/ Reflects $1,339,000 reduction assigned as savings and slippage.

JUSTIFICATION: Overbank flood damages occur to 8,600 structures, primarily residential, along the Little Calumet River in Indiana within the communities of Hammond, Munster, Griffith and Gary. The total value of these structures is in excess of $775 million. Flood damages also occur to commercial and public buildings, golf courses and the transportation network. The major highway transportation link between the Chicago metropolitan area and the eastern United States, Interstate 80/94, is susceptible to closure beginning at a 40-to 50-year flood event. Average annual benefits (October 1993 price levels) are estimated at

JUSTIFICATION: (continued)
$18,607,000. The project will provide essentially a 200-year level of flood protection. An estimated $35 million in flood damages were incurred and one life lost in the November 1990 flood, the most recent significant flood event. The communities of Hammond, Highland and Munster, IN were inundated. The President declared the area inundated by the November 1990 flood a National Disaster Area on December 6, 1990. The State of Indiana continues to rate the flood damage potential along the Little Calumet River as the most severe in the state. The project avoids the short-and long-term adverse impacts associated with the destruction or modification of wetlands by designating the existing wetland areas in the Gary reach for overbank flood storage, a vital requirement of the hydraulic operation and design of the project, and hence required project lands. Environmental attributes are being mitigated for, as well as, enhanced along the river corridor. Lake County, Indiana qualifies as an area of persistent and chronic unemployment. A minority plan has been developed that identifies construction contracts which can be set aside for small business contractors and minority owned/Section 8A contractors who exist in the project area. A 40 percent minority participation goal has been established for all future construction contracts for the Contractor's aggregate workforce in each trade. The project will create 424 man-years of labor during the twelve-year construction period.

Average annual benefits are as follows:

Annual Benefits	Amount
Flood Damage Prevention	$15,917,000
Recreation	468,000
Land Enhancement	2,222,000
Total	$18,607,000

FISCAL YEAR 2001: The requested amount of $5,343,000 will be applied as follows:

Continue construction on Pump Stations 1A and 1B	$ 1,500,000
Continue construction on Burr St. Levee	600,000
Continue construction on IV-1 North and South	2,643,000
Engineering and Design	200,000
Construction Management	400,000
Total	$ 5,343,000

NON-FEDERAL COST: In accordance with the cost sharing and financing requirements contained in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payment During Construction and Reimbursements	Annual Operation, Maintenance, Repair Rehabilitation, and Replacement Costs
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$17,186,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project, which may be reduced for credit allowed based on prior work (Section 104 of the Water Resource Development Act of 1986) after reductions for such credit have been made in the required cash payments.	18,916,000	
Pay one-half separable costs allocated to recreation and bear all costs of operation, maintenance, repair, rehabilitation and replacement of recreation facilities;	2,459,000	
Pay 5 percent of the costs allocated to flood control (other than non-structural measures) and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	8,353,000	150,000
Pay 25 percent of the first cost allocated to non-structural flood control measures.	1,951,000	
Pay 25 percent of the costs allocated to fish and wildlife enhancement, and pay 25 percent of the costs of operation, maintenance, repair, rehabilitation and replacement of the fish and wildlife facilities.	626,000	
Total Non-Federal Costs	$49,491,000	$ 150,000

STATUS OF LOCAL COOPERATION: The Little Calumet River Basin Development Commission is the local sponsor for the project. The Local Cooperation Agreement (LCA) was executed on August 16, 1990. The current non-Federal cost estimate of $49,491,000, which includes a cash contribution of $12,941,000, is an increase of $25,891,000 from the non-Federal cost estimate of $23,600,000 noted in the Local Cooperation Agreement, which included a cash contribution of $4,800,000. The non-Federal sponsor is financially capable and willing to contribute the non-Federal share. The local sponsor has received approval for Section 104 credits in the amount of $1,667,200.

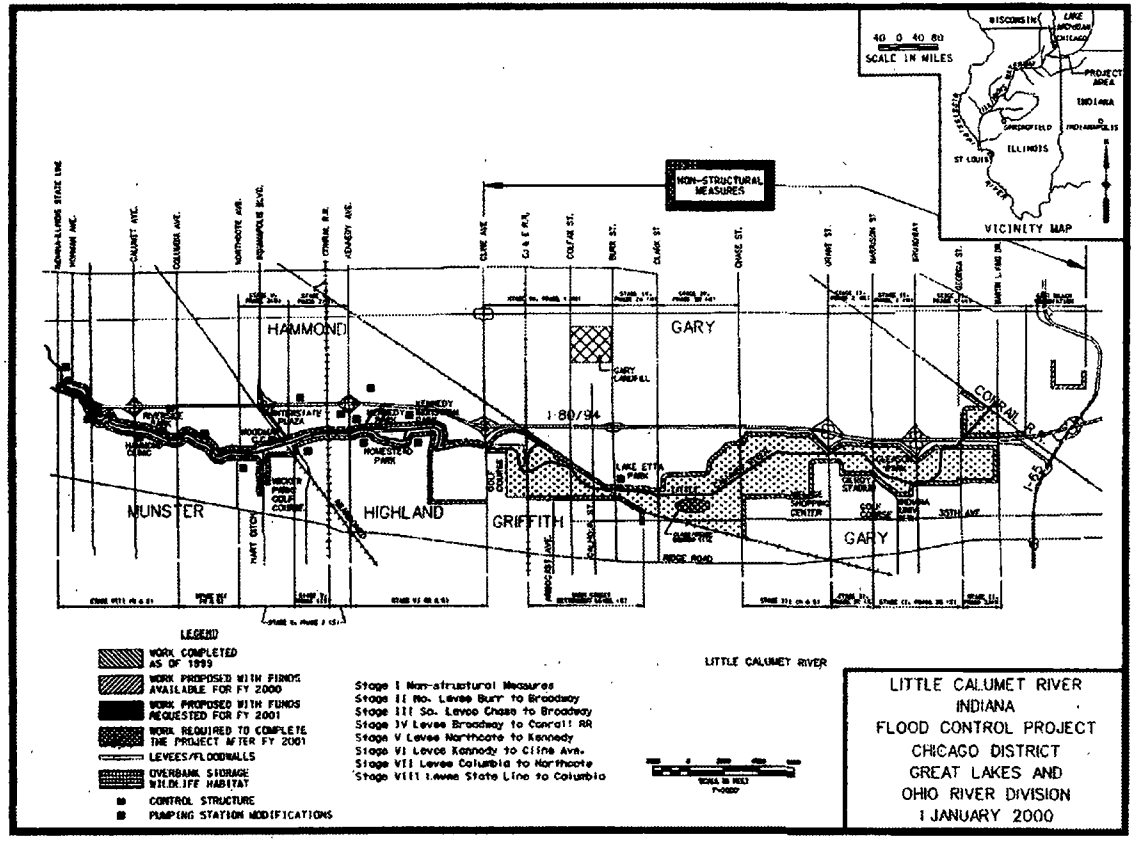
COMPARISON OF FEDERAL COST ESTIMATE: The current Federal cost estimate of $134,509,000 is an increase of $2,892,000 from the latest estimate ($131,617,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	$ 567,000
Authorized Modification	2,325,000
Total	$ 2,892,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement (EIS) was filed with the United States Environmental Protection Agency on February 3, 1984. The Record of Decision was signed on July 13, 1990. Environmental Assessments (EA) were subsequently prepared addressing potential borrow and disposal sites which were not covered in the EIS and the three Findings of No Significant Impact which were signed by the District Engineer on May 9, 1990, July 11,1991 and April 21, 1992. A supplemental Environmental Impact Statement was completed for the levee re-alignment, excavated ponding areas and new borrow sites. The Record of Decision was signed on June 23, 1995.

OTHER INFORMATION: Funds to initiate PED were appropriated in FY 1984 and funds to initiate construction were appropriated in FY 1990. Fish and wildlife mitigation and enhancement costs for this project are estimated at $4,163,000.

The scheduled completion date has changed from September 2008, the latest completion date presented to Congress (FY 2000), to Being Determined.


NON-STRUCTURAL MEASURES
HAMMOND
GARY
MUNSTER
HIGHLAND
GRIFFITH
I-80/94
CONRAIL R.R.
LITTLE CALUMET RIVER
VICINITY MAP
SCALE IN MILES
WISCONSIN
LAKE MICHIGAN
CHICAGO
PROJECT AREA
INDIANA
ILLINOIS
LEGEND
WORK COMPLETED AS OF 1999
WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER FY 2001
LEVEES/FLOODWALLS
OVERBANK STORAGE WILDLIFE HABITAT
CONTROL STRUCTURE
PUMPING STATION MODIFICATIONS
Stage I Non-structural Measures
Stage II No. Levee Burr to Broadway
Stage III So. Levee Chase to Broadway
Stage IV Levee Broadway to Conrail RR
Stage V Levee Northcote to Kennedy
Stage VI Levee Kennedy to Cline Ave.
Stage VII Levee Columbia to Northcote
Stage VIII Levee State Line to Columbia
LITTLE CALUMET RIVER
INDIANA
FLOOD CONTROL PROJECT
CHICAGO DISTRICT
GREAT LAKES AND
OHIO RIVER DIVISION
1 JANUARY 2000

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Metropolitan Louisville, Pond Creek, Kentucky (Continuing)

LOCATION: The project is located in the central and eastern portions of the 126 square mile Pond Creek watershed, in southern Jefferson County, Kentucky.

DESCRIPTION: The project consists of construction of detention basin storage at the Melco Detention Basin on Northern Ditch and the Vulcan Quarry Detention Basin on Fishpool Creek; channel enlargement along approximately 2.4 miles of Pond Creek and 1.5 miles of Northern Ditch; a 3.4 mile multipurpose maintenance road/hiking trail along the Pond Creek channel improvement; and a fifteen acre wetlands environmental restoration component at a site owned by the local sponsor. All work is programmed.

AUTHORIZATION: The Water Resources Development Act of 1996.

REMAINING BENEFIT-REMAINING COST RATIO: 3.44 to 1 at 7 3/4 percent.

TOTAL BENEFIT-COST RATIO: 2.33 to 1 at 7 3/4 percent.

INITIAL BENEFIT-COST RATIO: 2.78 to 1 at 7 3/4 percent (FY 1997).

BASIS OF BENEFIT COST RATIO: Benefits are from the Project Design Memorandum, dated May, 1995, at 1995 price levels.

SUMMARIZED FINANCIAL DATA		
Estimated Federal Cost		$13,524,000
Estimated Non-Federal Cost		$ 5,776,000
Cash Contribution	1,295,000	
Other Costs	4,481,000	
Total Estimated Project Cost		$19,300,000

STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project	35	Being Determined

PHYSICAL DATA	
Channel Improvement	3.9 miles
Detention Basin Storage	2.0 @ 1,600 acre/ft
Wetlands Env. Restoration	15.0 acres
Maint. Rd/Hike-Bike Trail	3.4 miles
Permanent Easements	65.7 acres

SUMMARIZED FINANCIAL DATA (Continued)

		ACCUM. PCT OF EST. FED. COST
Allocations to 30 September 1999	2,517,000	
Conference Allowance for FY 2000	3,251,000	
Allocation for FY 2000	1,200,000 1/	
Allocations through FY 2000	3,717,000	27
Allocation Requested for FY 2001	4,000,000	57
Programmed Balance to Complete after FY 2001	5,807,000	100
Unprogrammed Balance to Complete after FY 2001	0	

1/ Reflects a reduction of $463,000 assigned as savings and slippage and reprogramming of $1,588,000 from the project.

JUSTIFICATION: The project is located in southwestern Jefferson County, Kentucky and drains an area of approximately 71 square miles. Approximately 5,500 structures are located within the highly urbanized Pond Creek flood plain. Due to rapid residential and commercial development within the area, properties along Pond Creek and tributaries now have only a two year level of protection, leaving residential, commercial, and industrial structures vulnerable to disastrous flash floods. The flood of record occurred in March, 1964. A recurrence of this flood today would result in damages of approximately $106.0 million, under 1995 price levels and conditions of development. The most recent flood experienced in the basin, a five-year event, occurred in February, 1990 and caused damages to residential and commercial properties in the basin that totaled approximately $1 million.

Average annual benefits are as follows:

Annual Benefits	Amount
Flood Control	$ 3,999,000
Recreation	76,000
Total	$ 4,075,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Lands and Damages Federal Administration	$ 33,000
Continue Wildlife Facilities	5,000
Continue Channels and Canals	3,471,000
Planning, Engineering, and Design	186,000
Construction Management	305,000
Total	$ 4,000,000

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Const/Reimb	Annual OMRR&R Costs
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal area.	4,481,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.		
Pay approximately 5 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent and bear all costs of operation, maintenance, repair, replacement, and rehabilitation of flood control facilities.	908,000	68,000
Pay one-half of the separable costs allocated to recreation and bear all costs to operate, maintain, repair, replace, and rehabilitate recreation facilities.	249,000	1,000
Pay approximately 22.7 percent of the costs allocated to environmental restoration to bring the total non-Federal share of environmental restoration costs to 25 percent and bear all costs of operation, maintenance, repair, replacement, and rehabilitation of environmental restoration facilities.	140,000	1,000
Total Non-Federal Costs	$ 5,776,000	$ 70,000

NON-FEDERAL COST: (continued)
The non-Federal sponsor has agreed to make all payments concurrently with project construction.

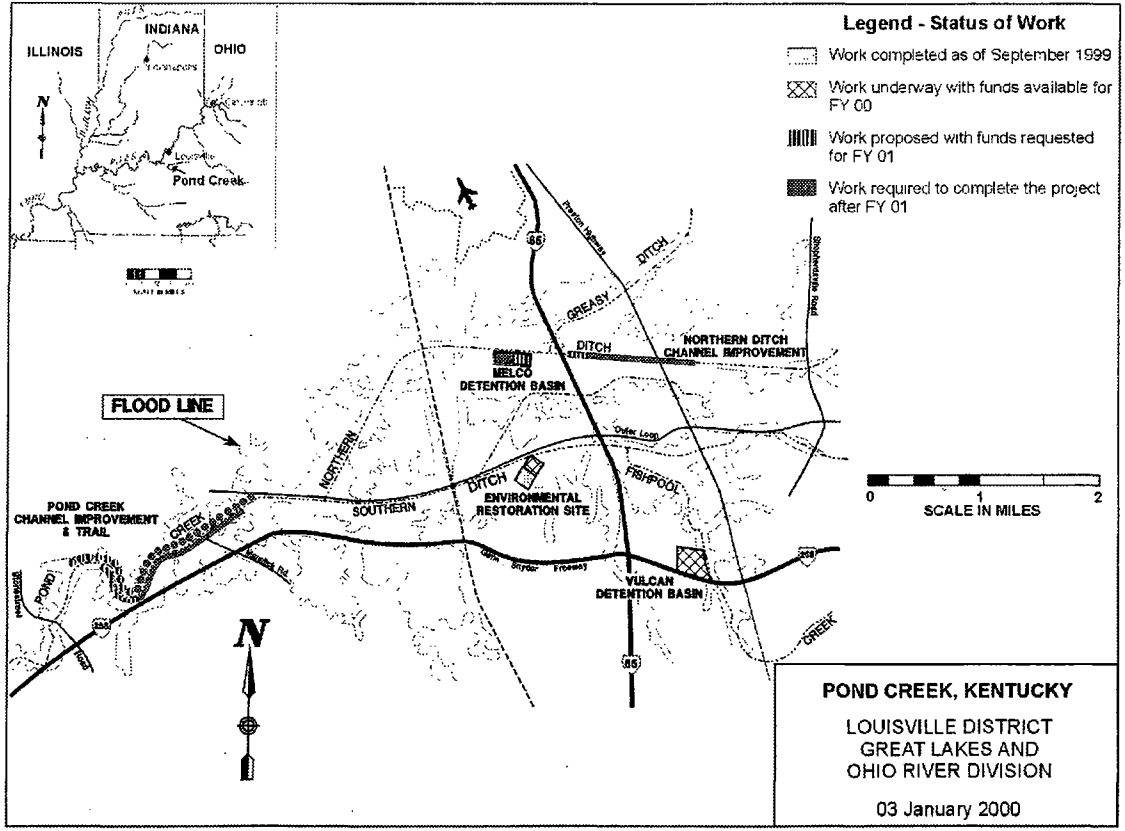
STATUS OF LOCAL COOPERATION: The non-Federal cost sharing partner is the Louisville and Jefferson County Metropolitan Sewer District (MSD). The MSD participated in the Feasibility Study for the Pond Creek project and has filed a Letter of Intent and Financial Capability Statement regarding its intention to cost share in the project. MSD also has furnished a copy of its Operating and Capital Budget Plan, which contains funding provisions for the project. The Project Cooperation Agreement was executed in March 1998.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $13,524,000 is an increase of $1,409,000 from the latest estimate ($12,115,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	$ 487,000
Design Changes	$ 922,000
Total	$1,409,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An Environmental Assessment and a Finding of No Significant Impacts (FONSI) have been signed and were included in the Interim Feasibility Report, dated March, 1994. In addition, a Section 404(b)(1) Evaluation has been completed and a 401 Water Quality Certification has been obtained from the Kentucky Division of Water.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1994 and funds to initiate construction were appropriated in FY 1997. The scheduled completion date has changed from September 2002, the date last presented to Congress (FY 2000), to Being Determined.


Legend - Status of Work
Work completed as of September 1999
Work underway with funds available for FY 00
Work proposed with funds requested for FY 01
Work required to complete the project after FY 01
INDIANA
ILLINOIS
OHIO
Pond Creek
FLOOD LINE
NORTHERN DITCH CHANNEL IMPROVEMENT
MELCO DETENTION BASIN
ENVIRONMENTAL RESTORATION SITE
VULCAN DETENTION BASIN
POND CREEK CHANNEL IMPROVEMENT & TRAIL
NORTHERN DITCH
SOUTHERN DITCH
GREASY CREEK
FISHPOOT CREEK
POND CREEK
0 1 2
SCALE IN MILES
N
POND CREEK, KENTUCKY
LOUISVILLE DISTRICT
GREAT LAKES AND
OHIO RIVER DIVISION
03 January 2000

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Metropolitan Region of Cincinnati, Duck Creek, Ohio (Continuing)

LOCATION: The project encompasses 3.2 miles of stream reach in the City of Cincinnati and the Village of Fairfax, in Hamilton County, Ohio.

DESCRIPTION: The recommended plan consists of 1,200 feet of stream channel relocation; 8,500 feet of streambank protection; 3,300 feet of earth levees; 7,100 feet of concrete floodwalls; 1,100 feet of triple box culvert, widening of one railroad bridge; demolition of one abandoned highway bridge; one pump station for interior drainage; one automated floodgate closure; one emergency access road; one flood emergency warning system; 32.1 acres of permanent easements and 10.0 acres of temporary easements; and environmental mitigation. All work is programmed.

AUTHORIZATION: Water Resources Development Act of 1996.

REMAINING BENEFIT-COST RATIO: 2.30 to 1 at 7 3/4 percent.

TOTAL BENEFIT-COST RATIO: 1.14 to 1 at 7 3/4 percent.

INITIAL BENEFIT-COST RATIO: 1.26 to 1 at 7 3/4 percent (FY 1997).

BASIS OF BENEFIT COST RATIO: Benefits are from the Project Design Memorandum for Duck Creek, Ohio, dated January 1996, at January 1996 price levels.

SUMMARIZED FINANCIAL DATA		
Estimated Federal Cost		$ 16,913,000
Estimated Non-Federal Cost		5,637,000
Cash Contribution	3,062,000	
Other Costs	2,575,000	
Total Estimated Project Cost		$ 22,550.000

STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project	18	Being Determined

PHYSICAL DATA	
Levees	3,300 ft.
Floodwalls	7,100 ft.
Access Road	1
Pump Station	1
Channel Relocation	1,200 ft.
Widen R.R. Bridge	1
Streambank Protection	8,500 ft.
Demolish Highway Bridge	1
Triple Box Culvert	1,100 ft.
Acres of Permanent Easements	32

SUMMARIZED FINANCIAL DATA (Continued):			ACCUM. PCT OF EST. FED. COST
Allocations to 30 September 1999	3,088,000		
Conference Allowance for FY 2000	2,266,000		
Allocation for FY 2000	1,443,000	1/	
Allocations through FY 2000	4,531,000		27
Allocation Requested for FY 2001	3,024,000		45
Programmed Balance to Complete after FY 2001	9,358,000		100
Unprogrammed Balance to Complete after FY 2001	0		

1/ Reflects a reduction of $323,000 as savings and slippage and reprogramming of $500,000 from the project.

JUSTIFICATION: Duck Creek suffers from frequent flash flooding affecting roads, utilities, 9 residential properties, and 32 commercial/industrial properties valued at $62.4 million; threatens over 1,000 jobs in manufacturing; and disrupts production. The most recent out-of-bank flooding causing property damage occurred in June 1997. Threatening flood conditions occurred 5 times in a four-month period during 1991, with plant closures during at least one of these events. The potential for frequent damaging floods and for less frequent but catastrophic flooding exists during any given year. The most recent significant flooding along Duck Creek occurred in 1982 and 1985. These two floods are estimated to have been a 25-year frequency event and a 10-year frequency event, respectively. A recurrence of these floods would cause damages estimated at $5.6 million and $1.2 million, respectively, in 1995 price levels and conditions of development. The recommended plan reduces average annual flood damages by 94 percent. The recommended plan provides a uniform 100 year level of protection for the three protected areas.

Average annual benefits are as follows:

Annual Benefits	Amount
Flood Control	$ 1,759,000
Advance Bridge Replacement	27,000
Total	$ 1,786,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Phase IV-A Construction Contract	$ 2,295,000
Initiate Phase IV-B Construction Contract	285,000
Continue Planning, Engineering and Design	136,000
Construction Management	308,000
Total	$ 3,024,000

287

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Const/Reimb	Annual OMRR&R Costs
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	2,359,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	216,000	
Pay approximately 13.58 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent and bear all costs of operation, maintenance, repair, replacement, and rehabilitation. of flood control facilities.	3,062.000	45,000
Total Non-Federal Costs	$ 5,637,000	$ 45,000

The non-Federal sponsors have agreed to make all payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The non-Federal sponsors are the City of Cincinnati, Ohio and the Village of Fairfax, Ohio. The terms of the Project Cooperation Agreement (PCA) have been discussed with each sponsor and each understands its responsibilities. The PCA was executed in December 1997. In May, 1993, the Cincinnati City Council approved a rate increase by the Cincinnati Stormwater Management Utility that included funds for the city's share of project costs. The Village of Fairfax will fund its share of project costs from either the proceeds of a bond issue or an increase in its earnings tax.

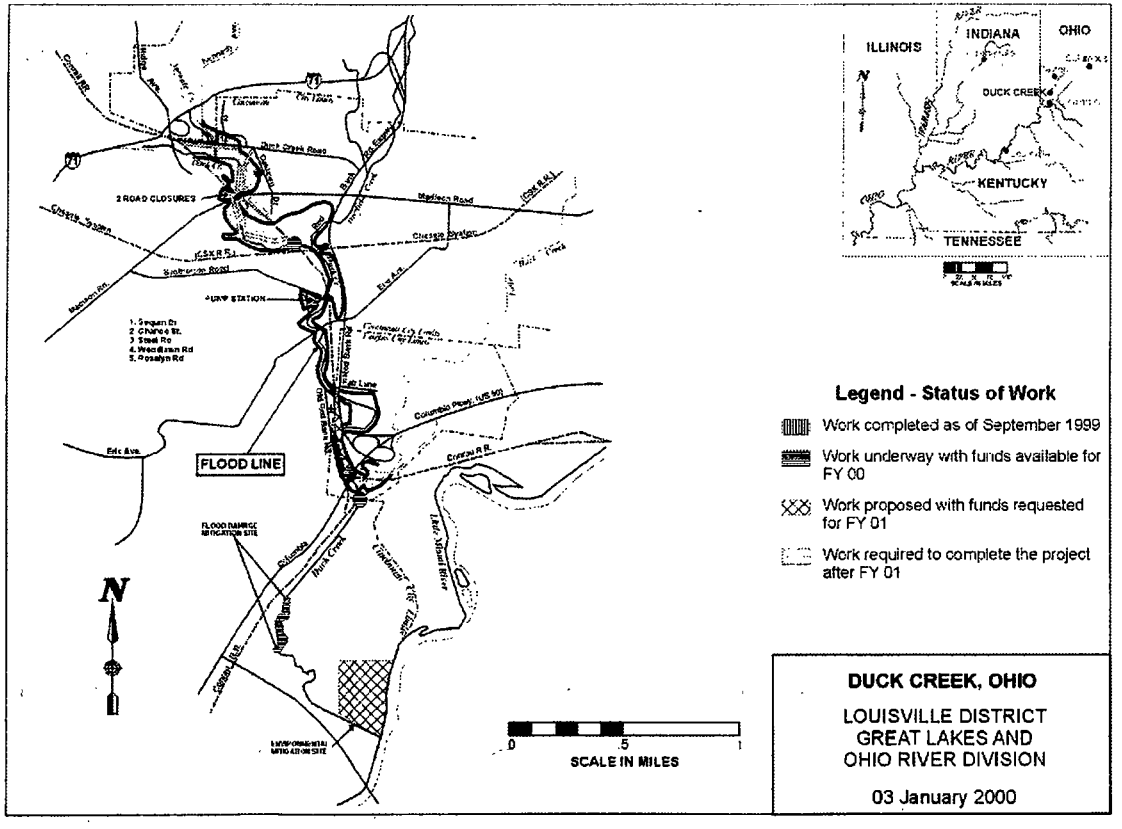
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $16,913,000 is an increase of $3,878,000 from the latest estimate ($13,035,000) presented to Congress (FY 2000). The change includes the following items:

Item	Amount
Design Changes	$ 3,529,000
Price Escalation on Construction Features	$ 359,000
Total	$ 3,888,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An Environmental Assessment was conducted and a Finding of No Significant Impact was signed on January 14, 1994.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1994. Funds to initiate construction were appropriated in FY 1997.

The scheduled physical completion date has been changed from September 2002, the date last submitted to Congress (FY 2000), to Being Determined.


ILLINOIS
INDIANA
OHIO
KENTUCKY
TENNESSEE
DUCK CREEK
2 ROAD CLOSURES
FLOOD LINE
N
0
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1
SCALE IN MILES
Legend - Status of Work
Work completed as of September 1999
Work underway with funds available for FY 00
Work proposed with funds requested for FY 01
Work required to complete the project after FY 01
DUCK CREEK, OHIO
LOUISVILLE DISTRICT
GREAT LAKES AND
OHIO RIVER DIVISION
03 January 2000

APPROPRIATION TITLE: Construction, General - Local protection (Flood Control)

PROJECT: Mill Creek, Ohio (Continuing)

LOCATION: The project is located along a 17.5 mile length of Mill Creek in Hamilton County, Ohio, and the 3/4-mile length of East Fork in Hamilton County, Ohio. Lower Mill Creek is in the commercial and industrial heart of the Cincinnati metropolitan area in the southwestern portion of the State.

DESCRIPTION: The project includes 17.5 miles of channel improvement, 2 miles of levees, 3 pumping plants, modification of highway and railroad bridges, and the addition of 2 pumping units at the existing Mill Creek barrier dam. A paved greenbelt within the channel right-of-way will be provided for high-density urban oriented recreational use. Approximately, 6.1 miles of channel improvement and the addition of 2 pumping units at the existing barrier dam have been completed. A General Reevaluation Report and completion of "punch list" items at completed sections are programmed. All other remaining work is unprogrammed.

AUTHORIZATION: 1970 Flood Control Act

REMAINING BENEFIT-REMAINING COST RATIO: 3.8 to 1 at 5 5/8 percent.

TOTAL BENEFIT-COST RATIO: 3.3 to 1 at 5 5/8 percent.

INITIAL BENEFIT-COST RATIO: 3.2 to 1 at 5 5/8 percent (FY 1975).

BASIS OF BENEFIT-COST RATIO: Design Memorandum No. 3, approved in September 1975 at 1975 price levels.

SUMMARIZED FINANCIAL DATA				STATUS (1 JAN 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost			$ 163,000,000	Entire Project	54	Indefinite
Programmed Construction		100,142,000				
Unprogrammed Construction		62,858,000				
Estimated Non-Federal Cost			51,210,000			
Programmed Construction		15,493,000				
Cash Contribution	894,000					
Other Costs	14,599,000					
Estimated Non-Federal Cost						
Unprogrammed Construction		35,717,000				
Cash Contributions	4,892,000					
Other Costs	30,825,000					

PHYSICAL DATA	
Channel Improvements	17.5 miles
Levees	2.0 miles
Pumping Plants	3
Relocations:	
Railroad Bridges	7
Hwy & Road Bridges	17

		ACCUM. PCT OF EST. FED. COST
Total Estimated Programmed Construction Cost	$ 115,635,000	
Total Estimated Unprogrammed Construction Cost	98,575,000	
Total Estimated Project Cost	$ 214,210,000	
Allocations to 30 September 1999	98,857,000	60
Conference Allowance for FY 2000	915,000	
Allocation for FY 2000	785,000 1/	
Allocations thru FY 2000	99,642,000	61
Allocation Requested for FY 2001	500,000	62
Programmed Balance to Complete after FY 2001	0	
Unprogrammed Balance to Complete after FY 2001	62,858,000	100

1/Reflects a reduction of $130,000 assigned as savings and slippage.

JUSTIFICATION: The project would protect the Mill Creek Basin from residual flood damages resulting from headwater flooding. On the average, damaging headwater floods occur about twice yearly. As the result of the small size of the Mill Creek drainage area, the basin is potentially subject to severe flooding from any type storm with limited time available for evacuation. The area contains about 3,000 acres of intensively developed land and a broad mix of industrial, commercial, and residential development, and a complex network of transportation facilities including roads, streets, interstate highways, extensive railroad yards, truck and spur lines, and utilities. Large volumes of toxic substances are stored and utilized in the flood plain by manufacturers. Flammable and volatile liquids are also present in the flood plain in large quantities. Flooding creates extreme hazards in the areas of public health, fire, and explosion. The value of property in the flood plain of Hamilton County is about $2.7 billion (1989 values). About 5,000 persons reside and 20,000 persons are employed in the flood plain. However, the entire population of the metropolitan area of Cincinnati is adversely affected by Mill Creek flooding. The maximum flood of record occurred in March 1913 and the January 1959 flood was the second largest flood of record. A recurrence of the January 1959 flood, under current conditions of development, would cause damages estimated at $26,661,000 (1992 values). A damaging flood occurred in September 1979.

The project would provide protection for the developed portions of the Mill Creek flood plain for a flood having a frequency of one or more occurrences every 100 years from the barrier dam (stream mile 0.3) upstream to I-275 (stream mile 18.2). In addition, the project would provide specific-use recreation activities along the length of the Mill Creek main stem in Hamilton County. Average annual benefits are estimated at $18,865,000 based on January 1975 price levels.

Annual Benefits	Amount
Flood Control	$18,295,000
Recreation	570,000
Total	$18,865,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

General Reevaluation Report	$ 500,000
Total	$ 500,000

NON-FEDERAL COSTS: In accordance with cost sharing and financing concepts reflected in the 1970 Flood Control Act, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, and Replacement Costs
Provide all of lands, easements, and right-of-way of flood control facilities.	$ 16,278,000	
Modify or relocate bridges (except railroad bridges) and utilities where necessary in construction of the project and bear all costs for operation. maintenance and replacement of flood control facilities.	$ 29,146,000	$ 120,000
Pay a portion of the cost of the recreation facilities which, when added to the cost of recreation lands, would amount to 50 percent of the separable cost of recreation.	5,786,000	119,000
Total Non-Federal Costs	$ 51,210,000	$ 239,000

STATUS OF LOCAL COOPERATION:

The Millcreek Valley Conservancy District is the responsible cooperating agency for all required assurances.

An assurance agreement covering local cooperation requirements for the project consistent with Section 221 of the 1970 Flood Control Act and the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 was executed by the Conservancy District on 6 February 1975 and for the Secretary of the Army on 28 March 1975. A recreation cost-sharing contract was executed by the Conservancy District 25 February 1975 and approved for the Secretary of the Army 28 May 1975.

Ohio Department of Natural Resources permits relating to construction of the various sections of the entire Mill Creek project have been either procured or waived.

The authorization-of-entry for Sections 7A, 3, 2, 4A, and 1 were executed by the local sponsor 20 September 1979, 14 December 1981, 20 June 1983, 24 March 1986, and 11 September 1989, respectively.

An Operation and Maintenance Agreement, wherein the Mill Creek Valley Conservancy District assumes responsibility for sections for which "punch list" work has been completed, was executed on 7 August 1998.

STATUS OF LOCAL COOPERATION: (continued)
A Contributed Funds Memorandum of Agreement, wherein non-Federal public agencies contribute toward the costs of the General Reevaluation Report, was executed on 7 August 1998.

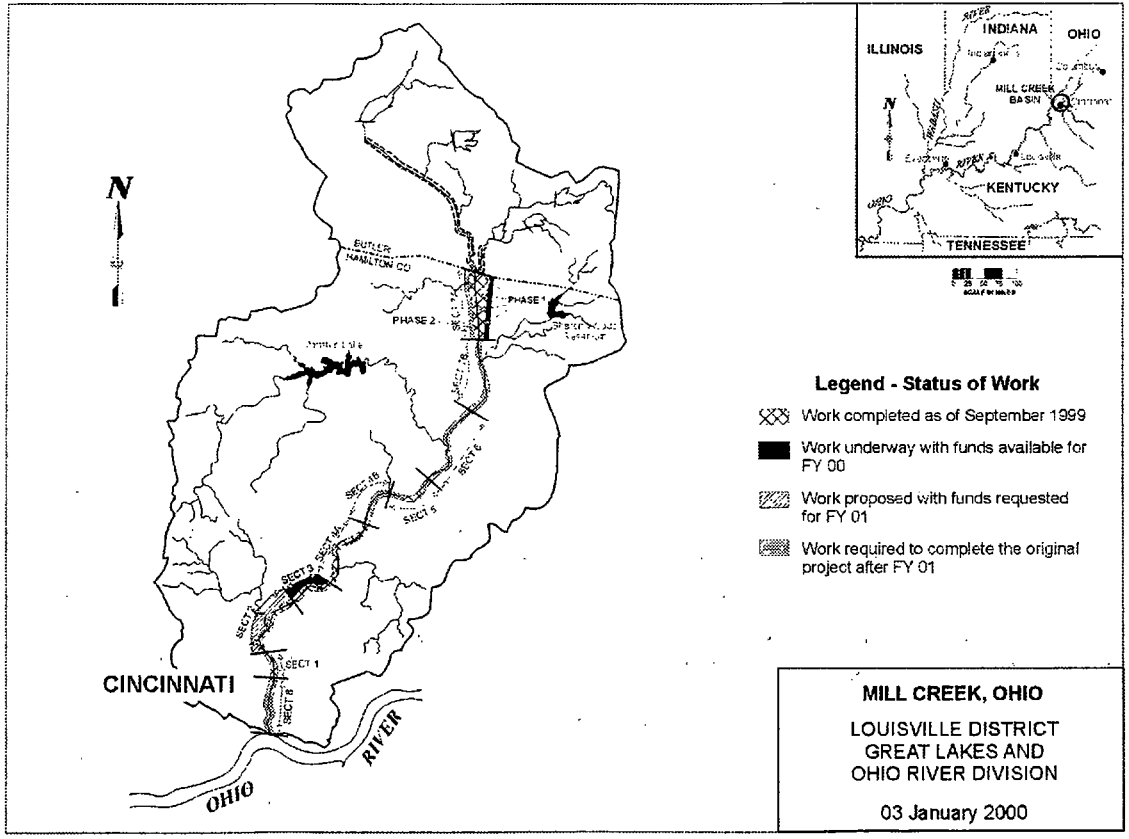
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $163,000,000 is the same as the latest estimate presented to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: A final Environmental Impact Statement (survey scope) was filed with CEQ on 7 October 1970, and included in the Authorization Report, House Document no 91-413. The final Environmental Impact Statement was filed with CEQ on 17 October 1974.

OTHER INFORMATION: Funds to initiate preconstruction planning were appropriated in FY 1972 and funds to initiate construction were appropriated in FY 1975.

The current non-Federal cost estimate of $51,210,000 (Oct 92) is an increase of $30,396,000 over the approved estimate ($20,814,000 - Oct 74) in the local cooperation agreement. This increase is based on price level adjustments.

The scheduled physical completion date has been changed from Indefinite, the date last submitted to Congress (FY 2000), to Being Determined.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BUTLER
HAMILTON CO
PHASE 1
PHASE 2
SECT 7
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SECT 2
SECT 1
CINCINNATI
OHIO
RIVER
INDIANA
OHIO
ILLINOIS
MILL CREEK
BASIN
KENTUCKY
TENNESSEE
Legend - Status of Work
Work completed as of September 1999
Work underway with funds available for FY 00
Work proposed with funds requested for FY 01
Work required to complete the original project after FY 01
MILL CREEK, OHIO
LOUISVILLE DISTRICT
GREAT LAKES AND
OHIO RIVER DIVISION
03 January 2000

APPROPRIATION TITLE: Construction, General - Local Protection Project (Flood Control)

PROJECT: West Columbus, Ohio (Continuing)

LOCATION: The project is located in Columbus, Ohio, adjacent to the downtown area, in Franklin County.

DESCRIPTION: The proposed project consists of a 5.2 mile levee/floodwall system; 14 gate closures; interior drainage facilities; two new pump stations; and reworking of two existing pump stations. The protected area contains approximately 1,200 acres and is completely urban with a mix of residential, industrial, and commercial development. The project will provide protection from the standard project flood. All work is programmed.

AUTHORIZATION: The Water Resources Development Act of 1988, as amended by the Water Resources Development Act of 1990.

REMAINING BENEFIT-REMAINING COST RATIO: 4.8 to 1 at 6 7/8 percent.

TOTAL BENEFIT-COST RATIO: 1.9 to 1 at 6 7/8 percent.

INITIAL BENEFIT-COST RATIO: 1.3 to 1 at 8 3/4 percent (FY 1993).

BASIS OF BENEFIT-COST RATIO: Benefits are from the Design Refinement Report, dated August 1997.

SUMMARIZED FINANCIAL DATA

Estimated Federal Cost		$ 97,000,000
Estimated Non-Federal Cost		32,800,000
Cash Contributions	10,900,000	
Other Costs	21,900,000	
Total Estimated Project Cost		$129,800,000

STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project	55	Being Determined

PHYSICAL DATA

Levee and Floodwall:
7.2 miles of levee/floodwall.
Heights range from 2 feet to 18 feet.
Gate Closures: 14 (1,100 feet)
Lands and Damages: 198 acres easement
Pump Stations: 2 (120,000 & 80,000 GPM)

SUMMARIZED FINANCIAL DATA (Continued)

		ACCUM. PCT. OF EST. FED. COST
Allocations to 30 September 1999	$ 59,799,000	
Conference Allowance for FY 2000	16,000,000	
Allocation for FY 2000	10,035,000 1/	
Allocations through FY 2000	69,834,000	72
Allocation Requested for FY 2001	$ 6,000,000	78
Programmed Balance to Complete after FY2001	21,166,000	
Unprogrammed Balance to Complete after FY2001	0	

1/ Reflects a reduction of $2,279,000 assigned as savings and slippage, and $3,686,000 reprogrammed from the project.

JUSTIFICATION: The West Columbus area contains a mix of residential, commercial, and industrial development that is subject to flooding. The maximum flood of record occurred in March, 1913, and the second most severe and the most recent flooding at Columbus occurred in January, 1959. A recurrence of these floods would cause damages of $407,500,000 and $308,500,000 respectively. The current value of the property subject to flooding is $540,000,000.

Average annual benefits for the project total $22,400,000, all of which are for urban flood damage reduction.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Levee and Floodwall Construction	$4,900,000
Engineering and Design	500,000
Construction Management	600,000
Total	$ 6,000,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resource Development Act of 1986, the non-federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments during Construction And Reimbursements	Annual Operation, Maintenance, Repair, Replacement, and Rehabilitation
Provide lands, easements, rights of way, and borrow and dredged or excavated material disposal areas.	$4,445,000	
Modify or relocate buildings. utilities. roads. bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	17,478,000	
Pay one-half of the separable costs allocated to recreation (except recreational navigation) and bear all costs of operation, maintenance, repair, replacement, and rehabilitation of recreation facilities.	745,000	
Pay approximately 7.9 percent of the cost allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, and bear all costs of operation, maintenance, repair, replacement and rehabilitation of flood control facilities.	10,132,000	$185,000
Total Non-Federal Costs	$32,800,000	$185,000

The non-Federal sponsor has agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The non-Federal sponsor is the city of Columbus, Ohio. A Project Cooperation Agreement with the City was executed in July 1993, and was amended in January 1999 to include the downstream realignment area. The City has provided $6,935,000 of its cash contribution for the project.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $97,000,000 is an increase of $5,300,000 from the latest estimate ($91,700,000) presented to Congress (FY 2000). This change includes the following items.

Item	Amount
Price Escalation on Construction Features	$2,079,000
Post Contract Award and Other Estimating Adjustments (including contingency adjustments)	3,221,000
Total	$5,300,000

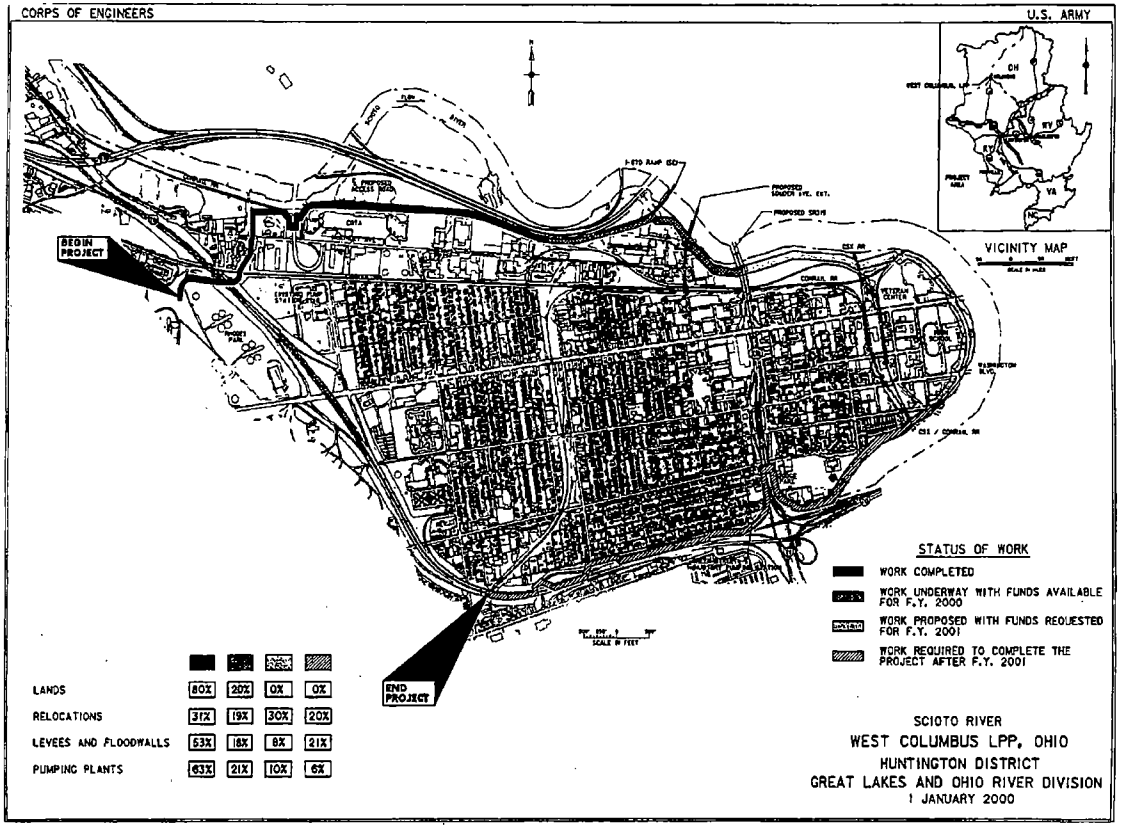
STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) were signed in November 1986. A revised EA and FONSI were signed in April 1993.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1989 and funds to initiate construction were appropriated in FY 1993.

Award of the first construction contract, Dry Run Levee Phase IA, occurred in September 1993. A contract with the Ohio Department of Transportation (ODOT) for the construction by ODOT of gate closures at Souder Avenue and S.R. 315 and for modification of the I-670 embankment was executed on March 3, 1994. ODOT will accomplish this work as part of its ongoing highway construction efforts within the project area. The contract for Phase IB of Dry Run levee was awarded in April, 1995. The contract for Phase IIA was awarded in March 1996. The contract for Phase IIB Dodge Park pump station was awarded in May 1996. The contract for Phase IIC was awarded in August 1997. The contract for Phase IID was awarded in July 1998. The contract for Phase IIE was awarded in June 1999. The contract for Phase IIIA was awarded in July 1999.

A new downstream alignment for the project was approved in December 1997 due to engineering necessity.

The scheduled physical completion date has been changed from September 2004, the date last submitted to Congress (FY 2000), to Being Determined.


CORPS OF ENGINEERS
U.S. ARMY
BEGIN PROJECT
END PROJECT
VICINITY MAP
STATUS OF WORK
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR F.Y. 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR F.Y. 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER F.Y. 2001
LANDS 80% 20% 0% 0%
RELOCATIONS 31% 19% 30% 20%
LEVEES AND FLOODWALLS 53% 18% 8% 21%
PUMPING PLANTS 63% 21% 10% 6%
SCIOTO RIVER
WEST COLUMBUS LPP, OHIO
HUNTINGTON DISTRICT
GREAT LAKES AND OHIO RIVER DIVISION
1 JANUARY 2000

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Saw Mill Run, Pittsburgh, Pennsylvania (Continuing)

LOCATION: Saw Mill Run is a tributary to and enters the Ohio River from the left descending bank at River Mile 0.7. The project is located at the mouth of Saw Mill Run in the West End area of the city of Pittsburgh, Pennsylvania in Allegheny County.

DESCRIPTION: The proposed Saw Mill Run Local Flood Protection Project extends 4,700 feet from the stream's mouth. The work consists of channel deepening and realignment, channel paving, streambank stabilization, gravity and retaining walls, utility relocations, and the installation of two upstream flood warning gages. All work is programmed.

AUTHORIZATION: Water Resource Development Act of 1986 (Public Law 99-662), as modified by Water Resources Development Act of 1996.

REMAINING BENEFIT - REMAINING COST RATIO: 1.81 to 1 at 6 7/8 percent.

TOTAL BENEFIT - COST RATIO: 1.37 to 1 at 6 7/8 percent.

BASIS OF BENEFIT - COST RATIO: Benefits are from the Saw Mill Run Flood Protection Project General Reevaluation Report, dated January, 1994, at October, 1993 price levels.

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SUMMARIZED FINANCIAL DATA			
Estimated Federal Cost			$10,575,000
Programmed Construction		$10,575,000	
Unprogrammed Construction			
Estimated Non-Federal Cost			$ 3,525,000
Programmed Construction		3,525,000	
Cash Contributions	$ 2,395,000		
Other Costs	1,130,000		
Unprogrammed Construction		0	
Cash Contributions	$ 0		
Other Costs	0		
Total Estimated Programmed Construction			$14,100,000

	STATUS (1 JAN 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project		26	Being Determined
PHYSICAL DATA			
Common Excavation	67,000 CY		
Rock Excavation	780 CY		
Dredging	1,900 CY		
Compacted Fill	4,300 CY		
Concrete Gravity Wall	590 CY		
Post and Panel Walls	1 Job		

SUMMARIZED FINANCIAL DATA (continued):

		ACCUM. PCT.OF EST. FED.COST
Total Estimated Unprogrammed Construction	0	
Total Estimated Project Cost	$14,100,000	
Allocations to 30 September 1999	$ 2,719,000	
Conference Allowance for FY 2000	$ 3,500,000	
Allocation for FY 2000	$ 601,000 1/	
Allocation through FY 2000	$ 3,320,000	31
Allocation requested for FY 2001	$ 4,300,000	72
Programmed Balance to Complete after FY 2001	2,955,000	
Unprogrammed Balance to Complete after FY 200	0	

1/ Reflects a reduction of $84,000 for savings and slippage and $2,401,000 reprogrammed from the project in FY 2000.

JUSTIFICATION: Saw Mill Run drains an area of 19.4 square miles in Allegheny County, Pennsylvania, with the lower half of the drainage area located within the Pittsburgh city limits. The topography is hilly and the flood plain is narrow, with about 75 percent of the basin in areas of urban development. The proposed project is designed to protect a combination of residential, commercial and light industrial properties, valued at $13,200,000, from flooding. The maximum flood of record occurred in 1943, at which time flood damages of approximately $300,000 (1993 value $6,000,000) were incurred. Low level flooding has occurred regularly in the drainage area during periods of moderate rain. The project will provide protection from the 20 year flood event. The average annual damages are $94,000 with the project and $1,103,000 without the project.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Construction	$ 3,860,000
Continue Planning, Engineering, and Design	80,000
Continue Construction Management	360,000
Total	$ 4,300,000

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments during Construction and Reimbursements	Annual Operation, Maintenance, Repair, Replacement, and Rehabilitation Costs
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$ 860,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	270,000	
Pay approximately 17 percent of the cost allocated to flood control to bring the total non-federal share of flood control costs to 25 percent and bear all costs of operation, maintenance, repair, replacement, and rehabilitation.	2,395,000	83,000
Total Non-Federal Costs	$ 3,525,000	$ 83,000

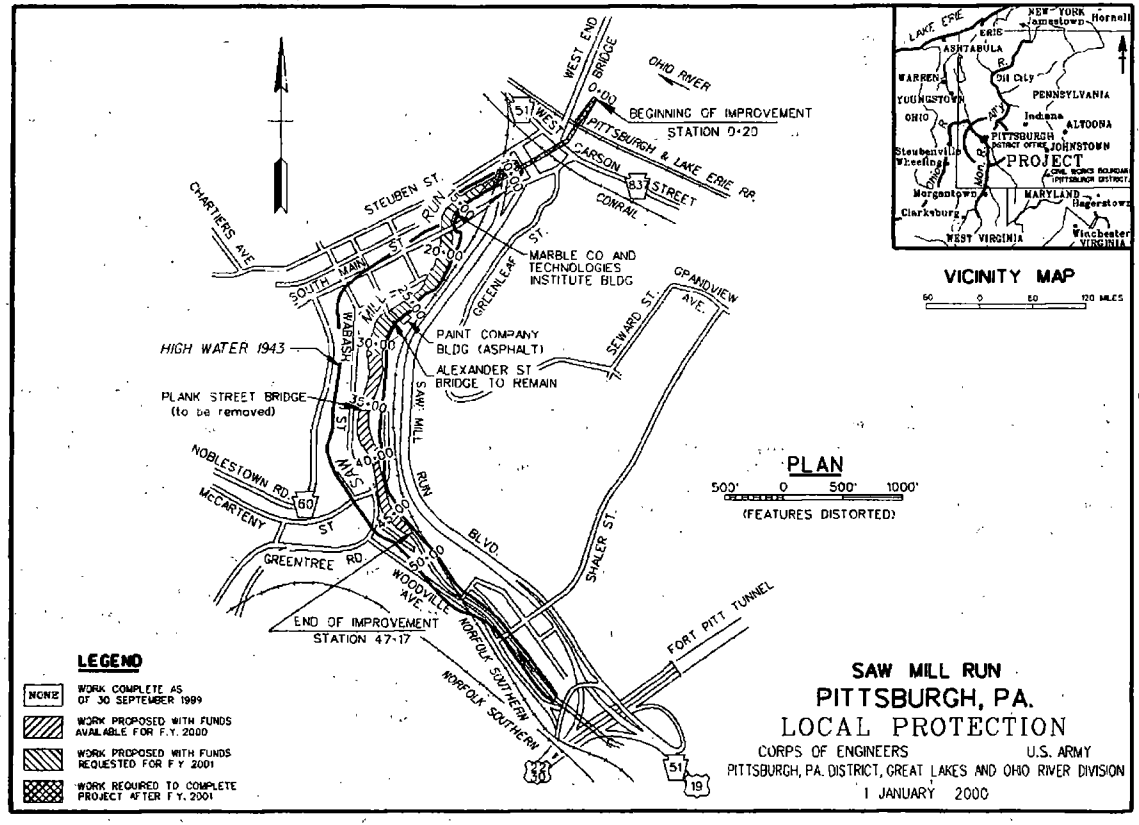
The non-Federal sponsor will be required to make all payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The non-federal cost sharing partner is the city of Pittsburgh, Pennsylvania. By letter dated January 19, 1993, the city expressed its assurance that it would serve as the local sponsor for the project, if funded for construction. The Project Cooperation Agreement was executed in October 1997. Real Estate acquisition, to be done by the Corps for the City of Pittsburgh, was initiated in FY 1998 and will be completed in FY 2000. The construction contract is scheduled for award in June 2000.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $10,575,000 is the same as last presented to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An environmental assessment was completed during the reevaluation study, and a signed Finding of No Significant Impacts (FONSI) was included in the General Reevaluation Report, dated January, 1994.

OTHER INFORMATION: The scheduled physical completion date has been changed from September 2002, the date last submitted to Congress (FY 2000), to Being Determined.


BEGINNING OF IMPROVEMENT
STATION 0+20
WEST END BRIDGE
OHIO RIVER
PITTSBURGH & LAKE ERIE RR.
CARSON STREET
CONRAIL
STEUBEN ST.
CHARTIERS AVE.
SOUTH MAIN ST.
RUN
MARBLE CO AND TECHNOLOGIES INSTITUTE BLDG
GREENLEAF ST.
GRANDVIEW AVE.
SEWARD ST.
HIGH WATER 1943
PAINT COMPANY BLDG (ASPHALT)
ALEXANDER ST BRIDGE TO REMAIN
PLANK STREET BRIDGE (to be removed)
SAW MILL RUN BLVD.
NOBLESTOWN RD.
McCARTENY ST.
GREENTREE RD.
WOODVILLE AVE.
END OF IMPROVEMENT
STATION 47+17
SHALER ST.
FORT PITT TUNNEL
NORFOLK SOUTHERN
PLAN
500' 0 500' 1000'
(FEATURES DISTORTED)
LEGEND
NONE WORK COMPLETE AS OF 30 SEPTEMBER 1999
WORK PROPOSED WITH FUNDS AVAILABLE FOR F.Y. 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR F Y 2001
WORK REQUIRED TO COMPLETE PROJECT AFTER F Y. 2001
LAKE ERIE
NEW YORK
ERIE
ASHTABULA
WARREN
OIL CITY
YOUNGSTOWN
PENNSYLVANIA
OHIO
ALTOONA
PITTSBURGH
JOHNSTOWN
PROJECT
Steubenville
Wheeling
Morgantown
MARYLAND
Hagerstown
Clarksburg
WEST VIRGINIA
Winchester
VIRGINIA
VICINITY MAP
60 0 60 120 MILES
SAW MILL RUN
PITTSBURGH, PA.
LOCAL PROTECTION
CORPS OF ENGINEERS U.S. ARMY
PITTSBURGH, PA. DISTRICT, GREAT LAKES AND OHIO RIVER DIVISION
1 JANUARY 2000

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Levisa and Tug Forks of the Big Sandy River and Upper Cumberland River, West Virginia, Virginia and Kentucky (Continuing)

LOCATION: The Levisa and Tug Forks are situated in southwestern West Virginia, southeastern Kentucky, and western Virginia and converge at Fort Gay, West Virginia, and Louisa, Kentucky, to form the Big Sandy River. The Levisa Fork Basin encompasses 2,326 square miles. The project area includes the mainstem Levisa Fork from Louisa, Kentucky, to Grundy, Virginia (approximately 100 stream miles excluding Fishtrap Lake), and the mainstem Russell Fork from its confluence with the Levisa Fork, to and including Haysi, Virginia (approximately 31 stream miles). Projects are located in Pike County, Floyd County, Johnson County, and Lawrence County in Kentucky and Buchanan County, Dickenson County in Virginia. The Tug Fork Basin encompasses 1,555 square miles. The project area is comprised of approximately 140 stream miles from Louisa, Kentucky to Welch, West Virginia. Projects are located in Pike County, and Martin County in Kentucky, and Wayne County, Mingo County and McDowell County in West Virginia. The Upper Cumberland River Basin encompasses 1,977 square miles. Approximately 132 stream miles of the Cumberland River from its origin at Harlan, Kentucky, to Cumberland Falls are included in the project area. Projects are located in Harlan County, Knox County, Bell County, and Whitely County in Kentucky.

DESCRIPTION: The project includes levees, floodwalls, pump stations, and a flood control reservoir; the floodproofing and evacuation of structures located in the flood hazard areas; and development of relocation sites for the affected areas. Work is complete at Williamson, West Virginia; Barbourville, Kentucky; South Williamson, Kentucky; and Pineville, Kentucky. Work at Matewan, West Virginia, Hatfield Bottom area of Matewan, West Virginia, Wayne County, West Virginia, McDowell County, West Virginia, Upper and Lower Mingo County, West Virginia, Harlan, Kentucky, Williamsburg, Kentucky, Pike County (Tug Fork), Kentucky, Martin County, Kentucky, Middlesborough, Kentucky, and Grundy, Virginia are under way with available funds. Detailed Project Reports for Town of Martin, Kentucky, Pike County (Tug Fork) Tributaries, Kentucky, Buchanan County, Virginia, Levisa Fork and Upper Cumberland River Basins are under way with available funds. Flood warning systems for the Tug and Levisa basins are under way with available funds. The Grundy, Virginia, non-structural project and the Harlan County, Kentucky, Detailed Project Report are programmed. All other work is unprogrammed. (See status and completion schedule).

AUTHORIZATION: The Energy and Water Development Appropriations Act, 1981, and Water Resources Development Act of 1986.

REMAINING BENEFIT-REMAINING COST RATIO: Not Applicable. 1/

TOTAL BENEFIT-COST RATIO: Not Applicable. 1/

INITIAL BENEFIT-COST RATIO: Not Applicable. 1/

BASIS OF BENEFIT-COST RATIO: Not Applicable. 1/

1/ An overall project benefit-cost ratio was not computed because the Congress, in the Energy and Water Development Appropriations Act, 1981, found that the benefits attributable to the flood control measures authorized by the Act exceed their costs.

SUMMARIZED FINANCIAL DATA:

				ACCUM. PCT. OF EST FED. COST
Estimated Federal Cost			$ 1,853,766,000	
Programmed Construction	$ 791,763,000			
Unprogrammed Construction	1,062,003,000			
Estimated Non-Federal Cost			107,158,000 2/	
Programmed Construction		38,216,000		
Cash Contributions	$ 8,316,000			
Other Costs	29,900,000			
Unprogrammed Construction		68,942,000		
Cash Contributions	68,942,000			
Other Costs	0			
Total Estimated Programmed Construction Cost	829,979,000			
Total Estimated Unprogrammed Construction Cost	1,130,945,000			
Total Estimated Project Cost			$ 1,960,924,000	
Allocations to 30 September 1999			686,610,000 3/	
Conference Allowance for FY 2000			25,150,000	
Allocation for FY 2000			24,196,000 4/	
Allocations through FY 2000			710,806,000	38
Allocation Requested for FY 2001			12,100,000	39
Programmed Balance to Complete after FY 2001			68,857,000	
Unprogrammed Balance to Complete after FY 2001			1,062,003,000	

2/ Does not include the following non-Federal contributions, which are not part of the authorized project cost: Pineville, KY -- $17,691,000 in costs allocated to the highway portion of an integrated highway/floodwall element constructed in cooperation with the Commonwealth of Kentucky for Pineville & Wallsend, Kentucky.

3/ Includes payment of $850,000 from the Department of Treasury Judgment Fund for a claim at Matewan, WV.

4/ Reflects a reduction of $954,000 as savings and slippage.

STATUS (1 Jan 2000)	PERCENT COMPLETE	COMPLETION SCHEDULE
Structural Measures		
Pineville, KY	100	
Williamson Area, WV	100	
South Williamson, KY	100	
Barbourville, KY (Cutoff)	100	
Barbourville, KY Levee/Fldwll	100	
Matewan, WV	99	Sep 2000
Harlan, KY	99	Indefinite
Williamsburg, KY	99	Indefinite
Middlesborough, KY	45	Indefinite
Haysi Dam, VA	0	Indefinite
Levisa Basin Flood Warning System	40	Dec 2000
Tug Basin Flood Warning System	60	Sep 2000
Detailed Project Reports		
Upper Cumberland Basin:		
Harlan, KY	100	
Williamsburg, KY	100	
Middlesborough, KY	100	
Upper Cumberland River Basin	100	
Clover Fork, KY	100	
City of Cumberland, KY	90	Indefinite
Harlan Co., KY	30	Being determined
Bell Co., KY	5	Indefinite
Knox Co., KY	0	Indefinite
Whitley Co., KY	0	Indefinite
Levisa Fork Basin:		
Grundy, VA	100	
Levisa Basin/Haysi Dam GPS	100	
Buchanan Co., VA	35	Indefinite
Town of Martin, KY	90	Jul 2000
Pike Co. (Levisa Fork), KY	0	Indefinite
Floyd Co., KY	0	Indefinite
Johnson Co., Ky	0	Indefinite
Dickenson Co., VA	10	Indefinite
Lawrence Co. (Levisa), KY	0	Indefinite
Tug Fork Basin:		
Matewan, WV	100	
South Williamson, KY	100	
Lower Mingo Co., WV	100	
Upper Mingo Co., WV	100	
Pike Co. (Tug Fork), KY	100	
Tug Fork GDM	100	
Matewan, Hatfield Bottom, WV	100	
Martin Co., KY	100	
Wayne Co., WV	100	
McDowell Co., WV	100	
Lower Mingo Co., WV, Tribs	100	
Pike Co., KY, Supplement	5	Indefinite
Lawrence Co. (Tug Fork), KY	0	Indefinite
Nonstructural Measures		
Williamson, WV	100	
Matewan, WV	100	
Pineville, KY	100	
South Williamson, KY	100	

STATUS (1 Jan 2000)	PERCENT COMPLETE	COMPLETION SCHEDULE
Nonstructural Measures (continued):		
Barbourville, KY	100	
Matewan, Hatfield Bottom, WV	95	Indefinite
Williamsburg, KY	85	Indefinite
Harlan, KY	87	Indefinite
Lower Mingo Co., WV	88	Indefinite
Pike County, KY (Tug Fork)	80	Indefinite
Middlesborough, KY	90	Indefinite
Upper Mingo County, WV	88	Indefinite
Levisa Basin, VA & KY	0	Indefinite
Grundy, VA	8	Being determined
Martin County, KY	30	Indefinite
Wayne County, WV	10	Indefinite
McDowell County, WV	0	Indefinite
Clover Fork, KY	0	Indefinite
Town of Martin	0	Indefinite

PHYSICAL DATA			
WILLIAMSON AREA Williamson CBD	Floodwall: Height - 22 ft. avg. Length - 3,900 ft. Pump Stations 2 ea. 30,000 and 70,000 GPM	Lands and Damages: Acres - 18.24 fee 5.76 easement Type – Urban	Relocations: Railroad, highways, city and public utilities
WILLIAMSON AREA West Williamson	N/A	Lands and Damages: Acres - 25.72 fee 31.03 easement Type – Urban	Relocations: Railroad, highways, city and public utilities
WILLIAMSON AREA Snagging and Clearing	Floodwall/fill: Height - 13 ft. avg.	Lands and Damages: Acres - 86.62 easement	N/A

PHYSICAL DATA			
	Length - 2,500 ft. Pump stations: 1 ea. @ 18,000 GPM	Type – Riverbank	
MATEWAN	Floodwall: Height - 21 ft. avg. Length - 2,700 ft. Pump Stations: 1 ea. @ 12,000 GPM	Lands and Damages: Acres - 45.41 fee 48.88 easement	Relocations: Highway 49 and bridge, Route 9, fire station, town hall and utilities
SOUTH WILLIAMSON	Floodwall/Levee/Highway Height - 25 ft. avg. Length - 7,800 ft. Wallsend Levee Height - 25 ft. avg. Length - 4,300 ft.	Lands and Damages: Acres - 21.52 fee 5.46 easement Type – Residential	Relocations: School cafeteria, highways, county and public utilities
PINEVILLE	High Flow Diversion Width - 150 ft. Depth - 40 ft. max. Length - 5,000 ft.	Lands and Damages: Acres – 118 Type – Urban	Relocations: Wallsend Bridge, Pine Street Bridge
BARBOURVILLE Cutoff	Levee/Floodwall Height - 26 ft. avg. Length - 19,536 ft.	Lands and Damages: Acres – 96 Type – Agricultural	Relocations: Tye Bend Rd Bridge
BARBOURVILLE Levee/Floodwall		Lands and Damages: Acres – 144 Type – Urban	Relocations: Highway 459 Bridge

PHYSICAL DATA (continued)			
HARLAN (Phase I) Harlan Tunnels	Diversion Tunnels Length - 4 ea @ 2000 ft.	Lands and Damages: Acres – 12 Type – Urban	Relocations: KY Hwy 38 Bridge KY Hwy 72 Bridge
HARLAN (Phase II) Harlan Floodwall	Floodwall/Levee Length - 4,875 ft Height - 24 ft	Lands and Damages: Acres – 16 Type – Urban	Relocations: KY Hwy 11
HARLAN (Phase III) Loyall/Rio Vista Diversion/Levee/Floodwall	Diversion Width - 120 ft channel Depth - 300 ft. max. Length - 3,800 ft. Levee/Floodwall Height - 24 ft. Length - 8,600 ft.	Lands and Damages: Acres – 225 Type – Urban	Relocations: KY Hwy 840 Bridge Park Drive Bridge Highway 413 CSX Railway
WILLIAMSBURG	Levee/Floodwall Height - 15 ft. avg. Length - 4,800 ft.	Lands and Damages: Acres – 23 Type – Urban	Relocations: Public utilities
MIDDLESBOROUGH	Channel Length - 5.2 mi.	Lands and Damages: Acres – 132	Relocations: Public utilities

PHYSICAL DATA (continued)			
HAYSI DAM	Concrete Arch Dam: Height - 202 ft. Length - 825 ft. Spillway: Type – Ogee Weir Length - 170 ft. Discharge - 151,000 cfs Reservoir: Flood Control 28,400 ac.ft. Conservation 8,870 ac.ft. Total 37,270 ac.ft.	Lands and Damages: Acres - 8,335 fee Type - Rural residential and subsistence farms Improvements- Predominantly farm buildings/ residential	Relocations: Virginia Secondary Hwy. 609 Public utilities
NON STRUCTURAL	Primarily voluntary relocations from flood prone areas and floodproofing of unprotected development suitable for such measures. Specific physical data determined during preparation of project reports for each individual project.		
DETAILED PROJECT REPORTS	Detailed project reports that currently are under way for other locations in the authorized project area will be continued or completed.		

JUSTIFICATION:

Tug Fork - Historically, repeated flooding in the Tug Fork Valley has brought extensive damage to homes and other developments. During the past 38 years, major floods occurred in January 1957, March 1963, March 1967, April 1977, and May 1984. The 1977 flood was the flood of record along much of the Tug Fork. This devastating flood caused valley-wide damages approaching $200 million at 1977 price levels. Six hundred homes were totally destroyed and 4,700 homes were flooded. Physical losses from direct damage to non-residential buildings and contents exceeded $41 million. Over half of all damages occurred in Mingo County, West Virginia. Pike County, Kentucky had about $45 million in damages. The May 1984 flood resulted in an estimated $117 million in damages along the Tug Fork. As in previous floods, the extensive bituminous coal mining industry of the basin was disrupted due to direct damage, interrupted transportation, and lost time because of diversions of the work force to flood fighting and cleanup.

Levisa Fork - The same repeated flooding characteristic of the Tug Fork has plagued the Levisa Fork area. During the April, 1977 flood, damages amounted to approximately $93 million at 1977 price levels. The May, 1984 flood caused an additional $90 million in losses along the mainstem of the Levisa Fork and its primary upstream tributary, Russell Fork. Impacts on residential properties, commercial and transportation facilities, and the mining industry were similar to those described in the Tug Fork areas

JUSTIFICATION (continued):
Upper Cumberland - Flooding continues to bring recurring damage to the Upper Cumberland area. Total damages in all categories amounted to $34.7 million for this area during the April 1977 event. The Pineville element protects about 185 acres of urban land containing structures valued at $25.7 million. At Barbourville, the existing project was sandbagged during the April 1977 flood event, preventing major losses to some 700 acres of urban land containing structures valued at $52.4 million. The currently unprotected area is a mix of agriculture and urban land and contains structures valued at over $6.0 million. During the 1977 flood, no area of Harlan County escaped damage, and four persons drowned and approximately 1,800 persons were left homeless. Total flood damage and associated costs came to almost $31 million.

The following counties qualify as areas of "substantial and persistent" unemployment: West Virginia - Mingo, McDowell, Wayne; Kentucky - Martin, Pike, Lawrence, Floyd, Johnson, Bell, Harlan, Knox, Whitley; Virginia - Dickenson.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Non Structural Measures	
Grundy, Virginia	
Continue Land Acquisition	$ 1,740,000
Continue Relocations	1,140,000
Engineering and Design	1,040,000
Construction	7,580,000
Subtotal	$11,500,000
Detailed Project Reports	
Nashville District - Harlan County, KY	$ 600,000
Subtotal	$ 600,000
Total	$ 12,100,000

PROJECT COSTS: Project elements under construction on 30 April 1986 are exempted from construction cost sharing in accordance with the Water Resources Development Act of 1986. These elements are Williamson Area, West Virginia; South Williamson, Kentucky; Matewan, West Virginia; and Pineville, Kentucky. The Harlan and Barbourville elements were exempted from construction cost sharing by Title I, Section 103 of Water Resources Development Act of 1986. The Hatfield Bottom area of Matewan, West Virginia, was included in the Matewan, West Virginia, element area by the Energy and Water Development Appropriations Act, 1991, Public Law 101-514, and as such, is exempt from cost sharing.

Construction cost sharing is required for all other elements in accordance with the Water Resources Development Act of 1986. The sponsor of each project element for which construction is initiated after 30 April 1986 must provide lands, easements, rights-of-way, and borrow and excavated or dredged material disposal areas; modify or relocate buildings, utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the element; pay a cash contribution of no less than 5 percent of the costs allocated to structural flood control to bring the total non-Federal share of structural flood control costs to 25 percent; and bear 25 percent of non-structural flood control costs, including the value of real estate interests and relocations contributed by the sponsor. In accordance with Section 103(m) of the Act, these requirements are subject to the ability of the non-Federal sponsor to pay.

In accordance with Section 202, Energy and Water Development Appropriations Act, 1981 and Public Law 99-662, non-Federal interests must bear all costs of operation, maintenance, and replacement of completed facilities.

FEDERAL COSTS: Project Element	Payments During Construction and Reimbursements (Funded/Programmed Work)	Payments During Construction and Reimbursements (Unprogrammed Work)	Annual Operation, Maintenance, and Replacement Costs
Williamson Area, WV	$105,733,000	$ 0	$ 0
Williamson Area, WV NS	23,560,000	0	0
Matewan, WV	56,401,000	0	0
Matewan, WV NS	10,129,000	0	0
Hatfield Bottom, Matewan, WV	8,300,000	0	0
South Williamson, KY	25,813,000	0	0
South Williamson, KY NS	27,876,000	0	0
Pineville, KY	48,406,000	0	0
Pineville, KY NS	4,021,000	0	0
Barbourville, KY	32,119,000	0	0
Barbourville, KY NS	4,391,000	0	0
Harlan, KY	159,528,000	772,000	0
Harlan, KY NS	15,262,000	6,038,000	0
Grundy, VA NS	73,900,000	0	0
Lower Mingo County, WV NS	40,276,000	524,000	0
Williamsburg, KY	18,322,000	2,008,000	0
Williamsburg, KY NS	1,710,000	0	0
Pike County, KY NS	25,391,000	3,309,000	0
Upper Mingo County, WV NS	11,930,000	600,000	0
Middlesborough, KY	24,047,000	5,698,000	0
Middlesborough, KY NS	1,605,000	0	0
Clover Fork, KY NS	6,156,000	25,954,000	0
Martin County, KY NS	11,176,000	57,524,000	0
Wayne County, WV NS	4,646,000	8,254,000	0
Haysi Dam, VA & KY	415	125,185,000	0
Levisa Basin, VA & KY NS	0	595,300,000	0
McDowell County, WV NS	12,053,000	166,047,000	0
Levisa Fk Flood Warning Syst	400,000	0	0
Tug Fk Flood Warning Syst	400,000	0	0
Town of Martin, KY NS	0	38,900,000	0
Other costs 1/	37,797,000	27,940,000	0
Total Federal Cost 1/	$ 791,763,000	$ 1,062,003,000	$ 0

1/ Pre-WRDA 86 costs plus costs for unapproved reports, which will be included in project costs upon report approval.

NON-FEDERAL COSTS:

Project Element	Payments During Construction and Reimbursements (Funded/Programmed Work)	Payments During Construction and Reimbursements (Unprogrammed Work)	Annual Operation, Maintenance, and Replacement Costs
Williamson Area, WV	$ 0	$ 0	$71,000
Williamson Area, WV NS	0	0	0
Matewan, WV	76,000	0	30,000
Matewan, WV NS	0	0	0
Hatfield Bottom, Matewan, WV	0	0	0
South Williamson, KY	0	0	8,000
South Williamson, KY NS	0	0	0
Pineville, KY	0	0	20,000
Pineville, KY NS	0	0	0
Barbourville, KY	0	0	20,000
Barbourville, KY NS	0	0	0
Harlan, KY	0	0	0
Harlan, KY NS	0	0	20,000
Grundy, VA NS	29,900,000	0	21,500
Lower Mingo County, WV NS	2,106,000	44,000	0
Williamsburg, KY	964,000	106,000	20,000
Williamsburg, KY NS	90,000	0	0
Pike County, KY NS	1,323,000	187,000	0
Upper Mingo County, WV NS	603,000	39,000	0
Middlesborough, KY	1,265,000	300,000	27,000
Middlesborough, KY NS	85,000	0	0
Clover Fork, KY NS	325,000	1,365,000	0
Martin County, KY NS	568,000	3,047,000	0
Wayne County, WV NS	235,000	338,000	0
Haysi Dam, VA & KY	0	12,000,000	486,400
Levisa Basin, VA & KY NS	0	40,700,000	0
McDowell County, WV NS	634	8,766,000	0
Levisa Fk Flood Warning Syst	21,000	0	0
Tug Fk Flood Warning Syst	21,000	0	0
Town of Martin, KY NS	0	2,050,000	0
Other costs	0	0	0
Total Non-Federal Cost	$ 38,216,000	$68,942,000	$723,900

STATUS OF LOCAL COOPERATION:

The City of Barbourville, Kentucky signed a Section 221 Agreement for the Barbourville element on February 14, 1984, to become project sponsor for operation and maintenance after construction is complete.

The City of Pineville, Kentucky signed a Section 221 Agreement for the Pineville element on February 19, 1983, to become project sponsor for operation and maintenance. The Corps and the Commonwealth of Kentucky executed a cost-sharing arrangement for construction of the four-lane highway portion of the project.

The County of Harlan, Kentucky signed a Section 221 Agreement on October 20, 1988, to become project sponsor for operation and maintenance after construction is complete.

Mingo County, West Virginia, signed a Section 221 Agreement on March 2, 1983, agreeing to operate and maintain features of the project within its jurisdiction. The City of Williamson, Town of Matewan and Mingo County entered into a sub-agreement transferring certain responsibilities to the City.

Pike County, Kentucky, signed a Section 221 Agreement on August 1, 1983, agreeing to act as non-Federal sponsor for features of the project within its jurisdiction.

A Project Cooperation Agreement for the Lower Mingo County, West Virginia, element was executed on November 17, 1992, with the Mingo County Commission.

A Project Cooperation Agreement for the Williamsburg, Kentucky element was executed on March 10, 1995, with the City of Williamsburg, Kentucky.

A Project Cooperation Agreement for the Pike County, Kentucky element was executed on October 14, 1994, with the Pike County Kentucky Fiscal Court.

A Project Cooperation Agreement for the Upper Mingo County, West Virginia element was executed on December 20, 1995, with the Mingo County, West Virginia Commission.

A Project Cooperation Agreement for the Middlesborough, Kentucky element was executed on January 18, 1996 with the City of Middlesborough, Kentucky.

STATUS OF LOCAL COOPERATION (cont.):

A Project Cooperation Agreement for the Martin County, Kentucky element was executed on April 21, 1997 with the Martin County Fiscal Court.

A Project Cooperation Agreement for the Wayne County, West Virginia element was executed in April 1998 with the Wayne County Commission.

A Project Cooperation Agreement for the Grundy, Virginia nonstructural element was executed in April 1998 with the Town of Grundy, Virginia and the Virginia Department of Transportation (VDOT).

A Supplement to the Project Cooperation Agreement to add the Mingo County Tributaries to the Upper Mingo County West Virginia element was executed in June 1999 with the Mingo County Commission.

A Project Cooperation Agreement for the McDowell County, West Virginia element was executed in September 1999 with the McDowell County Commission.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $1,852,916,000 is an increase of $15,075,000 from the latest estimate ($1,837,841,000) presented to Congress (FY 2000). This change includes the following items.

Item	Amount
Price Escalation on Construction Features	$ 4,300,000
Authorized Modifications	(9,690,000)
Post Contract Award and Other Estimating Adjustments (including contingency adjustments)	(34,654,000)
Price Escalation on Real Estate (Non-Structural features)	55,119,000
Total	$ 15,075,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: Tug Fork - The final Environmental Impact Statement (EIS) was filed with the Environmental Protection Agency (EPA) on December 3, 1982.

Pineville - The final EIS was filed with EPA on December 22, 1982.

Barbourville - The Finding of No Significant Impact (FONSI) was signed on February 1, 1984.

Harlan - The final EIS was filed with EPA on April 22, 1988. The Record of Decision was signed on August 8, 1988.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT (cont.):

Williamsburg - The FONSI was signed on May 19, 1994.

Middlesborough - The FONSI was signed on June 9, 1995.

Detailed Project Reports - EIS's for other areas will be scheduled as studies proceed.

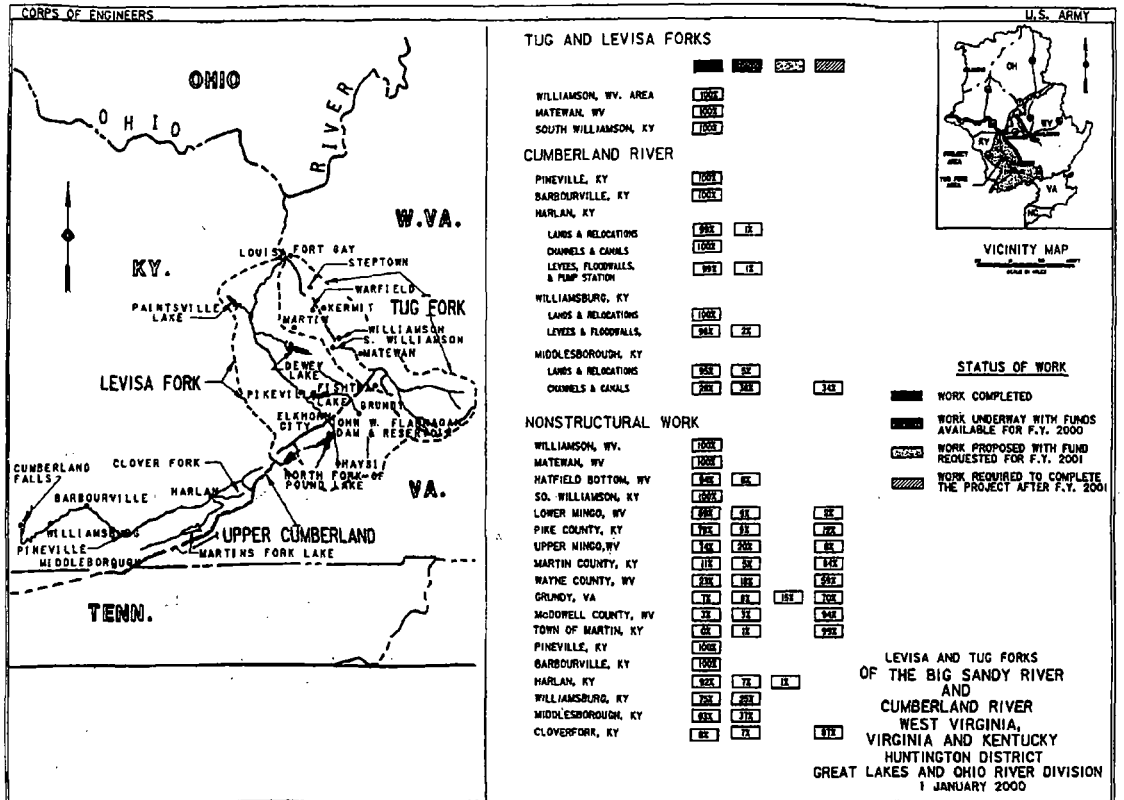
OTHER INFORMATION: Funds to initiate construction were appropriated in FY 1981. The Urgent Supplemental Appropriations Act, 1984 (Public Law 98-332) provided $21,000,000 for nonstructural measures at this project.

The scheduled completion date of September 2000 for programmed work at Matewan, WV is a change from the latest completion date of September 1999 presented to Congress (FY 2000). This change is because the project requires completion of property transfers.

The scheduled completion date of indefinite for programmed work for the City of Cumberland, KY is a change for the latest completion date of July 1999 presented to Congress (FY 2000). This change is due to another option being considered by the sponsor.

The scheduled completion date last presented to Congress (FY 2000) of September 2006 for the Grundy non-structural project has changed to Being Determined.

The scheduled completion date for the Harlan County Detailed Project Report has changed to Being Determined.


CORPS OF ENGINEERS
U.S. ARMY
OHIO
OHIO RIVER
W.VA.
KY.
VA.
TENN.
LOUISA
FORT GAY
STEPTOWN
WARFIELD
KERMIT
TUG FORK
MARTIN
WILLIAMSON
S. WILLIAMSON
MATEWAN
PAINTSVILLE LAKE
DEWEY LAKE
LEVISA FORK
PIKEVILLE
FISHTRAP LAKE
GRUNDY
ELKHORN CITY
JOHN W. FLANNAGAN DAM & RESERVOIR
PHAYBE
NORTH FORK OF POUND LAKE
CUMBERLAND FALLS
CLOVER FORK
BARBOURVILLE
HARLAN
WILLIAMSBURG
PINEVILLE
MIDDLESBOROUGH
UPPER CUMBERLAND
MARTINS FORK LAKE
TUG AND LEVISA FORKS
WILLIAMSON, WV. AREA 100%
MATEWAN, WV 100%
SOUTH WILLIAMSON, KY 100%
CUMBERLAND RIVER
PINEVILLE, KY 100%
BARBOURVILLE, KY 100%
HARLAN, KY
LANDS & RELOCATIONS 99% 1%
CHANNELS & CANALS 100%
LEVEES, FLOODWALLS, & PUMP STATION 99% 1%
WILLIAMSBURG, KY
LANDS & RELOCATIONS 100%
LEVEES & FLOODWALLS, 96% 2%
MIDDLESBOROUGH, KY
LANDS & RELOCATIONS 95% 5%
CHANNELS & CANALS 28% 38% 34%
NONSTRUCTURAL WORK
WILLIAMSON, WV. 100%
MATEWAN, WV 100%
HATFIELD BOTTOM, WV 94% 6%
SO. WILLIAMSON, KY 100%
LOWER MINGO, WV 89% 9% 2%
PIKE COUNTY, KY 79% 9% 12%
UPPER MINGO, WV 74% 20% 6%
MARTIN COUNTY, KY 11% 5% 84%
WAYNE COUNTY, WV 23% 15% 62%
GRUNDY, VA 7% 8% 15% 70%
McDOWELL COUNTY, WV 3% 3% 94%
TOWN OF MARTIN, KY 6% 1% 93%
PINEVILLE, KY 100%
BARBOURVILLE, KY 100%
HARLAN, KY 92% 7% 1%
WILLIAMSBURG, KY 75% 25%
MIDDLESBOROUGH, KY 63% 37%
CLOVERFORK, KY 8% 7% 81%
VICINITY MAP
STATUS OF WORK
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR F.Y. 2000
WORK PROPOSED WITH FUND REQUESTED FOR F.Y. 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER F.Y. 2001
LEVISA AND TUG FORKS
OF THE BIG SANDY RIVER
AND
CUMBERLAND RIVER
WEST VIRGINIA,
VIRGINIA AND KENTUCKY
HUNTINGTON DISTRICT
GREAT LAKES AND OHIO RIVER DIVISION
1 JANUARY 2000

270

APPROPRIATION TITLE: Construction, General - Multiple Purpose Power

PROJECT: Barkley Dam and Lake Barkley, Kentucky and Tennessee (Continuing)

LOCATION: Barkley Dam is located on the Cumberland River, 30.6 river-miles above its mouth and approximately 160 river-miles below Nashville, Tennessee, in Lyon and Livingston Counties, Kentucky, near Grand Rivers, Kentucky. The remaining work is located on the Lake Barkley portion of the Cumberland River, between Dover, Tennessee and Cumberland City, Tennessee, river miles 89.5 to 102.0, in Stewart County, Tennessee.

DESCRIPTION: The completed work is a multiple purpose power project constructed during the period 1957-1969. The remaining work involves the Cross Creek National Wildlife Refuge, which stretches for 12.5 miles along both sides of Lake Barkley, sixty miles upstream of the dam. The Refuge was established in 1962 as mitigation for loss of Kentucky Woodlands Refuge, which was inundated by construction of the lake. The primary purpose of the Cross Creek National Wildlife Refuge is to provide feeding and resting habitat for migratory waterfowl. A system of dikes and water control structures make it possible to regulate water levels to create wetlands habitat conducive to waterfowl management. Over the years shoreline failure has caused Refuge personnel to relocate access roads several times at some locations. In addition to providing maintenance access to the Refuge, the reservoir shoreline also serves in several areas as a natural levee separating the Lake Barkley pool from sub-impoundments of the Refuge. If bank failure were allowed to continue unchecked, water levels of the sub-impoundment would be unregulated and 4100 acres of wetlands and bottomland hardwoods would be lost. The active failure zone includes bald eagle nesting habitat that continues to be lost as nesting trees fall into the lake. At the current rate of erosion, the loss of the Refuge within two to three years is projected.

AUTHORIZATION: Rivers and Harbors Act of 1954.

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable because construction of the project is substantially complete.

TOTAL BENEFIT-COST RATIO: Not applicable because construction of the project is substantially complete.

INITIAL BENEFIT-COST RATIO: 1.8 to 1 at 2 percent (FY 1957).

BASIS OF BENEFIT-COST RATIO: Remaining benefits are from the latest available evaluation, dated April, 1993, at October, 1993 price levels.

SUMMARIZED FINANCIAL DATA		ACCUM. PCT. OF EST. FED. COST
Estimated Federal Cost	$ 161,199,000	
Estimated Non-Federal Cost	0	
Total Estimated Project Cost	$ 161,199,000	
Allocations to 30 September 1999	$ 156,881,000	
Conference Allowance for FY 2000	1,450,000	
Allocation for FY 2000	3,318,000 1/	
Allocations through FY 2000	160,199,000	99
Allocation Requested for FY 2001	$ 1,000,000	100
Programmed Balance to Complete after FY 2000	0	
Unprogrammed Balance to Complete after FY 2000	0	

STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Remaining Work	71	Sep 2001
Entire Project	97	Sep 2001

PHYSICAL DATA

Completed Work

Dam: Concrete gravity and rolled earth fill
Spillway: Gate controlled, concrete ogee weir
Power Installation: 4 units @ 32,500 KW; 130,000 KW
Reservoir Capacity: 2,082,000 ac.-ft.
Lock: 110 by 800 feet; 57 foot lift
Canal: 1.5 miles long and 400 feet wide (bottom)

Remaining Work

15 of 25 miles of refuge shoreline will require shoreline treatment consisting of dumped, quarry-run stone averaging 94 pounds. A non-woven geotextile material will be placed between the stone and existing ground. Ten miles of shoreline that was planned to be protected by vegetative treatment will now be protected by stone at the request of the sponsor.

1/ Reflects a reduction of $206,000 for savings and slippage and $2,074,000 reprogrammed to the project in FY 2000.

JUSTIFICATION: Chronic erosion is threatening the integrity of the Cross Creek Wildlife Refuge, which is the mitigation component for the Lake Barkley project. Unless the shoreline is treated prior to failure, the ultimate cost to maintain this project feature will be much higher (in excess of $15,000,000) and damage to wildlife habitat will occur. The recommended plan of quarry-run stone placement and vegetative treatment is technically feasible, environmentally acceptable, and cost effective.

FISCAL YEAR 2001: The amount requested will be applied as follows:

Item	Amount
Continue Shoreline Treatment	$ 900,000
Planning, Engineering and Design	30,000
Construction Management	70,000
Total	$ 1,000,000

NON-FEDERAL COSTS: None. The project is fully Federal.

STATUS OF LOCAL COOPERATION: Not applicable.

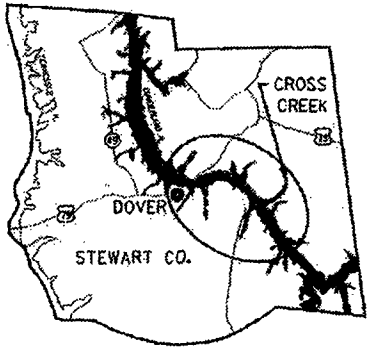
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $161,199,000 is an increase of $1,400,000 from the last estimate ($159,799,000) presented to Congress (FY 2000). This change includes the following items.

Item	Amount
Post Contract Award and Other Estimating Adjustments	$ 1,400,000
Total	$ 1,400,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The remaining work is covered by an Environmental Assessment, as required by the National Environmental Policy Act. The Reconnaissance Report and the Environmental Assessment were approved in October, 1993. Also, since a portion of the work would occur below ordinary high water, Section 404 of the Clean Water Act is applicable.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1957, and funds to initiate construction were appropriated in FY 1959. Engineering and design for the remaining work was funded from the Operations and Maintenance, General appropriation in FY's 1991 through 1993.

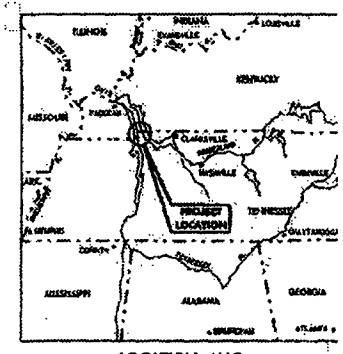
The scheduled completion date has changed from September 2002, the date last presented to Congress (FY 2000), to September 2001.



LAKE BARKLEY RM 89.5 - 102.0

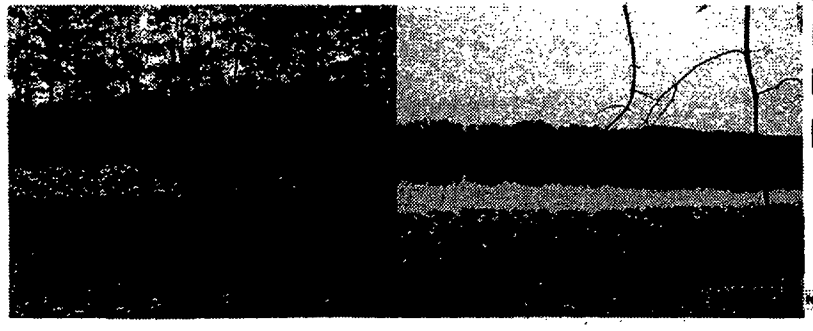
BARKLEY DAM AND LAKE BARKLEY, KY

71%	22%	7%	0%



LOCATION MAP

Bank Stabilization



STATUS OF WORK

- WORK COMPLETED AS OF 30 SEPT. 1999
- WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2000
- WORK PROPOSED WITH FUNDS FOR FY 2001
- WORK REQUIRED TO COMPLETE THE PROJECT AFTER 2001

CUMBERLAND RIVER

BARKLEY DAM AND LAKE BARKLEY, KY

TENNESSEE

NASHVILLE DISTRICT, GREAT LAKES & OHIO RIVER DIVISION CORPS OF ENGINEERS, U.S. ARMY

214

APPROPRIATION TITLE: Construction, General - (Environmental Mitigation, Restoration and Protection)

PROJECT: Chicago Sanitary & Ship Canal Dispersal Barrier, Illinois (Continuing)

LOCATION: The Chicago Sanitary and Ship Canal is located near Lemont, IL in Cook County.

DESCRIPTION: This is a demonstration project to determine what techniques may best prohibit the dispersal of aquatic nuisance species in a large commercial shipping canal and connecting water basins, including the Des Plaines River, Illinois Waterway and the Mississippi River. The purpose of this project is to construct a physical barrier to prevent downstream migration of the Round Goby (Neogobius melanostomus) fish, a recent Great Lakes invader native to Russia.

AUTHORIZATION: Section 1202, Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990.

REMAINING BENEFIT-REMAINING COST RATIO: N/A.

TOTAL BENEFIT-COST RATIO: N/A.

INITIAL BENEFIT-COST RATIO: N/A.

BASIS OF BENEFIT-COST RATIO: N/A.

SUMMARIZED FINANCIAL DATA		
Estimated Federal Cost		$ 2,130,000
Estimated Non-Federal Cost		0
Cash Contributions	0	
Other Costs	0	
Total Estimated Project Cost		$ 2,130,000

STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project	0	Being Determined

PHYSICAL DATA

Aquatic Nuisance Species Barrier 165 feet

SUMMARIZED FINANCIAL DATA (CONTINUED)			ACCUM. PCT. OF EST. FED. COST
Allocations to 30 September 1999	$ 470,000		
Conference Allowance for FY 2000	300,000		
Allocation for FY 2000	930,000	1/	
Allocations through FY 2000	1,400,000		66
Allocation Requested for FY 2001	400,000		80
Programmed Balance to Complete After FY 2001	330,000		
Unprogrammed Balance to Complete after FY 2001	0		

1/ Reflects a reduction of $43,000 as savings and slippage, and reprogramming of $673,000 to the project in FY2000.

JUSTIFICATION: The Chicago Sanitary and Ship Canal stands as the only aquatic link between the Great Lakes and Mississippi River drainage basins. The canal is heavily used by commercial and recreational crafts and it conveys water away from Lake Michigan downstream to the Des Plaines River, the Illinois Waterway and finally to the Mississippi River. This man-made canal serves as the sole unimpeded corridor for the dispersal of invasive aquatic species between these two major drainage basins. The adverse economic and ecological effects of invasive species can be devastating, as has been seen with the Zebra mussel. Today, non-native species present in the Mississippi Basin are spreading towards the Great Lakes Basin and vice-versa. This Round Goby fish infestation in Lake Michigan is within 5 miles of the proposed barrier location. Creation of an aquatic nuisance species barrier in the Sanitary and Ship Canal could prevent the dispersal of these invasive species, help protect our native biodiversity and maintain the commercial and economic viability of the Sanitary and Ship Canal. The demonstration project will provide an example of technologies that can be applied to other navigation canals where invasive species are a concern such as the Erie Canal, Lake Champlain, and the Tennessee Tombigbee Waterway.

ANNUAL BENEFITS: Not applicable.

FISCAL YEAR 2001: The requested amount of $400,000 will be applied as follows:

Continue construction of barrier	$ 300,000
Engineering and Design	50,000
Construction Management	50,000
Total	$ 400,000

NON-FEDERAL COST: Not applicable.

STATUS OF LOCAL COOPERATION: None required.

COMPARISON OF FEDERAL COST ESTIMATE: The current Federal cost estimate of $2,130,000 is an increase of $130,000 from the latest estimate ($2,000,000) presented to Congress (FY2000) due to price levels and inflation adjustments.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: Environmental Assessment of the bethnic barrier was issued in December 1999. Extensive coordination with other Federal, State and regional agencies, environmental groups and commercial users has occurred over the last two years.

OTHER INFORMATION: Funds to initiate construction were appropriated in FY 1998.

The scheduled completion date of the project has changed from the latest presented to Congress (FY 2000), September 2002, to Being Determined.

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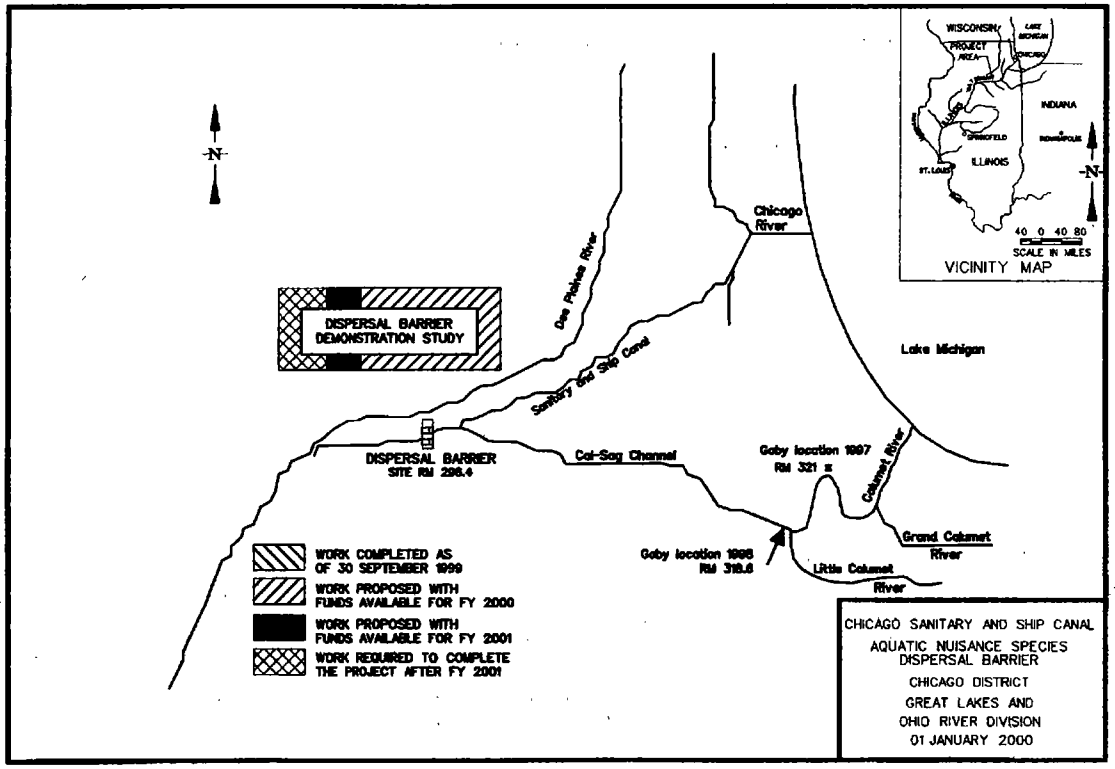
CORPS OF ENGINEERS

U.S. ARMY



278

APPROPRIATION TITLE: Construction, General - Reservoirs (Flood Control)

PROJECT: Patoka Lake, Indiana (Major Rehabilitation) (Continuing)

LOCATION: The project is located in Dubois County thirteen miles northeast and upstream of Jasper, Indiana and approximately 118.3 miles above the mouth of Patoka River, a tributary of the Wabash River. The reservoir extends into Dubois, Orange, and Crawford Counties.

DESCRIPTION: The existing reservoir was constructed for flood control and allied purposes. The dam is earth and rock fill, 1,550 feet long and 85 feet high, with gate-controlled outlet works and uncontrolled open spillway. The top elevation of the dam is 564 feet msl. Total storage capacity is 301,600 acre-feet (121,000 for flood control and 167,500 for water supply and water quality control. Estimated flood damages prevented through FY 1995 are $46,613,000. The project was placed in operation in August 1980.

AUTHORIZATION: The Flood Control Act of 1965

REMAINING BENEFIT-COST RATIO: Not Applicable

TOTAL BENEFIT-COST RATIO: Not Applicable

BASIS OF BENEFIT COST RATIO: Not Applicable

SUMMARIZED FINANCIAL DATA			STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$ 7,200,000	Entire Project	1	Sep 01
Estimated Non-Federal Cost		0		PHYSICAL DATA	
Cash Contributions	0				
Other Costs	0			Dam: Earth and Rock	
Total Project Cost		$ 7,200,000		Length	1,550 ft
				Height	85 ft
				Top Elevation	564 ft
				Spillway	Open Cut
				Capacity	301,600 acre/ft

SUMMARIZED FINANCIAL DATA (Continued)		ACCUM PCT OF EST. FED. COST
Allocations to 30 September 1999	$ 0	
Conference Allowance for FY 2000	2,000,000	
Allocation for FY 2000	2,000,000 1/	
Allocations through FY 2000	2,000,000	28
Allocation Requested for FY 2001	5,200,000	100
Programmed Balance to Complete after FY 2001	0	
Unprogrammed Balance to Complete after FY 2001	0	

1/Reflects a reduction of $285,000 assigned as savings and slippage and a reprogramming increase of $285,000.

JUSTIFICATION: The Patoka Lake Project consists of an earth and rock filled dam across the valley with a gate controlled conduit outlet, an earth embankment dike, and an open cut spillway through the left abutment ridge. The reservoir area received 24.25 inches of rain from 1 April to 12 May 1996, raising the pool to record level (547.4 feet). The spillway crest is 548 feet. This resulted in sinkholes and associated leakage developing in the spillway area of the dam. A temporary fix was made to minimize reservoir leakage. It has been determined that the construction of a positive cutoff wall between the spillway and the dam is necessary to restore the ability of the project to produce outputs as originally designed.

Average annual benefits are as follows:

Annual Benefits	Amount
Flood Control	$ 2,742,000
Recreation	3,005,000
Total	$ 5,747,000

FISCAL YEAR 2001: The requested amount.will be applied as follows:

Dam Repair	$ 4,800,000
Engineering and Design	40,000
Construction Management	360,000
Total	$ 5,200,000

NON-FEDERAL COSTS: The costs of operation, maintenance, repair, replacement and rehabilitation (OMRR&R) are prepaid through year 2027 per the original water storage and recreation contracts. Until such date, all OMRR&R is 100 percent Federal.

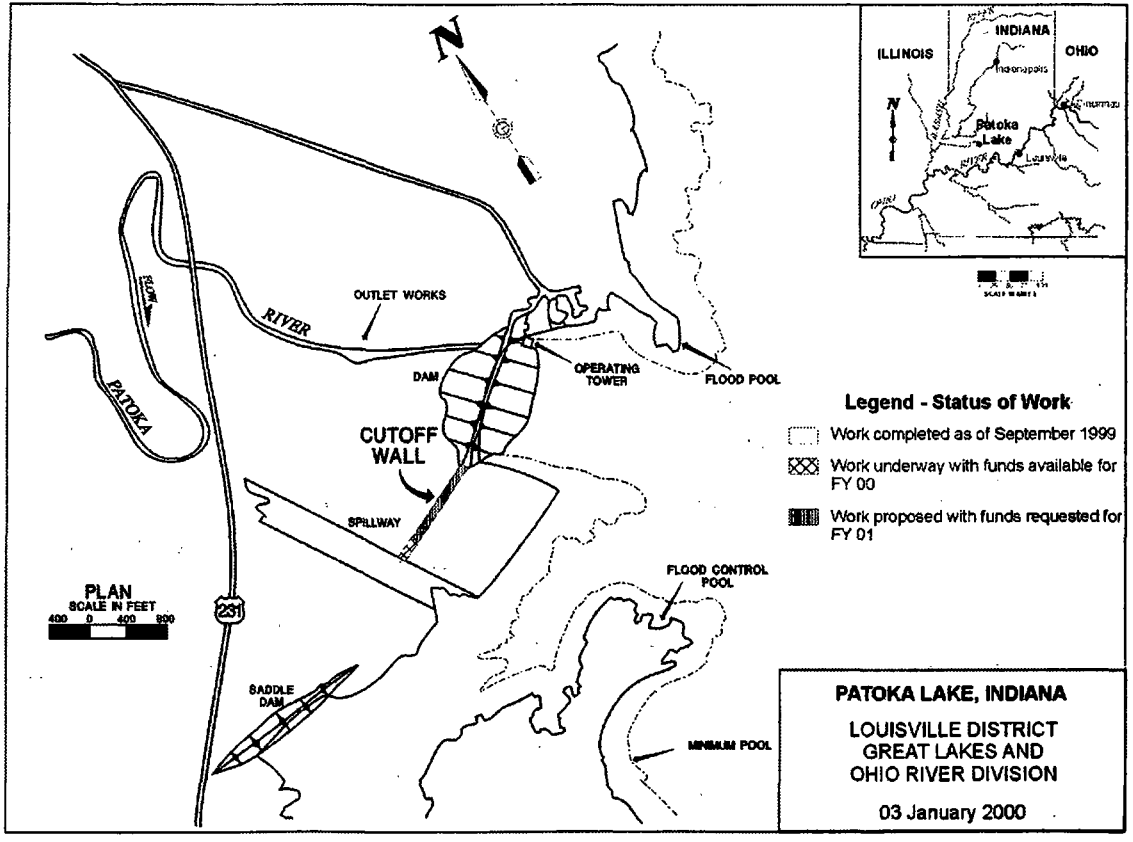
STATUS OF LOCAL COOPERATION: Not Applicable

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $7,200,000 is the same as the latest estimate submitted to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: Although the proposed action consists of a repair to an existing structure, an Environmental Assessment and Finding of No Significant Impact was completed October 97 in compliance with requirements for NEPA documentation.

OTHER INFORMATION: The Patoka Lake, Indiana, Major Rehabilitation Report was approved in August 1997.

The scheduled completion date has changed from the latest completion date presented to Congress (FY 2000), September 2001, to Being Determined.


N
OUTLET WORKS
RIVER
PATOKA
DAM
OPERATING TOWER
FLOOD POOL
CUTOFF WALL
SPILLWAY
FLOOD CONTROL POOL
PLAN
SCALE IN FEET
400 0 400 800
231
SADDLE DAM
MINIMUM POOL
INDIANA
ILLINOIS
OHIO
Patoka Lake
Legend - Status of Work
Work completed as of September 1999
Work underway with funds available for FY 00
Work proposed with funds requested for FY 01
PATOKA LAKE, INDIANA
LOUISVILLE DISTRICT
GREAT LAKES AND
OHIO RIVER DIVISION
03 January 2000

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APPROPRIATION TITLE: Construction, General - Dam Safety Assurance (Flood Control)

PROJECT: Dewey Lake, Kentucky (Dam Safety Assurance) (Continuing)

LOCATION: The project is located in Floyd County, Kentucky, on Johns Creek of Levisa Fork, a tributary of the Big Sandy River, 79.4 miles above the mouth of the Big Sandy River.

DESCRIPTION: The dam safety assurance project for Dewey Lake involves raising the effective height of the main dike with compacted earth; adding a 125-foot wide auxiliary spillway; and restricting the existing spillway to its original design capacity by providing vertical restriction walls on each side. The existing project was completed in 1949.

AUTHORIZATION: Flood Control Act of 1938.

REMAINING BENEFIT-REMAINING COST RATIO: Not Applicable.

TOTAL BENEFIT-COST RATIO: Not Applicable.

INITIAL BENEFIT-COST RATIO: Not Applicable.

BASIS OF BENEFIT-COST RATIO: Not Applicable.

SUMMARIZED FINANCIAL DATA	Original Project
Actual Federal Cost	$7,845,547
Actual Non-Federal Cost	0
Total Actual Original Project Cost	$7,845,547

SUMMARIZED FINANCIAL DATA (Continued).

		ACCUM. PCT. OF EST. FED. COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Project Modification			Project Modification	60	Being Determined
Estimated Federal Cost	$14,700,000		PHYSICAL DATA		
Estimated Non-Federal Cost	0		Raise the main dike (Brandykeg Dike) approximately three feet with compacted earth; add an auxiliary spillway with a crest elevation of 688.0; and provide vertical restriction walls on the existing spillway to restrict discharge to design capacity.		
Total Estimated Modification Cost	$14,700,000				
Total Estimated Project Cost	$ 22,545,547				
Allocations to 30 September 1999	$ 3,644,000				
Conference Allowance for FY 2000	2,500,000				
Allocation for FY 2000	2,144,000 1/				
Allocations through FY 2000	5,788,000	39			
Allocation Requested for FY 2001	3,832,000	65			
Programmed Balance to Complete after FY 2001	5,080,000				
Unprogrammed Balance to Complete after FY 2001	0				

1/ Reflects a reduction of $ 356,000 as savings and slippage in FY 2000.

JUSTIFICATION: According to current engineering criteria, spillway capacities at Dewey Lake are inadequate The ability of the dam to resist failure when overtopped is of particular concern. Hydrology and hydraulic studies show that failure of the 118-foot high Dewey Lake Dam could result in a major catastrophe. The project is constructed of rolled earth fill with a central impervious core and has a maximum crest length of 913 feet. According to current engineering studies, the dam could only contain 61 percent of the probable maximum flood, the largest flood that could be reasonable expected. Such a situation leads to an extremely high risk of dam failure.

FISCAL YEAR 2001: The requested funds will be applied as follows:

Continue Dam Safety Construction	$ 3,482,000
Planning, Engineering and Design	50,000
Construction Management	300,000
Total	$ 3,832,000

NON-FEDERAL COSTS: None. The dam safety assurance modification is being performed at full Federal expense.

STATUS OF LOCAL COOPERATION: Not applicable.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $14,700,000 for the dam safety assurance modification is an increase of $1,000,000 from the latest estimate ($13,700,000) presented to Congress (FY 2000). This change includes the following item.

Item	Amount
Price Escalation on Construction Features	$1,000,000
Total	$1,000,000

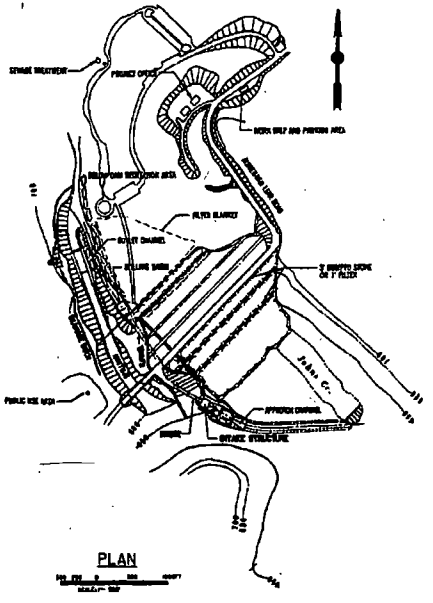
STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An Environmental Assessment was completed in December 1996 and resulted in a Finding of No Significant Impact.

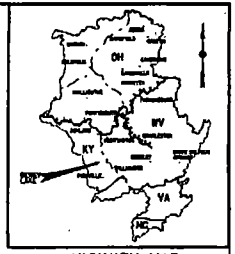
OTHER INFORMATION: Funds to initiate preconstruction engineering and design were reprogrammed to the project in FY 1994 from funds appropriated for the initiation of dam safety projects.

The Dewey Lake, Kentucky Spillway Deficiency Report for the Dam Safety Assurance Program was approved by the Assistant Secretary of the Army for Civil Works on June 23, 1994.

The scheduled completion date has changed from the latest presented to Congress (FY 2000), September 2003, to Being Determined.

CORPS OF ENGINEERS U.S. ARMY





VICINITY MAP

STATUS OF WORK

- WORK COMPLETED
- WORK UNDERWAY WITH FUNDS AVAILABLE FOR F.Y. 2000
- WORK PROPOSED WITH FUNDS REQUESTED FOR F.Y. 2001
- WORK REQUIRED TO COMPLETE THE PROJECT AFTER F.Y. 2001

LANDS	100%			
RELOCATIONS	1%	34%	50%	15%
DAM	0%	14%	34%	52%

JOHNS CREEK

DEWEY LAKE DAM SAFETY ASSURANCE
HUNTINGTON DISTRICT
GREAT LAKES AND OHIO RIVER DIVISION
1 JANUARY 2000

286

APPROPRIATION TITLE: Construction, General - Dam Safety Assurance (Flood Control)

PROJECT: Beach City Lake, Muskingum River Lakes, Ohio (Dam Safety Assurance) (Continuing)

LOCATION: The project is located near Brewster in Tuscarawas, Holmes, Wayne and Stark Counties, Ohio on Sugar Creek of the Tuscarawas River, a tributary of the Muskingum River, 179.8 miles above the mouth of the Muskingum.

DESCRIPTION: The project will upgrade spillway adequacy, including raising the dam and dike, constructing a parapet wall, raising roadways, performing minor work on access roads and parking areas, and modifying a railroad stoplog closure. The project is part of the Muskingum River Lakes system. Maximum flood control storage is 71,700 acre feet.

AUTHORIZATION: The project was authorized by the Public Works Administration on February 20, 1934. Project construction was initiated in 1934 and completed in 1937.

REMAINING BENEFIT-REMAINING COST RATIO: Not Applicable.

TOTAL BENEFIT-COST RATIO: Not Applicable.

INITIAL BENEFIT-COST RATIO: Not Applicable.

BASIS OF BENEFIT-COST RATIO: Not Applicable.

SUMMARIZED FINANCIAL DATA

Original Project		
Actual Federal Cost		$26,590,000
Actual Non-Federal Cost		8,000,000
Cash Contributions	8,000,000	
Other Costs	0	
Total Original Project Cost		$34,590,000 1/

STATUS: (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project	75	September 2001

PHYSICAL DATA

Increase elevation to 999.7 feet with embankment fill topped by parapet wall. Other features include raising State Road 212 to the design pool elevation of 999.6, modifying the top stop-log at the railroad to extend protection to elevation 996.4, and acquisition of 1.1 acres of real estate.

SUMMARIZED FINANCIAL DATA (Continued)

			ACCUM. PCT. OF EST. FED. COST
1/ Represents total cost of 14-dam Muskingum Basin system. No cost allocations are available for individual elements.			
Project Modification			
Estimated Federal Cost		$ 3,500,000	
Estimated Non-Federal Cost		125,000	
Cash Contribution	125,000		
Other Costs	0		
Total Estimated Project Cost		$ 3,625,000	
Allocations to 30 September 1999		$ 1,402,000	
Conference Allowance for FY 2000		1,400,000	
Allocation for FY 2000		1,201,000 1/	
Allocations through FY 2000		2,603,000	74
Allocation Requested for FY 2001		$ 897,000	100
Programmed Balance to Complete after FY 2001		0	
Unprogrammed Balance to Complete after FY 2001		0	

1/ Reflects a reduction of $199,000 for savings and slippage in FY 2000.

JUSTIFICATION: Spillway capacities at Beach City Lake are inadequate according to current engineering criteria. The ability of the dam to resist failure when overtopped is of particular concern. Hydrologic and hydraulic studies show that failure of the 64-foot high Beach City Dam could result in a major catastrophe. The project is constructed of rolled earth fill with a central impervious core and has a maximum crest length of 5,600 feet. According to current engineering studies, the dam could only contain 74 percent of the probable maximum flood, the largest flood that could be reasonably expected. Such a situation leads to an extremely high risk of dam failure.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Complete Construction	$ 777,000
Planning, Engineering and Design	50,000
Construction Management	70,000
Total	$ 897,000

NON-FEDERAL COSTS: In accordance with Section 1203 of the Water Resources Development Act of 1986, as amended, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments during Construction and Reimbursements	Annual Operation, Maintenance, Repair Replacement, and Rehabilitation Costs
Pay 23 percent of the costs of the dam safety assurance corrective measures that are allocated to project purposes (3.45 percent of total project costs).	$ 125,000	
Total Non-Federal Costs	$ 125,000	

The non-Federal sponsor has agreed to make annual payments concurrently with project construction.

STATUS OF LOCAL COOPERATION:

By letter dated January 30, 1995, the Muskingum Water Conservancy District indicated its willingness to serve as non-Federal sponsor for the dam safety assurance project. The Conservancy District will provide its contribution from its general operating budget. The Project Cooperation Agreement was executed on January 13, 1999.

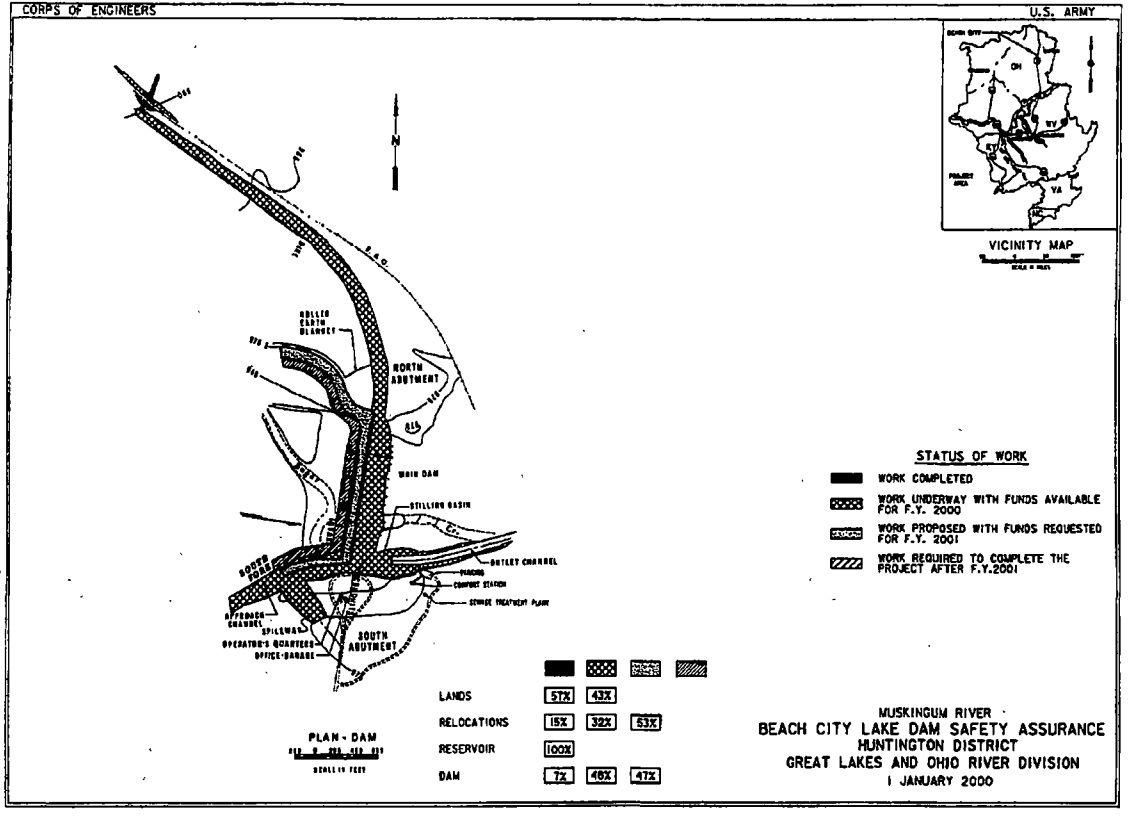
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $3,500,000 is unchanged from the latest estimate presented to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Final Environmental Impact Statement for the Muskingum River Basin was filed with the Counsel on Environmental Quality on July 5, 1977. A separate assessment of the proposed Beach City work resulted in a Finding Of No Significant Impact signed by the Commander, Huntington District in August 1991.

OTHER INFORMATION: The Beach City Lake, Muskingum River Basin, Ohio Design Memorandum for Correction of Spillway Deficiency was approved by the Acting Assistant Secretary of the Army (Civil Works) in June 1995.

The Omnibus Consolidated and Emergency Supplemental Appropriations Act 1999, Public Law 105-277, Section 344, set a cost cap of $141,000 for the non-Federal portion of the project.

The scheduled completion date of the project, September 2001, has not changed from the latest presented to Congress (FY 2000).


CORPS OF ENGINEERS
U.S. ARMY
VICINITY MAP
N
NORTH ABUTMENT
SOUTH ABUTMENT
MAIN DAM
STILLING BASIN
OUTLET CHANNEL
PARKING
COMFORT STATION
SEWAGE TREATMENT PLANT
APPROACH CHANNEL
SPILLWAY
OPERATOR'S QUARTERS
OFFICE-GARAGE
PLAN - DAM
STATUS OF WORK
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR F.Y. 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR F.Y. 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER F.Y.2001
LANDS 57% 43%
RELOCATIONS 15% 32% 53%
RESERVOIR 100%
DAM 7% 46% 47%
MUSKINGUM RIVER
BEACH CITY LAKE DAM SAFETY ASSURANCE
HUNTINGTON DISTRICT
GREAT LAKES AND OHIO RIVER DIVISION
1 JANUARY 2000

APROPRIATION TITLE: Construction General - Local Protection (Flood Control)

PROJECT: Johnstown, Pennsylvania (Major Rehabilitation) (Continuing)

LOCATION: The City of Johnstown is located in the southwestern corner of Cambria County, Pennsylvania, approximately 60 miles east of Pittsburgh. The existing project, which was constructed in six separate units, extends over approximately 3.5 miles on the Conemaugh River (Units 1, 2 and 3), 1.5 miles on the Little Conemaugh River (Unit 4) and 4.0 miles on the Stonycreek River (Units 5 and 6).

DESCRIPTION: The existing project consists of approximately nine miles of channel widening, deepening, concrete-paved channel side slopes, and concrete walls. It was constructed during the period 1938 to 1943 at a total cost of $8,865,400. Stream channel improvements include 84,500 lineal feet of concrete side slopes, 3,000 feet of low earth dikes, 9,222 lineal feet of concrete floodwalls, and associated highway, railroad and utility relocations. Approximately 16,300 feet of privately constructed masonry and concrete walls, which existed prior to the construction of the existing project, serve as flood walls as an integral part of the existing project. The area includes 23 bridge crossings. The major rehabilitation project involves rehabilitation of 54 Federally-constructed and privately-constructed wall sections and/or side slopes, replacement of a balustrade safety wall atop a section of the existing project, and the acquisition of real estate interests for construction access to unreliable non-Federal walls. All work is programmed.

AUTHORIZATION: Flood Control Act of 1936 as amended (original project) and the Energy and Water Development Appropriations Act, 1991 (major rehabilitation project).

REMAINING BENEFIT-REMAINING COST RATIO: 8.6 to 1 at 6 7/8 percent.

TOTAL BENEFIT - COST RATIO: 5.9 to 1 at 6 7/8 percent.

INITIAL BENEFIT-COST RATIO: 8.9 to 1 at 8.0 percent (FY 1994).

BASIS OF BENEFIT - COST RATIO: Benefits are from Appendix 7 to the Johnstown Rehabilitation Evaluation Report, dated March 1994, at October, 1993 price levels.

SUMMARIZED FINANCIAL DATA:			PCT. OF EST FED. COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$32,500,000		Entire Project	45	Being Determined
Estimated Non-Federal Cost		0				
Cash Contributions	0					
Other Costs	0					
Total Estimated Project Cost		$32,500,000				

			PHYSICAL DATA	
Allocations to 30 September 1999	$ 13,720,000		Channel Excavation	34,000 CY
Conference Allowance for FY 2000	$ 6,800,000		Reinforcing Steel	320,000 LB
Allocation for FY 2000	$ 7,832,000 1/		Rehabilitate Walls	10,900 FT
Allocation through FY 2000	$ 21,582,000	67	Rehabilitate Side Slopes	1,965 FT
			Rehabilitate Balustrade	3,275 FT
Allocation Requested for FY 2001	$ 7,000,000	88		
Programmed Balance to Complete after FY 2001	$3,948,000			
Unprogrammed Balance to Complete after FY 2001	0			

1/ Reflects a reduction of $968,000 as savings and slippage and $2,000,000 reprogrammed to the project in FY 2000.

JUSTIFICATION: Johnstown has a national reputation for its flooding history. In 1889, the failure of a privately-owned upstream dam caused the death of 2,200 people. The March, 1936 flood prompted authorization of the existing project in the Flood Control Act of 1936. The existing project has been very effective, reducing flood damages by an estimated $801 million through 1998. Fifty-four walls that provide flood protection (both Federally owned and non-Federally owned, but all part of the project) have been found to be structurally unreliable, and major rehabilitation is needed to ensure the existing level of flood protection is provided in the future to avoid further loss of life and damage to property.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Real Estate Acquisition	$ 30,000
Continue Construction	$ 6,120,000
Continue Cultural Resources	$ 60,000
Continue Planning, Engineering and Design	$ 270,000
Continue Construction Management	$ 520,000
Total	$ 7,000,000

NON-FEDERAL COST: In accordance with the Major Rehabilitation Project authorizing legislation, the city of Johnstown is responsible for providing rights of access, including temporary and permanent easements, sufficient to enable the Government to repair or replace those non-Federally owned buildings and walls that were incorporated into the line of protection at the convenience of the Government when the existing project was constructed. The costs of the rights of access are negligible. In addition, the city will hold and save the United States free from damages due to construction or operation and maintenance of the work on the non-Federal structures, except for damages due to the fault or negligence of the United States or its contractors. The city is responsible for environmental investigations or response actions necessary for the city to secure needed rights of access.

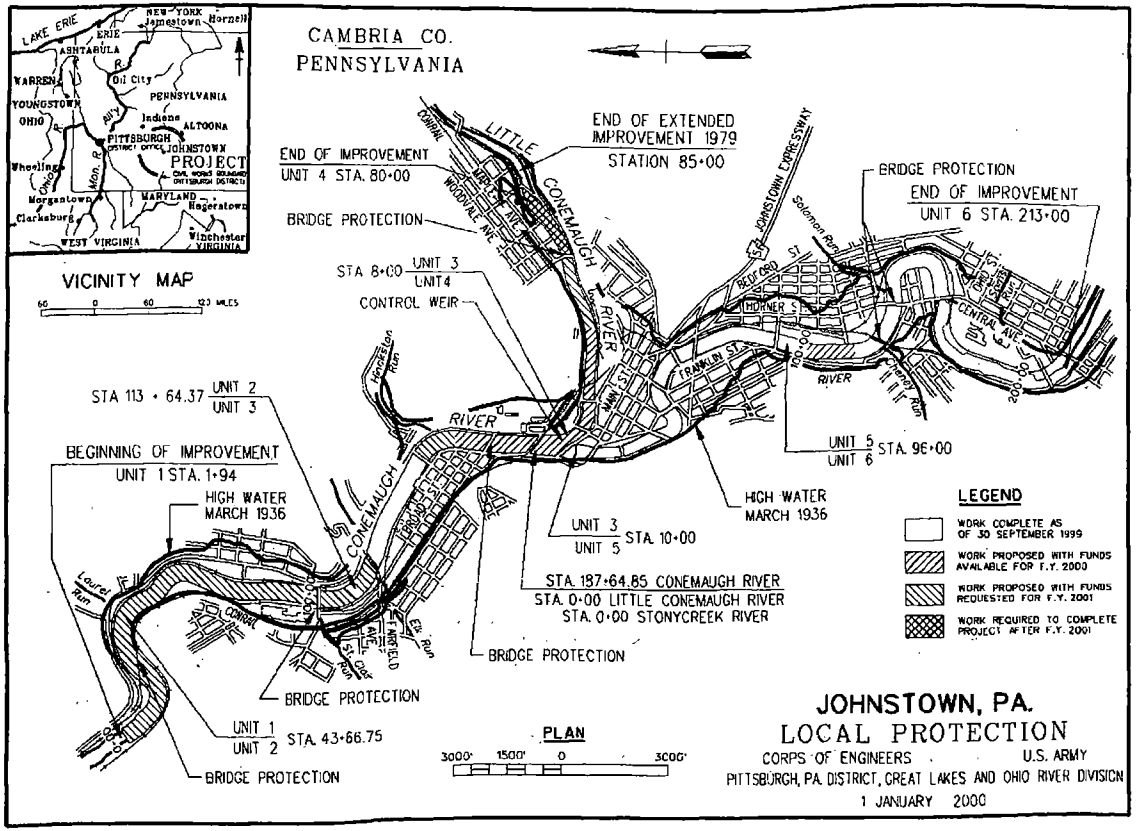
STATUS OF LOCAL COOPERATION: The Project Cooperation Agreement for the Major Rehabilitation Project with the city of Johnstown was executed in April 1996.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate ($32,500,000) remains unchanged from the last estimate presented to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An Environmental Assessment was completed during the rehabilitation study, and a signed Finding of No Significant Impacts was included in the Major Rehabilitation Evaluation Report, dated March, 1994.

OTHER INFORMATION: The existing Johnstown local flood protection project was authorized and constructed under the Flood Control Act of 1936, as amended, and the Corps of Engineers was given the responsibility for its operation and maintenance. The Energy and Water Development Appropriations Act, 1991, allocated funds for the major rehabilitation from Operations and Maintenance, General appropriations and authorized and directed the Corps of Engineers to undertake a major rehabilitation of the existing project. The Act further directed the Corps to investigate the non-Federally owned buildings, embankments, and walls that were included in the original line of protection for the convenience of the Government and to perform needed repair, rehabilitation, or replacement at Federal expense.

The scheduled completion date last presented to Congress (FY 2000), September 2002, has been revised to Being Determined.


CAMBRIA CO.
PENNSYLVANIA
VICINITY MAP
JOHNSTOWN PROJECT
END OF IMPROVEMENT
UNIT 4 STA. 80+00
END OF EXTENDED
IMPROVEMENT 1979
STATION 85+00
BRIDGE PROTECTION
STA 8+00 UNIT 3 / UNIT 4
CONTROL WEIR
BRIDGE PROTECTION
END OF IMPROVEMENT
UNIT 6 STA. 213+00
STA 113 + 64.37 UNIT 2 / UNIT 3
BEGINNING OF IMPROVEMENT
UNIT 1 STA. 1+94
HIGH WATER
MARCH 1936
UNIT 3 / UNIT 5 STA. 10+00
STA. 187+64.85 CONEMAUGH RIVER
STA. 0+00 LITTLE CONEMAUGH RIVER
STA. 0+00 STONYCREEK RIVER
HIGH WATER
MARCH 1936
UNIT 5 / UNIT 6 STA. 96+00
BRIDGE PROTECTION
BRIDGE PROTECTION
UNIT 1 / UNIT 2 STA. 43+66.75
BRIDGE PROTECTION
PLAN
3000' 1500' 0 3000'
LEGEND
WORK COMPLETE AS OF 30 SEPTEMBER 1999
WORK PROPOSED WITH FUNDS AVAILABLE FOR F.Y. 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR F.Y. 2001
WORK REQUIRED TO COMPLETE PROJECT AFTER F.Y. 2001
JOHNSTOWN, PA.
LOCAL PROTECTION
CORPS OF ENGINEERS U.S. ARMY
PITTSBURGH, PA. DISTRICT, GREAT LAKES AND OHIO RIVER DIVISION
1 JANUARY 2000

APPROPRIATION TITLE: Construction, General - (Dam Safety Assurance)

PROJECT: Bluestone Lake, West Virginia (Dam Safety Assurance) (Continuing)

LOCATION: The dam is located in southern West Virginia, in Summers County, on the New River two miles south of Hinton, West Virginia. It is situated 2.5 miles downstream from the confluence of the New and Bluestone Rivers, and 0.8 miles upstream from the confluence of the New and Greenbrier Rivers.

DESCRIPTION: The dam modifications include stability improvements such as installation of post tensioning high strength steel anchors, construction of mass concrete thrust blocks at the downstream face of the dam, and buttressing of the gate piers to resist increased hydraulic loading. The height of the dam will be raised by 13 feet and an additional monolith constructed at the east abutment to prevent overtopping of the existing dam and safely accommodate the probable maximum flood. A flood gate closure will be constructed across a state highway at the west abutment. The existing hydropower penstocks will be extended and retrofitted with gates to supplement the discharge capacity of the spillway and outlet works.

AUTHORIZATION: Executive Order of the President 7183-A, September 12, 1935; Flood Control Acts of 1936 and 1938.

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable.

TOTAL BENEFIT-COST RATIO: Not applicable.

BASIS OF BENEFIT-COST RATIO: Not applicable.

SUMMARIZED FINANCIAL DATA:

	Original Project
Actual Federal Cost	$ 28,618,100
Actual Non-Federal Cost	$ 0
Total Original Project Cost	$ 28,618,100

SUMMARIZED FINANCIAL DATA: (continued)

Project Modification

Estimated Federal Cost	$ 115,800,000
Estimated Non-Federal Cost	0
Total Estimated Modification Cost	$ 115,800,000
Total Estimated Project Cost	$ 144,418,100

	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Project Modification		4	Being Determined

PHYSICAL DATA

Increase height of dam 13 feet; install 309 anchors and thrust blocks; construct gate closure across State Route 20; modify penstocks to supplement discharge capacity; relocate electrical lines.

		ACCUM PCT OF EST FED COST
Allocations to 30 September 1999	$ 0	
Conference Allowance for FY 2000	750,000	
Allocation for FY 2000	4,620,000 1/	
Allocations through FY 2000	4,620,000	4
Allocation Requested for FY 2001	6,300,000	9
Programmed Balance to Complete after FY 2001	104,880,000	
Unprogrammed Balance to Complete after FY 2001	0	

1/ Reflects a reduction of $107,000 as savings and slippage and reprogramming of $3,977,000 to the project in FY 2000.

JUSTIFICATION: The probable maximum flood is estimated to overtop the existing dam by 13 feet. Evaluations to date indicate the dam is in imminent danger of failure at pool levels approaching the top of dam. Dam failure would cause catastrophic flooding along the Greenbrier, New, Gauley, Kanawha, and Elk Rivers, including the metropolitan area and heavily industrialized capital city of Charleston, West Virginia. This is a serious public safety concern, with more than 115,000 persons at risk. Property damage would exceed $6.5 billion.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Construction	$ 3,300,000
Planning, Engineering and Design	2,700,000
Construction Management	300,000
Total	$ 6,300,000

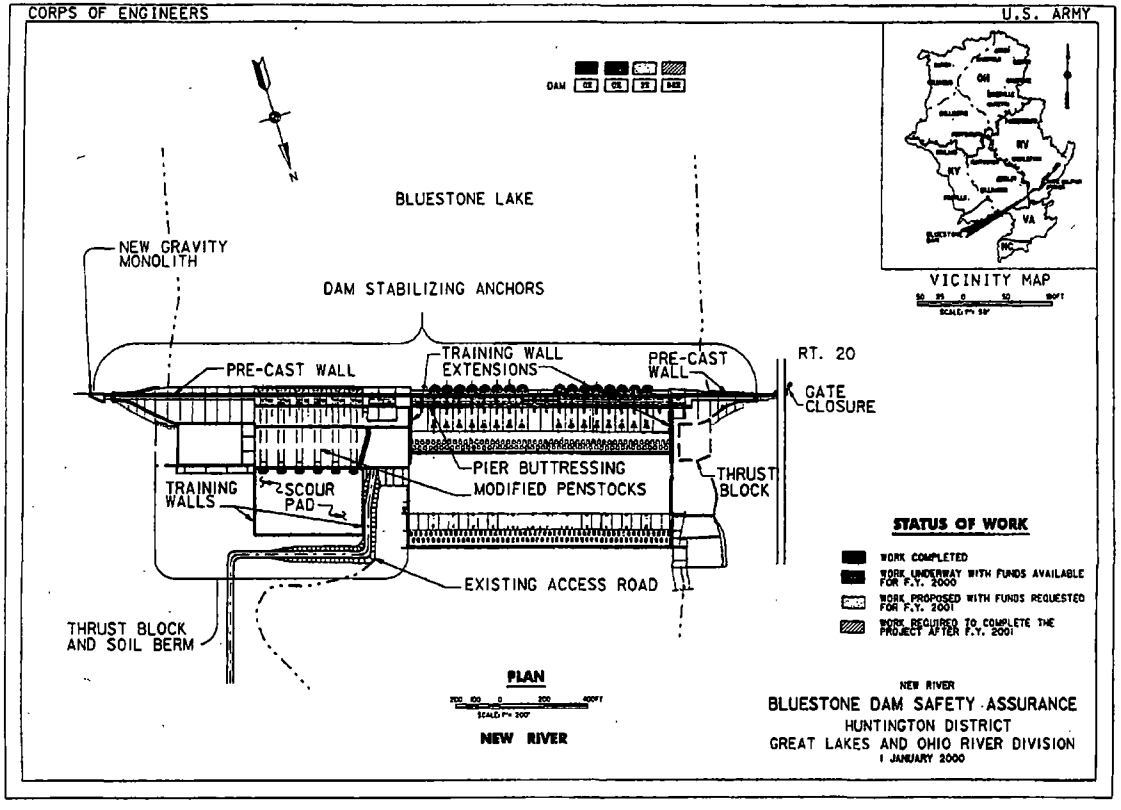
NON-FEDERAL COST: None. The dam safety assurance modification is being performed at full Federal expense.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $ 115,800,000 is an increase of $ 8,500,000 from the latest estimate ($107,300,000) presented to Congress (FY 2000). This change includes the following item.

Item	Amount
Price Escalation on Construction Features	$ 8,500,000
Total	$ 8,500,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed with EPA on August 31, 1998.

OTHER INFORMATION: The scheduled completion date of the project has changed from September 2007, the latest presented to Congress (FY 2000) to Being Determined.


CORPS OF ENGINEERS
U.S. ARMY
DAM
BLUESTONE LAKE
NEW GRAVITY MONOLITH
DAM STABILIZING ANCHORS
PRE-CAST WALL
TRAINING WALL EXTENSIONS
PRE-CAST WALL
RT. 20
GATE CLOSURE
PIER BUTTRESSING
MODIFIED PENSTOCKS
THRUST BLOCK
TRAINING WALLS
SCOUR PAD
EXISTING ACCESS ROAD
THRUST BLOCK AND SOIL BERM
VICINITY MAP
STATUS OF WORK
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR F.Y. 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR F.Y. 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER F.Y. 2001
PLAN
NEW RIVER
NEW RIVER
BLUESTONE DAM SAFETY ASSURANCE
HUNTINGTON DISTRICT
GREAT LAKES AND OHIO RIVER DIVISION
1 JANUARY 2000

APPROPRIATION TITLE: Construction, General - Locks and Dams (Navigation)

PROJECT: London Locks and Dam, West Virginia (Major Rehabilitation) (Continuing)

LOCATION: The London Locks and Dam project in Kanawha County, West Virginia consists of a non-navigable high lift dam with two 360- by 56-foot lock chambers. The project is located at river mile 82.8 on the Kanawha River, the most upstream of the Kanawha's three locks and dams. The dam provides a 9-foot navigable depth for a distance of 7.8 miles along the Kanawha River upstream to the head of navigation.

DESCRIPTION: The river lock chamber length will be extended by removing the existing upper miter gates, and re-installing those gates upstream at the emergency dam sill, but still within the confines of the existing lock walls. The upper guard wall is in a failure mode and will be replaced. Other rehabilitation efforts in the river chamber include epoxy crack and joint repair, replacement of missing or damaged wall armor, corner protection, check posts, line hooks, and grating. The existing monolithic concrete upstream guard wall will be removed, along with approximately 28,000 cubic yards of existing rock fill originally placed to stabilize the wall and the rock filled timber cribbing foundation. Some disposal material will be used to construct a flow control dike in the tailwater to improve the lower approach condition, and the remainder will be disposed of by random boulder placement in the upper Marmet pool, the designated disposal area at the Winfield locks and dam, or other existing approved landfills.

AUTHORIZATION: River and Harbor Act of 1930.

REMAINING BENEFIT-REMAINING COST RATIO: 25.5 to 1 at 6 7/8 percent.

TOTAL BENEFIT-COST RATIO: 25.5 to 1 at 6 7/8 percent.

INITIAL BENEFIT COST RATIO: 20.5 to 1 at 7 1/8 percent (FY 2000)

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluation approved in May 1997 at October 1996 price levels.

300

SUMMARIZED FINANCIAL DATA			STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Major Rehabilitation		$22,200,000	Entire Project	11	Being Determined
General Appropriations	$11,100,000				
Inland Waterways Trust Fund	11,100,000				
Estimated Non-Federal Cost		0			
Total Estimated Project Cost		$22,200,000			

PHYSICAL DATA

Existing: Lock chambers: 2 @ 56 ft. X 360 ft.
Lift: 24 ft.
Adjustment: Extend river chamber 47 ft.
Replace upper guard wall

	GENERAL APPNS.	INLAND WATERWAYS TRUST FUNDS	ACCUM. PCT. OF EST. FED. COST
Allocations to 30 September 1999	$1,060,000	$ 0	
Conference Allowance for FY2000	0	600,000	
Allocation for FY2000	195,000 1/	1,255,000 2/	
Allocations through FY2000	1,255,000	1,255,000	11
Allocation Requested for FY 2001	900,000	900,000	19
Programmed Balance to Complete after FY 2001	8,945,000	8,945,000	
Unprogrammed Balance to Complete after FY 2001	0	0	

1/ Reflects reprogramming of $195,000 to the project in FY 2000
2/ Reflects a reduction of $85,000 as savings and slippage and reprogramming of $740,000 to the project in FY 2000.

JUSTIFICATION: The reliability of this project is in jeopardy. The upper guard wall has failed structurally. Its replacement is necessary to continue operation of the locks and is considered the baseline condition for the continued use of the existing project. Upper guard wall replacement will enable safe, reliable levels of service. Physical alteration (extension) to the existing riverward lock chamber size better serves modern tows, and will permit the chamber to accommodate two jumbo barges in a single lockage cycle, instead of one jumbo as limited by current lock size, and will increase the lock's capacity by 21 percent. Delays and queuing are substantially lessened. Coal is the major commodity passing through London locks. The average tonnage over the last ten years has increased from

JUSTIFICATION (Continued):
4.8 million tons (1989) to 7.3 million tons (1998), an annual increase of 4.2 percent. Traffic demand is expected to grow at an annual rate of 2.3 percent. Since 1988, jumbo barges have been the dominant barge type at London, and represent the largest component of the Kanawha River barge fleet. Use of jumbo barges is expected to grow, since commercial operators are showing an increased preference for these larger barges due to their efficiency on the rest of the inland waterway system. The existing lock size of 56- by 360-feet accommodates 4 standard barges in a single lockage, or one jumbo. Extension of the lock length will expand the capacity to two jumbo barges per lockage.

Average annual benefits for the project are $1,409,976, all for commercial navigation.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Construction	$ 1,400,000
Planning, Engineering, and Design	300,000
Construction Management	100,000
Total	$ 1,800,000

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, 50 percent of the total costs of construction will be derived from the Inland Waterways Trust Fund.

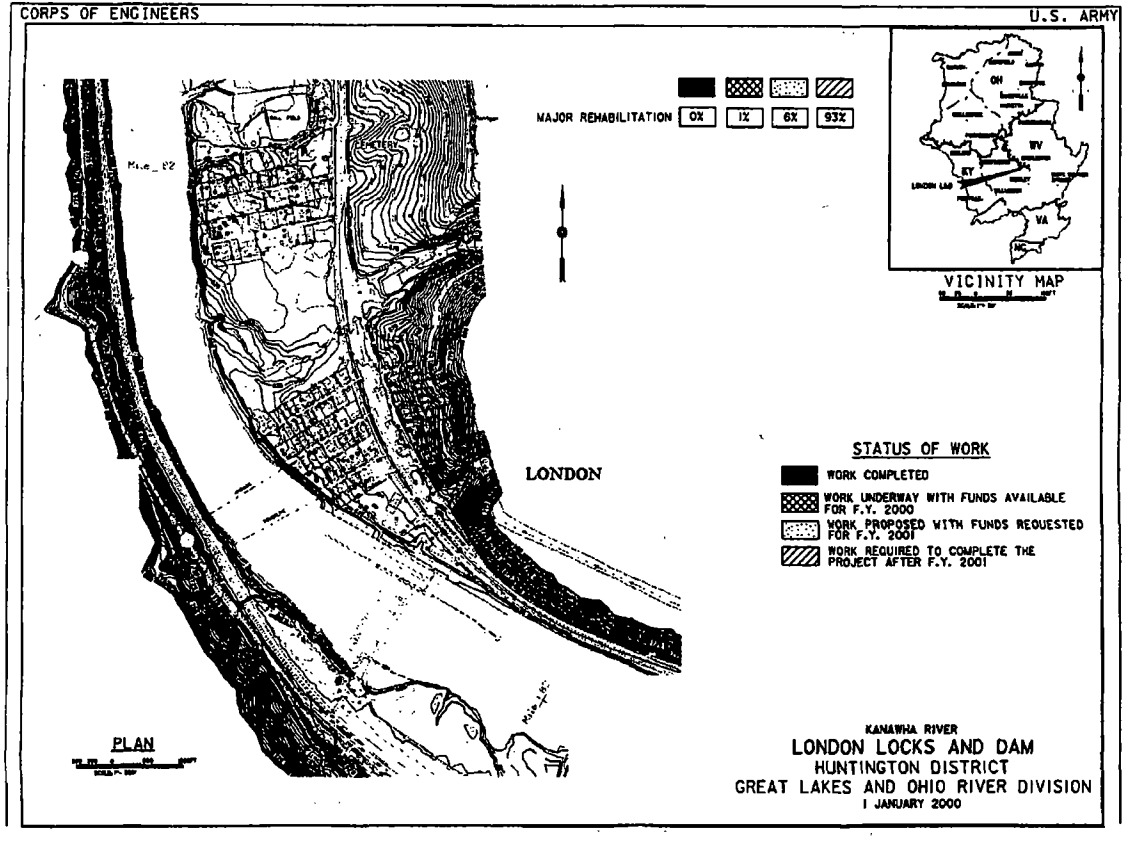
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $22,200,000 is an increase of $1,900,000 from the latest estimate ($20,300,000) presented to Congress (FY 2000). This change includes the following item:

Item	Amount
Price Escalation on Construction Features	$ 1,900,000
Total	$ 1,900,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Environmental Assessment (EA) was circulated and approved. The Finding of No Significant Impact (FONSI) was signed on August 22, 1997. The EA was submitted in lieu of an Environmental Impact Statement since no significant adverse environmental impacts are anticipated. The proposed improvements are limited to the immediate vicinity of a frequently disturbed lock approach, involve water-based construction methods, will not result in an increase in system-wide navigation traffic, and will diversify the physical habitats available to aquatic organisms.

OTHER INFORMATION: General Investigations funds for preconstruction engineering and design were appropriated in FY 1997 and FY 1998, prior to a determination that the proposed project is a major rehabilitation.

The scheduled completion date latest submitted to Congress (FY 2000), September 2004, has been revised to Being Determined.


CORPS OF ENGINEERS
U.S. ARMY
MAJOR REHABILITATION
0%
1%
6%
93%
OH
WV
KY
VA
VICINITY MAP
LONDON
STATUS OF WORK
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR F.Y. 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR F.Y. 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER F.Y. 2001
PLAN
KANAWHA RIVER
LONDON LOCKS AND DAM
HUNTINGTON DISTRICT
GREAT LAKES AND OHIO RIVER DIVISION
1 JANUARY 2000

304

APPROPRIATION TITLE: Construction, General - (Dam Safety Assurance)

PROJECT: Tygart Lake, West Virginia (Dam Safety Assurance)

LOCATION: Tygart Lake is located in the northern part of West Virginia on the Tygart River in Taylor County, WV. The lake that is formed by Tygart Dam extends into Barbour County, WV. The dam is located approximately 2.25 miles upstream of the city of Grafton, WV and 23.1 miles upstream of the City of Fairmont, WV, where the Tygart and the West Fork Rivers join to form the Monongahela River.

DESCRIPTION: Tygart Dam is a concrete gravity-type structure with an uncontrolled spillway located approximately in the center of the dam. The overall length of the dam is 1,921 feet and the width of the spillway opening is 489 feet. Tygart Dam is currently hydraulically and structurally deficient. The Dam Safety Evaluation Report concluded that the dam would not pass the Probable Maximum Flood, which for Tygart is the Base Safety Condition without overtopping. The current regulation states that the dam should pass the Project Maximum Flood without overtopping.

AUTHORIZATION: The Tygart Lake Project was initially authorized by the Public Works Administration as Public Works Administration Project No. 44 on 12 January 1934. The Rivers and Harbors Act of 30 August 1935 directed the Corps of Engineers to assume responsibility for the project.

REMAINING BENEFIT-REMAINING COST RATIO: Not Applicable

TOTAL BENEFIT - COST RATIO: Not Applicable

INITIAL BENEFIT - COST RATIO: Not Applicable

BASIS OF BENEFIT - COST RATIO: Not Applicable

SUMMARIZED FINANCIAL DATA		ACCUM. PCT. OF EST. FED. COST	STATUS (1 Jan 1999) Entire Project	PERCENT COMPLETE 26	PHYSICAL COMPLETION SCHEDULE Being Determined
Estimated Federal Cost	$9,500,000				
Programmed Construction	$9,500,000				
Unprogrammed Construction	0				
Estimated Non-Federal Cost	0				
Programmed Construction	0				
Cash Contributions	0				
Other Costs	0		PHYSICAL DATA (Existing Data)		
Estimated Non-Federal Costs	0		Concrete Gravity Dam	1,921' long	
Unprogrammed Construction	0		Center Spillway Section	490' long	
Cash Contributions	0		10 Center Sluice Outlets		
			Total Reservoir Storage	3,430 acres	
				287,700 acre-feet	
Total Estimated Programmed Construction	$9,500,000				
Total Estimated Unprogrammed Construction	0				
Total Estimated Project Costs	$9,500,000				
Allocations to 30 Sep 1999	$2,421,000				
Conference Allowance for FY 2000	$2,900,000				
Allocation for FY 2000	$2,187,000	1/			
Allocation thru FY 2000	$4,608,000	49			
Allocation Requested for FY 2001	$4,293,000	93			
Programmed Balance to Complete After FY 2001	$599,000				
Unprogrammed Balance to Complete After FY 2001	0				

1/ Reflects $413,000 reduction for savings and slippage and $300,000 reprogrammed from the project.

JUSTIFICATION: Tygart Dam is currently hydraulically and structurally deficient. It has an inadequate discharge and or storage capacity to safely pass the probable maximum flood, and will result in the dam being overtopped. It is judged that overtopping of this magnitude is likely to cause sudden and complete failure of the dam. The dam also fails to meet current criteria for structural stability. An estimate of the damages of a dam failure with a probable maximum flood exceeds 2 billion dollars.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Real Estate Activities	$ 7,000
Continue Planning, Engineering and Design	$ 175,000
Continue Construction Contract	$3,881,0000
Continue Construction Management	$ 230,000
	$4,293,000

NON-FEDERAL COST: None

STATUS OF LOCAL COOPERATION: Not Applicable

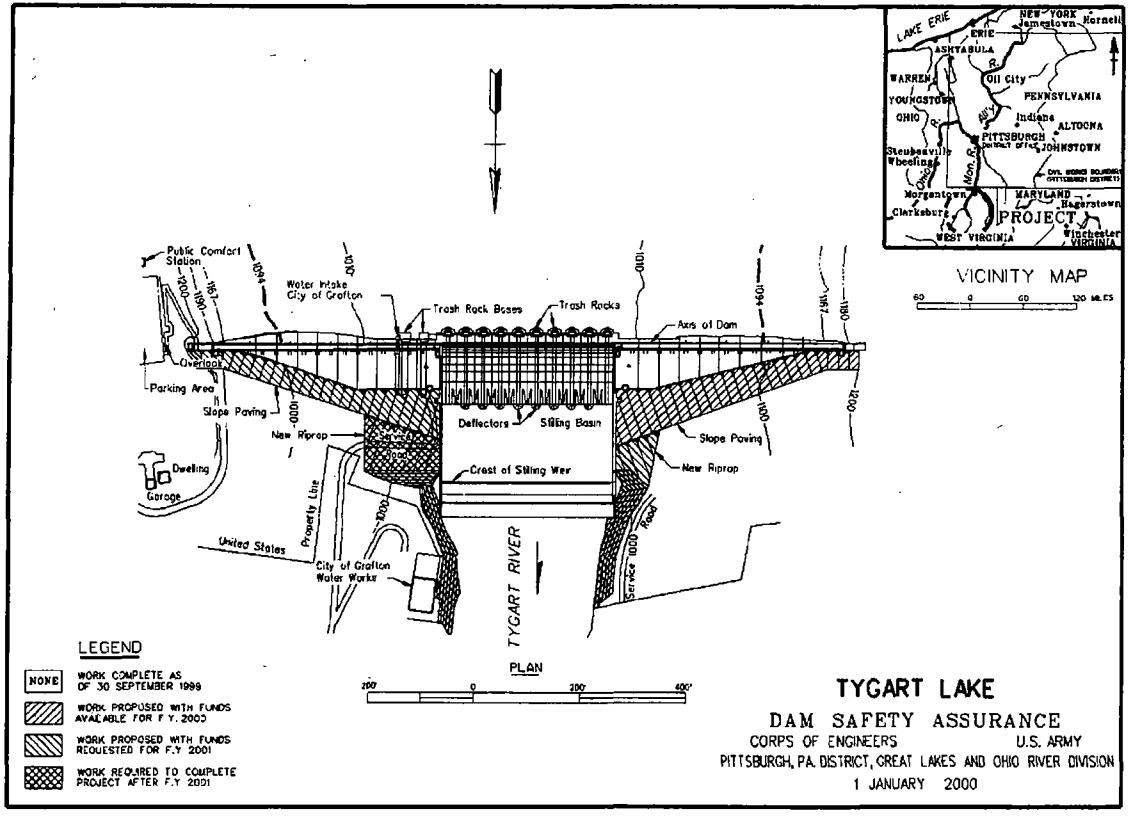
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $9,500,000 is a increase of $2,000,000 from the last estimate ($7,500,000) presented to Congress. This change includes the following items:

Item	Amount
Post Contract Award and Other Estimating Adjustments	$ 2,000,000
Total	$ 2,000,000

STATUS OF ENVIRONMENTAL ASSESSMENT: NEPA documentation consisted of a final Environmental Assessment. A finding of No Significant Impact was signed on November 7, 1997. A section 404(b)(1) analysis was not required.

OTHER INFORMATION: The Tygart Dam Safety Assurance Evaluation Report was approved by the Assistant Secretary of the Army (Civil Works) in April 1996.

The scheduled completion date has changed from September 2001, the latest completion date presented to Congress (FY 2000), to Being Determined.


LAKE ERIE
NEW YORK
Jamestown
Hornell
ERIE
ASHTABULA
WARREN
Oil City
YOUNGSTOWN
PENNSYLVANIA
OHIO
Indiana
ALTOONA
PITTSBURGH
JOHNSTOWN
Steubenville
Wheeling
Morgantown
MARYLAND
Hagerstown
Clarksburg
PROJECT
WEST VIRGINIA
Winchester
VICINITY MAP
Public Comfort Station
Water Intake City of Grafton
Trash Rack Bases
Trash Racks
Axis of Dam
Overlook
Parking Area
Slope Paving
New Riprop
Deflectors
Stilling Basin
Slope Paving
New Riprop
Crest of Stilling Wier
Dwelling
Garage
Property Line
United States
City of Grafton Water Works
TYGART RIVER
Service Road
PLAN
LEGEND
NONE
WORK COMPLETE AS OF 30 SEPTEMBER 1999
WORK PROPOSED WITH FUNDS AVAILABLE FOR F.Y. 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR F.Y 2001
WORK REQUIRED TO COMPLETE PROJECT AFTER F.Y 2001
TYGART LAKE
DAM SAFETY ASSURANCE
CORPS OF ENGINEERS U.S. ARMY
PITTSBURGH, PA. DISTRICT, GREAT LAKES AND OHIO RIVER DIVISION
1 JANUARY 2000

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APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. **Navigation**

a. **Channels and Harbors**

The program request of $61,149,000 provides for the operational requirements of 62 projects. Requirements include: dredging, snagging, repairing channel stabilization works, harbor jetties, navigation structures, constructing bulkheads and confined disposal areas.

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items
Illinois			
Calumet Harbor	2,114,000	4,758,000	
and River	(203,000)	(203,000)	1. None.
(IL & IN)	(1,911,000)	(4,555,000)	2. Repair deteriorated confined disposal facility dike; perform dredging of channel.
Chicago Harbor	4,110,000	2,762,000	
	(1,485,000)	(1,262,000)	1. Complete major rehabilitation report for Chicago Lock in FY 2000.
	(2,625,000)	(1,500,000)	2. Repair deteriorated breakwater.
Chicago River	353,000	362,000	
	(353,000)	(362,000)	1. None.
	(0)	(0)	2. None.
Lake Michigan	802,000	837,000	
Diversion	(802,000)	(837,000)	1. None.
	(0)	(0)	2. None.

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APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. **Navigation** (continued)

a. **Channels and Harbors** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Illinois (continued)			
Waukegan Harbor	1,107,000	1,473,000	
	(196,000)	(197,000)	1. None.
	(911,000)	(1,276,000)	2. None.
Indiana			
Burns Waterway Harbor	1,039,000	1,937,000	
	(119,000)	(227,000)	1. Perform study to monitor underwater reef performance in FY 2001.
	(920,000)	(1,710,000)	2. Repair deteriorated breakwater.
Indiana Harbor	0	429,000	
	(0)	(64,000)	1. Perform routine annual project operations activities in FY 2001. Funding reduced by Congress in FY 2000; minimal level of operations being provided in FY 2000 using funds carried over from FY 1999.
	(0)	(365,000)	2. None.
Michigan City Harbor	1,232,000	806,000	
	(56,000)	(56,000)	1. None.
	(1,176,000)	(750,000)	2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. **Navigation** (continued)

a. **Channels and Harbors** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Kentucky			
Big Sandy Harbor	1,079,000	1,497,000	
	(35,000)	(35,000)	1. None.
	(1,044,000)	(1,462,000)	2. Perform dredging to maintain navigation channel.
Licking River	17,000	21,000	
	(0)	(0)	1. None.
	(17,000)	(21,000)	2. None.
Michigan			
Alpena Harbor	815,000	203,000	
	(20,000)	(23,000)	1. Variation in condition survey activities in FY 2001.
	(795,000)	(180,000)	2. None.
Arcadia Harbor	68,000	85,000	
	(20,000)	(23,000)	1. Variation in condition survey activities in FY 2001.
	(48,000)	(62,000)	2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. **Navigation** (continued)

a. **Channels and Harbors** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Michigan (continued)			
Black River	57,000	306,000	
(Port Huron)	(12,000)	(12,000)	1. None.
	(45,000)	(294,000)	2. None.
Channels in Lake	111,000	458,000	
St. Clair	(81,000)	(57,000)	1. Conduct sediment sampling and contamination testing in FY 2000.
	(30,000)	(401,000)	2. None.
Charlevoix Harbor	135,000	118,000	
	(45,000)	(41,000)	1. None.
	(90,000)	(77,000)	2. None.
Detroit River	2,508,000	2,342,000	
	(853,000)	(1,012,000)	1. Variation in dredged material management plan study activities in FY 2001.
	(1,655,000)	(1,330,000)	2. Locate and remove obstructions in navigation channel.
Frankfort Harbor	258,000	130,000	
	(40,000)	(43,000)	1. None.
	(218,000)	(87,000)	2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. **Navigation** (continued)

   a. **Channels and Harbors** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Michigan (continued)			
Grand Haven	617,000	1,264,000	
Harbor	(306,000)	(268,000)	1. Perform dredged material management plan study activities in FY 2000.
	(311,000)	(996,000)	2. Repair concrete cap at North Pier, Section B.
Holland Harbor	389,000	905,000	
	(183,000)	(181,000)	1. None.
	(206,000)	(724,000)	2. None.
Inland Route	98,000	33,000	
	(43,000)	(33,000)	1. Variation in condition survey activities in FY 2000.
	(55,000)	(0)	2. None.
Keweenaw Waterway	254,000	256,000	
	(40,000)	(43,000)	1. None.
	(214,000)	(213,000)	2. None.
Leland Harbor	155,000	168,000	
	(17,000)	(20,000)	1. Variation in condition survey activities in FY 2000.
	(138,000)	(148,000)	2. None.

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APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. **Navigation** (continued)

a. **Channels and Harbors** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Michigan (continued)			
Ludington Harbor	1,028,000	663,000	
	(100,000)	(103,000)	1. None.
	(928,000)	(560,000)	2. None.
Manistee Harbor	0	272,000	
	(0)	(54,000)	1. Perform condition survey activities, and conduct real estate inspection activities in FY 2001.
	(0)	(218,000)	2. None.
Manistique Harbor	1,240,000	239,000	
	(12,000)	(10,000)	1. Variation in condition survey activities in FY 2000.
	(1,228,000)	(229,000)	2. None.
Menominee Harbor	0	174,000	
(MI & WI)	(0)	(24,000)	1. Perform condition surveys in FY 2001.
	(0)	(150,000)	2. None.
Monroe Harbor	136,000	695,000	
	(55,000)	(55,000)	1. None.
	(81,000)	(640,000)	2. Perform dredging.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. **Navigation** (continued)

a. **Channels and Harbors** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Michigan (continued)			
Ontonagon Harbor	463,000	603,000	
	(63,000)	(50,000)	1. Variation in real estate inspection activities, and perform archaeological activities in FY 2000.
	(400,000)	(553,000)	2. None.
Pentwater Harbor	2,755,000	450,000	
	(55,000)	(30,000)	1. Perform archaeological investigations in FY 2000.
	(2,700,000)	(420,000)	2. None.
Portage Lake Harbor	210,000	1,974,000	
	(24,000)	(56,000)	1. Perform sediment sampling activities in FY 2001.
	(186,000)	(1,918,000)	2. Repair North and South Piers, Sections A and B, Phase I.
Rouge River	245,000	417,000	
	(60,000)	(77,000)	1. Variation in condition survey activities, and perform confined disposal facility site assessment in FY 2001.
	(185,000)	(340,000)	2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. **Navigation** (continued)

a. **Channels and Harbors** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Michigan (continued)			
Saginaw River	1,098,000	1,453,000	
	(418,000)	(415,000)	1. None.
	(680,000)	(1,038,000)	2. Perform dredging.
St. Clair River	1,009,000	996,000	
	(116,000)	(107,000)	1. None.
	(893,000)	(889,000)	2. None.
St. Joseph Harbor	656,000	1,194,000	
	(170,000)	(160,000)	1. None.
	(486,000)	(1,034,000)	2. None.
South Haven Harbor	117,000	481,000	
	(15,000)	(15,000)	1. None.
	(102,000)	(466,000)	2. None.
White Lake Harbor	60,000	290,000	
	(20,000)	(80,000)	1. Perform beach nourishment analysis activities in FY 2001.
	(40,000)	(210,000)	2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. **Navigation** (continued)

a. **Channels and Harbors** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Minnesota			
Duluth-Superior	2,542,000	5,310,000	
Harbor	(732,000)	(764,000)	1. None.
(MN & WI)	(1,810,000)	(4,546,000)	2. Repair Superior Entry Piers; perform dredging.
Grand Marais Harbor	0	186,000	
	(0)	(12,000)	1. Perform condition survey activities in FY 2001.
	(0)	(174,000)	2. None.
Two Harbors	0	208,000	
	(0)	(12,000)	1. Perform condition survey activities and real estate inspections in FY 2001.
	(0)	(196,000)	2. None.
New York			
Buffalo Harbor	773,000	176,000	
	(181,000)	(89,000)	1. Variation in condition survey activities and environmental studies in FY 2000.
	(592,000)	(87,000)	2. None.
Dunkirk Harbor	362,000	310,000	
	(20,000)	(20,000)	1. None.
	(342,000)	(290,000)	2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. **Navigation** (continued)

a. **Channels and Harbors** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
New York (continued)			
Oswego Harbor	395,000	353,000	
	(20,000)	(20,000)	1. None.
	(375,000)	(333,000)	2. None.
Rochester Harbor	454,000	725,000	
	(35,000)	(30,000)	1. Variation in condition survey activities in FY 2000.
	(419,000)	(695,000)	2. Perform dredging.
Sturgeon Point Harbor	15,000	15,000	
	(0)	(0)	1. None.
	(15,000)	(15,000)	2. None.
Ohio			
Ashtabula Harbor	845,000	750,000	
	(230,000)	(50,000)	1. Conduct dredged material management plan studies in FY 2000.
	(615,000)	(700,000)	2. Perform dredging.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. **Navigation** (continued)

a. **Channels and Harbors** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Ohio (continued)			
Cleveland Harbor	5,530,000	3,915,000	
	(175,000)	(145,000)	1. Variation in master planning activities in FY 2000.
	(5,355,000)	(3,770,000)	2. Perform navigation dredging of Cuyahoga River; repair breakwaters.
Conneaut Harbor	831,000	735,000	
	(69,000)	(20,000)	1. Variation in condition survey activities; perform environmental study activities in FY 2000.
	(762,000)	(715,000)	2. Perform dredging.
Fairport Harbor	481,000	1,785,000	
	(25,000)	(35,000)	1. Variation in condition survey activities in FY 2001.
	(456,000)	(1,750,000)	2. Perform dredging; repair East Pier.
Huron Harbor	845,000	790,000	
	(35,000)	(40,000)	1. Variation in condition survey activities in FY 2001.
	(810,000)	(750,000)	2. Perform dredging.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. **Navigation** (continued)

a. **Channels and Harbors** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Ohio (continued)			
Lorain Harbor	795,000	2,152,000	
	(78,000)	(40,000)	1. Variation in condition survey activities; perform environmental study activities in FY 2000.
	(717,000)	(2,112,000)	2. Perform dredging; repair West Breakwater.
Sandusky Harbor	1,037,000	870,000	
	(85,000)	(70,000)	1. Variation in condition survey activities and environmental study activities in FY 2000.
	(952,000)	(800,000)	2. Perform dredging.
Toledo Harbor	3,560,000	4,550,000	
	(185,000)	(320,000)	1. Variation in dredged material management plan study activities and environmental activities in FY 2001.
	(3,375,000)	(4,230,000)	2. Perform dredging; repair confined disposal facility pipeline and exterior structure.
Pennsylvania			
Erie Harbor	123,000	125,000	
	(56,000)	(60,000)	1. None.
	(67,000)	(65,000)	2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. **Navigation** (continued)

   a. **Channels and Harbors** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Wisconsin			
Ashland Harbor	176,000	170,000	
	(10,000)	(0)	1. Perform condition survey activities in FY 2000.
	(166,000)	(170,000)	2. None.
Green Bay Harbor	1,344,000	1,640,000	
	(355,000)	(342,000)	1. None.
	(989,000)	(1,298,000)	2. Perform dredging.
Kenosha Harbor	208,000	925,000	
	(20,000)	(12,000)	1. Variation in condition survey activities in FY 2000.
	(188,000)	(913,000)	2. Repair North Detached Breakwater.
Kewaunee Harbor	715,000	490,000	
	(55,000)	(60,000)	1. None.
	(660,000)	(30,000)	2. None.
Manitowoc Harbor	256,000	738,000	
	(69,000)	(70,000)	1. None.
	(187,000)	(668,000)	2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. **Navigation** (continued)

a. **Channels and Harbors** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Wisconsin (continued)			
Milwaukee Harbor	1,537,000	819,000	
	(365,000)	(254,000)	1. Variation in confined disposal facility management studies and condition survey activities in FY 2000.
	(1,172,000)	(565,000)	2. Repair North Extension Breakwater, Sections B-3 and C-1.
Sheboygan Harbor	214,000	290,000	
	(45,000)	(40,000)	1. Variation in condition survey activities in FY 2000.
	(169,000)	(250,000)	2. None.
Sturgeon Bay Harbor	452,000	1,534,000	
and Lake Michigan	(75,000)	(78,000)	1. None.
Ship Canal	(377,000)	(1,456,000)	2. Repair South Revetment, Section N.
Two Rivers Harbor	278,000	537,000	
	(25,000)	(20,000)	1. Variation in condition surveys in FY 2000.
	(253,000)	(517,000)	2. Repair North and South Pier, Sections C, D, D1 and D2.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. **Navigation** (continued)

   a. **Channels and Harbors** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items
Other Projects	9,039,000	0	1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-).
Maintained	(997,000)	(0)	2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Periodically	(8,042,000)	(0)	
TOTAL, Channels and Harbors	59,142,000	61,149,000	
	(9,959,000)	(8,838,000)	
	(49,183,000)	(52,311,000)	

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. **Navigation** (continued)

b. **Locks, Dams and Canals**

The program request of $136,543,000 provides for the operational requirements of 12 projects. Requirements include: operation and ordinary maintenance of project facilities; labor, supplies and parts for day-to-day functioning of projects; periodic maintenance, repairs and replacements; and contract law enforcement. The requested amount also includes application of special recreation use fees for recreation areas.

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Kentucky			
Green and Barren Rivers	1,142,000 (1,082,000) (60,000)	1,079,000 (1,079,000) (0)	1. None. 2. None.
Kentucky River	3,334,000 (914,000) (2,420,000)	1,149,000 (914,000) (235,000)	1. None. 2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. **Navigation** (continued)

b. **Locks, Dams and Canals** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items
Kentucky (continued)			1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Ohio River Locks and Dams - Louisville District (Lower River Segment, Mile 438.0 to Mile 981.0; KY, IL, IN & OH)	35,614,000 (12,141,000) (23,473,000)	31,813,000 (12,604,000) (19,209,000)	1. None. 2. Repair culvert valves, and repave highway bridge across dam at Markland Locks and Dam; replace seals on dam tainter gates at McAlpine Locks and Dam; dewater lock chamber and make lock repairs, and repair steel plating on dam tainter gates at Newburgh Locks and Dam; replace seals on dam tainter gates at J.T. Myers Locks and Dam; paint culvert valves, repair steel plating on dam tainter gates, and replace cable connections to dam tainter gates at Smithland Locks and Dam; purchase replacement lock and dam parts; purchase gate lifter equipment; paint bulkhead cranes; fabricate downstream dewatering closure for dam repairs.
Ohio River Open Channel Work - Louisville District (Lower River Segment, Mile 438.0 to Mile 981.0; KY, IL, IN & OH)	3,734,000 (617,000) (3,117,000)	6,007,000 (692,000) (5,315,000)	1. Perform environmental study activities in FY 2001. 2. Perform navigation channel maintenance dredging, and clearing and snagging of channel; stabilize channel at Kentucky Peninsula in order to maintain authorized navigation channel.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. **Navigation** (continued)

b. **Locks, Dams and Canals** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items
New York			
Black Rock Channel	1,465,000	2,966,000	
and Tonawanda	(703,000)	(679,000)	1. None.
Harbor	(762,000)	(2,287,000)	2. Dewater lock and remove middle gates; repair upper west approach wall; paint lock operating gates..
Pennsylvania			
Allegheny River	7,650,000	6,905,000	
	(4,131,000)	(4,155,000)	1. None.
	(3,519,000)	(2,750,000)	2. Perform annual recurring maintenance of lock and dam operating machinery and permanent operating equipment at Locks and Dams 2 through 9.
Monongahela River	14,362,000	14,293,000	
(PA & WV)	(7,839,000)	(7,815,000)	1. None.
	(6,523,000)	(6,478,000)	2. Rehabilitate lock electrical system at Locks and Dam 2; dewater lock chamber and repair gates at Locks and Dam 4; replace emptying valve on lock chamber at Hildebrand Lock and Dam; perform annual recurring maintenance of lock and dam operating machinery and permanent operating equipment.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. **Navigation** (continued)

b. **Locks, Dams and Canals** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Pennsylvania (continued)			
Ohio River Locks and Dams -	21,450,000 249,000)	22,407,000 (8,146,000)	
Pittsburgh District (Upper River Segment, Mile 0.0 to Mile 127.2; PA, OH & WV)	(13,201,000)	(14,261,000)	1. None. 2. Dewater lock and make repairs to lock gates and operating machinery at Hannibal Locks and Dam; replace lock miter gates, and replace floating mooring bits at New Cumberland Locks and Dam; dewater lock chamber and make repairs to lock gates, seals, anchorages and operating equipment at Dashields Locks and Dam; replace steel lift gates, and renovate river wall filling valves at Emsworth Locks and Dam; perform annual recurring maintenance of lock and dam operating machinery and permanent operating equipment.
Ohio River Open Channel Work -	214,000 (0)	218,000 (0)	
Pittsburgh District (Upper River Segment, Mile 0.0 to Mile 127.2; PA, OH & WV)	(214,000)	(218,000)	1. None. 2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. **Navigation** (continued)

   b. **Locks, Dams and Canals** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items
Tennessee			
Chickamauga Lock, Tennessee River	2,800,000 (0) (2,800,000)	1,900,000 (0) (1,900,000)	1. None. 2. Continue lock repair activities including performing post tensioning, slot cutting and shear reinforcement work, and performing inspection and instrumentation activities.
Tennessee River (TN, AL, KY & MS)	15,608,000 (5,763,000) (9,845,000)	14,484,000 (5,663,000) (8,821,000)	1. None. 2. Dewater Kentucky Lock and make repairs to lock equipment; fabricate replacement miter gate anchorage parts and repair gate anchorages at locks; perform annual recurring maintenance of lock and dam operating machinery and permanent operating equipment.
West Virginia			
Kanawha River	7,246,000 (4,188,000) (3,058,000)	7,782,000 (4,378,000) (3,404,000)	1. None. 2. Repair roller gate aprons at Marmet and London Locks and Dams; replace lock gate valve equipment.

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APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. **Navigation** (continued)

   b. **Locks, Dams and Canals** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
West Virginia (continued)			
Ohio River Locks and Dams -	18,342,000	15,934,000	
Huntington District (Middle River Segment, Mile 127.2 to Mile 438.0; WV, KY & OH)	(9,252,000) (9,090,000)	(9,102,000) (6,832,000)	1. None. 2. Replace auxiliary lock gate hoist cables and rehabilitate land wall emptying valve, and perform rehabilitation of upper miter gate at auxiliary lock at Meldahl Locks and Dam; rehabilitate main lock miter gate machinery at Greenup Locks and Dam; replace cable at main lock middle wall fill valve and repair miter gates at R.C. Byrd Locks and Dam; rehabilitate auxiliary lock lower miter gate at Racine Locks and Dam; rehabilitate auxiliary lock land wall emptying valve, and rehabilitate and metallize tainter gates at Belleville Locks and Dam.
Ohio River Open Channel Work -	2,444,000	2,786,000	
Huntington District (Middle River Segment, Mile 127.2 to Mile 438.0; WV, KY & OH)	(604,000) (1,840,000)	(839,000) (1,947,000)	1. Initiate survey work to update navigation charts in FY 2001. 2. Perform navigation channel maintenance dredging.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. **Navigation** (continued)

b. **Locks, Dams and Canals** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
West Virginia (continued)			
Tygart Lake	1,920,000	3,568,000	
	(857,000)	(890,000)	1. None.
	(1,063,000)	(2,678,000)	2. Repair concrete walls and deteriorated concrete on service bridge; replace bulkhead hoist system; rewire electrical system.
Wisconsin			
Fox River	2,531,000	3,252,000	
	(1,433,000)	(1,194,000)	1. Perform environmental studies in FY 2000 to support transfer of facilities to the State of Wisconsin.
	(1,098,000)	(2,058,000)	2. Replace dam gate hoist mechanisms.
TOTAL, Locks, Dams and Canals	139,856,000	136,543,000	
	(57,773,000)	(58,150,000)	
	(82,083,000)	(78,393,000)	
TOTAL - NAVIGATION	198,998,000	197,692,000	
	(67,732,000)	(66,988,000)	
	(131,266,000)	(130,704,000)	

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. **Flood Control**

a. **Reservoirs**

The program request of $83,620,000 provides for the operational requirements of 72 flood control projects. Requirements include: operation and ordinary maintenance of project facilities; labor, supplies, materials, and parts for day-to-day functioning of projects; periodic maintenance, repairs, and replacements; and contract law enforcement. The requested amount also includes application of special recreation use fees for recreation areas.

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items
Indiana			1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Brookville Lake	844,000	782,000	
	(784,000)	(764,000)	1. None.
	(60,000)	(18,000)	2. None.
Cagles Mill Lake	709,000	732,000	
	(709,000)	(732,000)	1. None.
	(0)	(0)	2. None.
Cecil M. Harden Lake	837,000	864,000	
	(837,000)	(849,000)	1. None.
	(0)	(15,000)	2. None.
J. Edward Roush Lake	902,000	824,000	
	(732,000)	(729,000)	1. None.
	(170,000)	(95,000)	2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. **Flood Control** (continued)

a. **Reservoirs** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Indiana (continued)			
Mississinewa Lake	1,382,000	1,182,000	
	(1,207,000)	(887,000)	1. Perform seismic and stability analyses of dam in FY 2000.
	(175,000)	(295,000)	2. None.
Monroe Lake	803,000	799,000	
	(803,000)	(799,000)	1. None.
	(0)	(0)	2. None.
Patoka Lake	730,000	731,000	
	(730,000)	(731,000)	1. None.
	(0)	(0)	2. None.
Salamonie Lake	741,000	749,000	
	(741,000)	(737,000)	1. None.
	(0)	(12,000)	2. None.

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APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. **Flood Control** (continued)

a. **Reservoirs** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Kentucky			
Barren River Lake	2,357,000	2,544,000	
	(2,057,000)	(1,847,000)	1. Conduct dam safety training; collect and analyze recreation management data in FY 2000.
	(300,000)	(697,000)	2. None.
Buckhorn Lake	1,209,000	1,685,000	
	(1,109,000)	(1,127,000)	1. None.
	(100,000)	(558,000)	2. None.
Carr Creek Lake	1,724,000	1,542,000	
	(1,334,000)	(1,324,000)	1. None.
	(390,000)	(218,000)	2. None.
Cave Run Lake	819,000	868,000	
	(816,000)	(803,000)	1. None.
	(3,000)	(65,000)	2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. **Flood Control** (continued)

a. **Reservoirs** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items
			1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-).
			2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Kentucky (continued)			
Dewey Lake	1,259,000	1,429,000	
	(1,232,000)	(1,301,000)	1. None.
	(27,000)	(128,000)	2. None.
Fishtrap Lake	1,609,000	1,890,000	
	(1,532,000)	(1,609,000)	1. None.
	(77,000)	(281,000)	2. None.
Grayson Lake	1,087,000	1,366,000	
	(1,081,000)	(1,033,000)	1. None.
	(6,000)	(333,000)	2. None.
Green River Lake	2,341,000	2,917,000	
	(1,665,000)	(1,755,000)	1. None.
	(676,000)	(1,162,000)	2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. **Flood Control** (continued)

a. **Reservoirs** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Kentucky (continued)			
Martins Fork Lake	641,000	714,000	
	(623,000)	(519,000)	1. Perform water supply reallocation study; conduct dam safety training in FY 2000.
	(18,000)	(195,000)	2. None.
Nolin Lake	2,507,000	2,285,000	
	(1,609,000)	(1,600,000)	1. None.
	(898,000)	(685,000)	2. None.
Paintsville Lake	938,000	1,016,000	
	(928,000)	(935,000)	1. None.
	(10,000)	(81,000)	2. None.
Rough River Lake	1,625,000	1,827,000	
	(1,476,000)	(1,487,000)	1. None.
	(149,000)	(340,000)	2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. **Flood Control** (continued)

a. **Reservoirs** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Kentucky (continued)			
Taylorsville Lake	1,461,000	1,048,000	
	(1,035,000)	(1,012,000)	1. None.
	(426,000)	(36,000)	2. None.
Yatesville Lake	961,000	1,211,000	
	(938,000)	(1,145,000)	1. Perform water quality analysis; collect and analyze water control data to update project water control plan in FY 2001.
	(23,000)	(66,000)	2. None.
New York			
Mt. Morris Lake	2,723,000	1,958,000	
	(1,643,000)	(1,360,000)	1. Install seismic instrumentation; conduct periodic inspection and reporting; variation in real estate management activities in FY 2000.
	(1,080,000)	(598,000)	2. None.
Ohio			
Alum Creek Lake	744,000	790,000	
	(739,000)	(614,000)	1. Variation in water control data collection and analysis activities in FY 2000.
	(5,000)	(176,000)	2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. **Flood Control** (continued)

a. **Reservoirs** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Ohio (continued)			
Berlin Lake	4,518,000	3,270,000	
	(1,767,000)	(1,781,000)	1. None.
	(2,751,000)	(1,489,000)	2. Replace main sluice valves and conduits at dam.
Caesar Creek Lake	1,228,000	1,309,000	
	(1,174,000)	(1,144,000)	1. None.
	(54,000)	(165,000)	2. None.
Clarence J. Brown Dam and Reservoir	719,000	1,175,000	
	(713,000)	(713,000)	1. None.
	(6,000)	(462,000)	2. None.
Deer Creek Lake	668,000	745,000	
	(667,000)	(663,000)	1. None.
	(1,000)	(82,000)	2. None.

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APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. **Flood Control** (continued)

a. **Reservoirs** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Ohio (continued)			
Delaware Lake	1,013,000	777,000	
	(608,000)	(664,000)	1. None.
	(405,000)	(113,000)	2. None.
Dillon Lake	723,000	709,000	
	(667,000)	(552,000)	1. Conduct periodic inspection; variation in water quality analysis activities in FY 2000.
	(56,000)	(157,000)	2. None.
Michael J. Kirwan Dam and Reservoir	1,200,000	1,033,000	
	(919,000)	(968,000)	1. None.
	(281,000)	(65,000)	2. None.
Mosquito Creek Lake	1,432,000	1,329,000	
	(1,003,000)	(1,073,000)	1. None.
	(429,000)	(256,000)	2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. **Flood Control** (continued)

a. **Reservoirs** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Ohio (continued)			
Muskingum River Lakes	6,672,000 (4,771,000) (1,901,000)	7,993,000 (4,636,000) (3,357,000)	1. None. 2. Repair concrete spillway at Charles Mill Lake.
North Branch of Kokosing River	313,000 (294,000) (19,000)	544,000 (504,000) (40,000)	1. Perform water quality analysis in FY 2001. 2. None.
Paint Creek Lake	639,000 (614,000) (25,000)	661,000 (583,000) (78,000)	1. None. 2. None.
Tom Jenkins Dam	439,000 (314,000) (125,000)	350,000 (259,000) (91,000)	1. Conduct periodic inspection; conduct bridge inspection; perform water quality analysis activities in FY 2000. 2. None.
West Fork of Mill Creek Lake	574,000 (574,000) (0)	565,000 (540,000) (0)	1. None. 2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. **Flood Control** (continued)

a. **Reservoirs** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items
			1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-).
			2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Ohio (continued)			
William H. Harsha Lake	856,000	821,000	
	(856,000)	(821,000)	1. None.
	(0)	(0)	2. None.
Pennsylvania			
Conemaugh River Lake	952,000	1,259,000	
	(891,000)	(863,000)	1. None.
	(61,000)	(396,000)	2. None.
Crooked Creek Lake	2,307,000	1,491,000	
	(1,358,000)	(1,308,000)	1. None.
	(949,000)	(183,000)	2. None.
East Branch Clarion River Lake	883,000	903,000	
	(782,000)	(802,000)	1. None.
	(101,000)	(101,000)	2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. **Flood Control** (continued)

a. **Reservoirs** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Pennsylvania (continued)			
Kinzua Dam and	1,370,000	1,472,000	
Allegheny Reservoir	(1,225,000)	(1,151,000)	1. None.
(PA & NY)	(145,000)	(321,000)	2. None.
Loyalhanna Lake	1,086,000	1,778,000	
	(977,000)	(994,000)	1. None.
	(109,000)	(784,000)	2. Repair deteriorated concrete on service bridge, bridge piers, and dam.
Mahoning Creek Lake	894,000	1,392,000	
	(686,000)	(701,000)	1. None.
	(208,000)	(691,000)	2. None.
Shenango River	2,134,000	2,644,000	
Lake	(2,054,000)	(2,096,000)	1. None.
(PA & OH)	(80,000)	(548,000)	2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. **Flood Control** (continued)

a. **Reservoirs** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Pennsylvania (continued)			
Tionesta Lake	2,068,000	1,788,000	
	(1,250,000)	(1,233,000)	1. None.
	(818,000)	(555,000)	2. None.
Union City Lake	257,000	258,000	
	(202,000)	(203,000)	1. None.
	(55,000)	(55,000)	2. None.
Woodcock Creek Lake	793,000	817,000	
	(725,000)	(737,000)	1. None.
	(68,000)	(80,000)	2. None.
Youghiogheny River Lake (PA & MD)	2,233,000	2,011,000	
	(1,759,000)	(1,747,000)	1. None.
	(474,000)	(264,000)	2. None.

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APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. **Flood Control** (continued)

a. **Reservoirs** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Virginia			
John W. Flannagan Dam and Reservoir	1,654,000	1,525,000	
	(1,463,000)	(1,293,000)	1. Collect and analyze water control data and perform flood frequency analysis; collect natural resource management data in FY 2000.
	(191,000)	(232,000)	2. None.
North Fork of Pound River Lake	308,000	406,000	
	(308,000)	(380,000)	1. Perform periodic inspection and reporting; conduct bridge inspection; conduct inspection of hydraulic steel structures; conduct dam safety training in FY 2001.
	(0)	(26,000)	2. None.
West Virginia			
Beech Fork Lake	1,282,000	1,137,000	
	(1,217,000)	(1,040,000)	1. Perform periodic inspection and reporting; collect and analyze water quality data in FY 2000.
	(65,000)	(97,000)	2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. **Flood Control** (continued)

a. **Reservoirs** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
West Virginia (continued)			
Bluestone Lake	1,806,000	1,689,000	
	(1,786,000)	(1,362,000)	1. Perform bridge inspection and reporting; conduct periodic inspection; collect and analyze water quality data; analyze drift and debris management data in FY 2000.
	(20,000)	(327,000)	2. None.
Burnsville Lake	1,432,000	1,723,000	
	(1,388,000)	(1,350,000)	1. None.
	(44,000)	(373,000)	2. None.
East Lynn Lake	1,628,000	1,714,000	
	(1,521,000)	(1,531,000)	1. None.
	(107,000)	(183,000)	2. None.
R.D. Bailey Lake	1,409,000	1,934,000	
	(1,343,000)	(1,380,000)	1. None.
	(66,000)	(554,000)	2. None.

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APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. **Flood Control** (continued)

a. **Reservoirs** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items
West Virginia (continued)			
Stonewall Jackson Lake	934,000 (879,000) (55,000)	1,216,000 (919,000) (297,000)	1. None. 2. None.
Summersville Lake	1,443,000 (1,387,000) (56,000)	1,526,000 (1,354,000) (172,000)	1. None. 2. None.
Sutton Lake	1,583,000 (1,452,000) (131,000)	1,903,000 (1,605,000) (298,000)	1. Perform periodic inspection and reporting activities; conduct bridge inspection in FY 2001. 2. None.
TOTAL, Reservoirs	80,403,000 (65,954,000) (14,449,000)	83,620,000 (64,649,000) (18,971,000)	

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APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. **Flood Control** (continued)

b. **Channel Improvements, Inspection and Miscellaneous Maintenance**

The program request of $1,525,000 provides for the annual and periodic maintenance requirements of 7 local protection projects and the inspection of completed works during the budget year.

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items
			1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-).
			2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Kentucky			
Middlesboro	74,000	100,000	
	(50,000)	(74,000)	1. Perform sediment survey of channel.
	(24,000)	(26,000)	2. None.
Michigan			
Sebewaing River	10,000	10,000	
	(7,000)	(7,000)	1. None.
	(3,000)	(3,000)	2. None.
Ohio			
Massillon	25,000	25,000	
	(0)	(0)	1. None.
	(25,000)	(25,000)	2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. **Flood Control** (continued)

b. **Channel Improvements, Inspection and Miscellaneous Maintenance** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Ohio (continued)			
Roseville	30,000	30,000	
	(0)	(0)	1. None.
	(30,000)	(30,000)	2. None.
Pennsylvania			
Johnstown	558,000	13,000	
	(13,000)	(13,000)	1. None.
	(545,000)	(0)	2. None.
Punxsutawney	12,000	13,000	
	(12,000)	(13,000)	1. None.
	(0)	(0)	2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. **Flood Control** (continued)

b. **Channel Improvements, Inspection and Miscellaneous Maintenance** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
West Virginia			
Elkins	16,000	16,000	
	(16,000)	(16,000)	1. None.
	(0)	(0)	2. None.
Other Projects	278,000	0	
Maintained	(132,000)	(0)	
Periodically	(146,000)	(0)	

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. **Flood Control** (continued)

b. **Channel Improvements, Inspection and Miscellaneous Maintenance** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items
			1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-).
			2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).

Inspection of Completed Works. The $1,318,000 requested in FY 2001 supports inspections at flood control projects constructed by the Corps and operated and maintained by non-Federal interests. The inspections are conducted to determine the extent of compliance with legal standards and to advise local interests, as necessary, of corrective measures required to ensure that project structures and facilities will continue to safely provide flood protection benefits. These projects consist of features such as channels, levees, flood walls, drainage structures and pumping plants.

Illinois	193,000	233,000	
Indiana	92,000	101,000	
Kentucky	111,000	123,000	
Michigan	200,000	205,000	
New York	287,000	290,000	
Ohio	208,000	240,000	
Pennsylvania	30,000	30,000	
Tennessee	4,000	5,000	
West Virginia	81,000	91,000	
Inspection of Completed Works	1,205,000 (1,205,000) (0)	1,318,000 (1,318,000) (0)	1. None. 2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. **Flood Control** (continued)

b. **Channel Improvements, Inspection and Miscellaneous Maintenance** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items
			1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-).
			2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
TOTAL, Channel Improvements, Inspection and Miscellaneous Maintenance	2,208,000 (1,435,000) (773,000)	1,525,000 (1,441,000) (84,000)	
TOTAL - FLOOD CONTROL	82,611,000 (67,389,000) (15,222,000)	85,145,000 (66,090,000) (19,055,000)	

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APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

3. **Multiple Purpose Power**

The program request of $68,169,000 provides for the operational requirements of 10 multiple purpose projects. Requirements include: operation and ordinary maintenance of project facilities; labor, supplies, materials, and parts for day-to-day functioning; periodic maintenance, repairs, and replacements; and contract law enforcement. The requested amount also includes application of special recreation use fees for recreation areas.

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items
Kentucky			1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Barkley Dam and Lake Barkley (KY & TN)	7,147,000 (4,242,000) (2,905,000)	10,330,000 (4,188,000) (6,142,000)	1. None. 2. Prepare plans and specifications for rehabilitation of hydropower generating equipment; dewater lock and repair lock gates and structural equipment; fabricate closure structure for canal; perform scheduled recurring maintenance of power plant operating equipment.
Laurel River Lake	1,723,000 (703,000) (1,020,000)	1,357,000 (641,000) (716,000)	1. None. 2. None.
Wolf Creek Dam and Lake Cumberland	5,825,000 (3,511,000) (2,314,000)	5,892,000 (3,262,000) (2,630,000)	1. None. 2. Perform scheduled recurring maintenance of power plant operating equipment.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

3. **Multiple Purpose Power** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items
Michigan			
St. Marys River	21,548,000 (6,860,000) (14,688,000)	20,502,000 (6,982,000) (13,520,000)	1. None. 2. Repair concrete in lock walls, monoliths and other structures at Poe Lock; repair concrete lock walls, and make repairs to gates, valves and electrical system at MacArthur Lock; place protective armor stone at Bays Mill Point and on old disposal sites; perform annual recurring maintenance of locks and removal of navigation obstructions.
Tennessee			
Center Hill Lake	5,003,000 (2,985,000) (2,018,000)	6,070,000 (3,016,000) (3,054,000)	1. None. 2. Prepare plans and specifications for rehabilitation of hydropower generating equipment; perform scheduled recurring maintenance of power plant operating equipment.
Cheatham Lock and Dam	5,522,000 (2,574,000) (2,948,000)	5,307,000 (2,505,000) (2,802,000)	1. None. 2. Rehabilitate hydraulic and electrical equipment at lock; perform scheduled recurring maintenance of power plant operating equipment.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

3. **Multiple Purpose Power** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items 1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Tennessee (continued)			
Cordell Hull Dam and Reservoir	4,085,000 (2,433,000) (1,652,000)	4,916,000 (2,313,000) (2,603,000)	1. None. 2. Repair spillway gate trunions at dam; perform scheduled recurring maintenance of power plant operating equipment.
Dale Hollow Lake (TN & KY)	4,066,000 (3,024,000) (1,042,000)	4,191,000 (2,715,000) (1,476,000)	1. Conduct study of remote control operations at power plant in FY 2000. 2. Perform scheduled recurring maintenance of power plant operating equipment.
J. Percy Priest Dam and Reservoir	3,388,000 (2,473,000) (915,000)	3,278,000 (2,413,000) (865,000)	1. None. 2. None.

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APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

3. **Multiple Purpose Power** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items
			1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-).
			2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Tennessee (continued)			
Old Hickory Lock and Dam	6,325,000 (3,478,000) (2,847,000)	6,326,000 (4,094,000) (2,232,000)	1. Perform generator rehabilitation study in FY 2001. 2. Perform scheduled recurring maintenance of power plant operating equipment.
TOTAL - MULTIPLE PURPOSE POWER	64,632,000 (32,283,000) (32,349,000)	68,169,000 (32,129,000) (36,040,000)	

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

4. **Protection of Navigation**

The program request of $4,892,000 provides for accomplishing project condition surveys for projects where maintenance is not scheduled in the budget year. It also provides for Great Lakes water control monitoring.

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items
			1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-).
			2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).

Project Condition Surveys. The $700,000 requested in FY 2001 supports hydrographic surveys, inspections, and studies to determine the condition of navigation channels that do not have any other maintenance work included in the budget request and disseminate the information to users of the projects. For the projects that do not require maintenance, surveys are performed at many of them in order to determine the degree of sedimentation so that users can be advised of channel conditions and future maintenance can be scheduled.

Illinois	43,000	43,000	
Indiana	42,000	42,000	
Michigan	250,000	275,000	
New York	197,000	238,000	
Ohio	71,000	85,000	
Pennsylvania	14,000	17,000	
Project Condition	617,000	700,000	
Surveys	(617,000)	(700,000)	1. Variation in number of projects surveyed in FY 2001.
	(0)	(0)	2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

4. **Protection of Navigation** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items
			1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-).
			2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Surveillance of Northern Boundary Waters. The $4,192,000 requested in FY 2001 supports meeting U.S. obligations under provisions of boundary water treaties and other international agreements. Data collection includes current velocity measurements, presence and intensity of ice, water levels, land use patterns and estimating potential damages caused by extreme levels. This information can be used to enhance water level forecasts, develop crises response plans, and provide advance warning to area residents and waterway users of impending floods or ice jams.			
Illinois	96,000	97,000	
Indiana	62,000	62,000	
Michigan	3,194,000	3,197,000	
New York	529,000	564,000	
Ohio	162,000	174,000	
Pennsylvania	65,000	70,000	
Wisconsin	27,000	28,000	
Surveillance of Northern Boundary Waters	4,135,000 (4,135,000) (0)	4,192,000 (4,192,000) (0)	1. None. 2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

4. **Protection of Navigation** (continued)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 TOTAL (Operations) (Maintenance)	FY 2001 TOTAL (Operations) (Maintenance)	Reason For Change and Major Maintenance Items
TOTAL - PROTECTION OF NAVIGATION	4,752,000 (4,752,000) (0)	4,892,000 (4,892,000) (0)	1. Reason for Change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
GRAND TOTAL - GREAT LAKES AND OHIO RIVER DIVISION	350,993,000 (172,156,000) (178,837,000)	355,898,000 (170,099,000) (185,799,000)	

U.S. ARMY CORPS OF ENGINEERS
CIVIL WORKS PROGRAM

CONGRESSIONAL SUBMISSION
FISCAL YEAR 2001

MISSISSIPPI VALLEY DIVISION

Budgetary information will not be released outside the Department of the Army until 7 February 2000

MISSISSIPPI VALLEY DIVISION
Corps of Engineers

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Corps of Engineers

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Corps of Engineers

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Justification of Estimates for Civil Functions Activities
Department of the Army, Corps of Engineers
Fiscal Year 2001

SUMMARY MISSISSIPPI VALLEY DIVISION

	FY 2000 Allocation	FY 2001 Request	Increase or Decrease
General Investigations	$ 21,031,000	$ 17,500,000	$ -3,531,000
Survey	(19,688,000)	(9,514,000)	(-10,174,000)
Preconstruction Engineering and Design	(1,343,000)	(7,986,000)	(+6,643,000)
Construction, General			
Construction	$195,716,000[1]	$221,056,000[2]	$ 25,340,000
Operation and Maintenance, General			
Project Operation and Maintenance	348,086,000	351,118,000	3,032,000
TOTAL	$564,833,000	$589,674,000	$ 24,841,000

[1] Includes $21,694,000 allocated from the Inland Waterways Trust Fund.

[2] Includes $21,692,000 to be derived from the Inland Waterways Trust Fund.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
1. SURVEYS - NEW					
a. Navigation Studies: None.					
b. Flood Damage Prevention Studies: None.					
c. Shoreline Protection Studies: None.					
d. Special Studies: None.					
e. Comprehensive Studies: The amount of $500,000 is requested to initiate one new cost-shared survey in FY 2001.					
ARKANSAS					
White River Basin Comprehensive, AR and MO Memphis District	2,000,000	0	0	500,000	1,500,000

The White River Basin comprises approximately 27,765 square miles of which 10,622 square miles are in the southern part of Missouri and the remaining 17,143 square miles are in the northern and eastern portion of Arkansas. The basin contains five large Corps multi-purpose lakes: Beaver, Table Rock, Bull Shoals, Norfork, and Greers Ferry. Clearwater Lake, primarily for flood control, is also in the upper basin. The watershed includes over 150 miles of flood control levees along the White River and its tributaries. Flood control remains a concern within the basin as evidenced by the $10,000,000 residual flood damages that occurred in 1992. Other purposes within the basin include water supply, hydropower, navigation and recreation. Some local interests, local industries, and beneficiaries in adjacent areas desire navigation improvements. The area is deemed significant as a migratory waterfowl wintering area and includes several Federal and state wildlife refuges. Releases from Corps lakes sometime fail to meet state water quality standards for dissolved oxygen and adversely affect the ecosystem below the dam. Land use practices result in nutrient runoff (both point and non-point sources), sediment, and other water quality factors that affect water supply reserves, hydropower capability (by placing restrictions on releases), recreational opportunities, and fish and wildlife habitat in the entire basin. This comprehensive basin study would be an interagency effort to investigate the future requirements of the White River Basin, including the impacts associated with future development on future water quality, cultural and fish and wildlife resources, and compatibility with existing uses. Federal, state, and private natural resource agencies and organizations are highly supportive of conducting a comprehensive study. They contend that such a study is needed prior to initiating any other Federal projects within the basin. The potential sponsor would likely be an agency of the State of Arkansas.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

Fiscal Year 2001 funds would be used to initiate this basin-wide study. The preliminary estimated cost of the study is $2,670,000, which is to be shared on a 75-25 percent basis by Federal and non-Federal interests. One hundred percent of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,670,000
Federal	2,000,000
Non-Federal	670,000

The study is authorized by Section 729 of the Water Resources Development Act of 1986. The study completion date is being determined.

Total - Comprehensive Studies	2,000,000	0	0	500,000	1,500,000
TOTAL SURVEYS - NEW	2,000,000	0	0	500,000	1,500,000

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
2. SURVEYS - CONTINUING					
a. Navigation Studies: The amount of $1,225,000 is requested to continue two and complete one feasibility studies in FY 2001.					
ARKANSAS					
Red River Navigation, Southwest Arkansas, AR Vicksburg District	2,800,000	1,600,000	582,000	200,000	418,000

The study area is located in northwest Louisiana and southwest Arkansas and includes 135 miles of the Red River between Shreveport, Louisiana, and Index, Arkansas. The Red River throughout this reach is wide and shallow with an average slope of 0.7 foot per mile. Without the construction of locks and dams, commercial navigation would not be possible. Upon completion of the Red River Navigation Project in 1994 and the establishment of dependable navigation on the Red River from the Mississippi River to Shreveport, Louisiana, local navigation interest is now refocused on extending navigation into southwest Arkansas. Organizations supporting this extension of navigation include the Arkansas Red River Commission, the Red River Valley Association, and the Red River Waterway Commission. The Feasibility Cost Sharing Agreement was executed 24 March 1999 with the Arkansas Red River Commission.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase. The preliminary estimated cost of the feasibility phase is $4,800,000 which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$5,200,000
Reconnaissance Phase (Federal)	400,000
Feasibility Phase (Federal)	2,400,000
Feasibility Phase (Non-Federal)	2,400,000

The feasibility study completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
LOUISIANA					
Calcasieu Lock, LA New Orleans District	2,900,000	100,000	329,000	339,000	2,132,000

Calcasieu Lock is a feature of the Gulf Intracoastal Waterway between Apalachee Bay, Florida, and the Mexican Border (Gulf Intracoastal Waterway) Project. The lock is located east of the Calcasieu River, approximately 10 miles south of Lake Charles, Louisiana, in Calcasieu Parish. The lock prevents saltwater intrusion from the Gulf of Mexico via the Calcasieu River into the Mermentau River Basin, a major rice producing area. Calcasieu Lock, which was completed in 1950, has dimensions of 13 by 75 by 1,206 feet and is structurally sound. It is becoming congested due to increasing traffic. Studies of the Gulf Intracoastal Waterway system conducted in 1992 determined that there is an immediate need for capacity increases at Bayou Sorrel and Calcasieu Locks. Feasibility studies of Bayou Sorrel Lock are underway in the Intracoastal Waterway Locks, Louisiana study. Movements through Calcasieu Lock totaled 39.8 million tons in 1996; delays at the lock averaged 2.2 hours per tow and are projected to increase.

If the reconnaissance report is certified to be in accord with policy, Fiscal Year 2000 funds will be used to continue into the feasibility phase of the study.

The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $2,800,000. Calcasieu Lock is a feature of the Gulf Intracoastal Waterway which is listed in Section 206 of Public Law 95-502 as an inland waterway; therefore, feasibility studies would be conducted at full Federal expense.

The reconnaissance phase is scheduled for completion in February 2000. The feasibility study completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY2001 $
Intracoastal Waterway Locks, LA New Orleans District	5,380,000	4,213,000	481,000	686,000	0

The study area is located in southern Louisiana between the Mississippi River and the Sabine River on the Louisiana-Texas border and will address the feasibility of increasing the capacity of Bayou Sorrel Lock located on the Morgan City-Port Allen alternate route of the Gulf Intracoastal Waterway. Some of the locks on the Gulf Intracoastal Waterway system west of the Mississippi River are becoming congested due to increasing commerce. Delays occur due to restrictive dimensions. Tonnages are projected to increase, effecting an increase in average delays. The feasibility study of a capacity increase at Bayou Sorrel Lock is being expedited because of the immediate need for modification or replacement of the lock for flood control purposes and the need for a capacity increase in the year 2001. Bayou Sorrel Lock was constructed in 1950 under the Mississippi River and Tributaries authority to pass navigation through the East Atchafalaya Basin Protection Levee. The Atchafalaya Basin Floodway project flood flowline has been raised, making Bayou Sorrel Lock approximately 8 feet below the grade for the East Atchafalaya Basin Protection Levee, through which it is located. Delays at the lock justify the replacement of the existing 56-feet by 790-feet lock with a larger one. Average delays were 2.4, 4.9, and 3.1 hours per vessel for the years 1995, 1996, and 1997 respectively. Tonnages through Bayou Sorrel were 24,000 in 1995; 23,000 in 1996 and 25,000 in 1997.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study.

Fiscal Year 2001 funds will be used to complete the feasibility phase of the study.

The reconnaissance phase was completed in June 1995. The feasibility study is scheduled for completion in March 2001.

Total - Navigation Studies	11,080,000	5,913,000	1,392,000	1,225,000	2,550,000

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
b. Flood Damage Prevention Studies: The amount of $946,000 is requested to continue three and complete one feasibility studies in FY 2001.					
IOWA					
Des Moines and Raccoon Rivers, IA Rock Island District	1,385,000	181,000	258,000	400,000	546,000

The City of Des Moines, located in Polk County, Iowa, has several rivers and waterways that traverse the urban and fringe areas including the Des Moines River, Raccoon River, and numerous small tributaries. These areas continually sustain flood damages. During the 1993 flood, Polk County suffered more than $152,000,000 in flood damages. In addition, the county was without water and sewer for approximately a week causing the closure of most of the businesses and industry in the county. More than 3,000 properties were inundated. The City of Des Moines has had a longstanding cooperative relationship with the Corps, culminating with recent completion of the Valley Gardens levee system and nearing completion of the Walnut Creek/Raccoon River levee system. However, evaluation of the city's entire flood damage prevention system identifies a number of areas deemed to be deficient. Continuing flooding and bank erosion on the Des Moines River and Raccoon River have produced interest in additions to, or modifications of, the flood damage prevention and water resources projects on the part of the City of Des Moines. The study would determine if there is a Federal interest in flood control, bank stabilization, and related water and land resources. The Feasibility Cost Sharing Agreement was executed with the City of Des Moines in September 1999.

Fiscal Year 2000 funds are being used to continue the feasibility phase. Funds requested in Fiscal Year 2001 will be used to continue the feasibility phase. The estimated cost of the feasibility phase is $2,570,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,670,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,285,000
Feasibility Phase (non-Federal)	1,285,000

The reconnaissance phase was completed in September 1999. The completion date for the feasibility study is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
LOUISIANA					
Calcasieu River Basin, LA New Orleans District	2,100,000	0	100,000	100,000	1,900,000

The study area is located in southwestern Louisiana and includes Vernon, Rapides, Beauregard, Allen, Calcasieu, Jefferson Davis, and Cameron Parishes. Development in the study area is subject to repetitive flooding, particularly the Lake Charles area in the southern portion of the Calcasieu Basin. Headwater flooding and backwater flooding from the Calcasieu River is a major problem in the Lake Charles area and in the Bayou Choupique area west of Sulphur, Louisiana. Fish and wildlife habitat has been lost to development in the upper basin and to erosion, subsidence, saltwater intrusion, and development in the estuarine areas of the lower basin. The study will address the feasibility of measures to reduce flooding and restore fish and wildlife habitat in the study area. The Louisiana Department of Transportation and Development is the potential sponsor for the study. The anticipated outputs of flood damage prevention and environmental restoration are in accord with Administration policy.

Fiscal Year 2000 funds are being used to fully fund the reconnaissance study at full Federal expense. If the reconnaissance report is certified to be in accordance with policy, the funds requested for Fiscal Year 2001 will be used to continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $4,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$4,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	2,000,000
Feasibility Phase (Non-Federal)	2,000,000

The reconnaissance phase is scheduled for completion in December 2000. The feasibility study completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
St. Bernard Parish Urban Flood Control, LA New Orleans District	1,700,000	0	100,000	100,000	1,500,000

St. Bernard Parish is located on the east bank of the Mississippi River south of, and contiguous to, the City of New Orleans, Louisiana. The July 1998 Census Bureau estimated population of the parish was approximately 66,100. The area is protected from Mississippi River and hurricane flooding by a levee loop called the Chalmette area loop that is formed by the west bank river levee and the Chalmette area feature of the Lake Pontchartrain, Louisiana, and vicinity hurricane protection project. Most of the parish's population lives within a smaller, internal levee loop adjacent to the Mississippi River formed by the river levee and local levee. Major floods caused by heavy rainfall have occurred in 1978, 1980, 1982, 1983, and 1995. Damages during the 1978 flood were approximately $22,000,000 and St. Bernard Parish was declared a disaster area. Estimated damages for the 1983 flood were $2,500,000 to 400 homes, and for the 1995 flood, $5,700,000 to about 700 homes. Flood control improvements are needed to reduce repetitive damages to residential development, which is consistent with Administration policy. The St. Bernard Parish Government, by letter dated June 1998, stated its intent to serve as the cost-sharing sponsor for the feasibility phase.

Fiscal Year 2000 funds are being used to fully fund the reconnaissance phase at full Federal expense. If the reconnaissance report is certified to be in accord with policy, the funds requested for Fiscal Year 2001 will be used to continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $3,200,000 which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost-sharing is as follows:

Total Estimated Study Cost	$3,300,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,600,000
Feasibility Phase (Non-Federal)	1,600,000

The reconnaissance phase is scheduled for completion in January 2001. The feasibility study completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
West Shore - Lake Pontchartrain, LA New Orleans District	1,850,000	1,138,000	366,000	346,000	0

The West Shore - Lake Pontchartrain, Louisiana study will address hurricane flooding problems in St. Charles Parish west of the Bonnet Carre' Floodway, St. John the Baptist Parish and St. James Parish. The main population centers in the study area are LaPlace and Reserve. Major flooding in the area has occurred as a result of Hurricanes Betsy (1965) and Juan (1985), and as a result of the 1973 flood on the Mississippi River. Damages totaled $1,000,000 for Hurricane Betsy, $950,000 for the 1973 flood, and $4,000,000 for Hurricane Juan. Population in the study area has been increasing with populations of 25,500 in 1960; 30,300 in 1970; 40,600 in 1980; and 47,700 in 1990. There are approximately 4,000 residential structures in the study area vulnerable to hurricane flooding. Population and potential damages are expected to continue to grow due to the lack of undeveloped land in the New Orleans area. A reconnaissance report was completed in June 1997. Average annual damages are estimated to be $9,000,000. The plan identified in the reconnaissance report would provide for construction of 10.5 miles of levees and floodwalls extending from the west guide levee of the Bonnet Carre' Spillway to U.S. Hwy. 61 in the vicinity of the Reserve-Relief Canal. The estimated construction cost for this plan is $60,000,000, with an average annual cost of $4,500,000 and a benefit-cost ratio of 2.1. The Pontchartrain Levee District entered into an agreement to provide the non-Federal share of the feasibility study cost in March 1998. Support for this project is evidenced by the numerous letters from state and local governments and from Congressmen. This study and its anticipated outputs are in accord with Administration policy.

Fiscal Year 2000 funds are being used to continue the feasibility phase. The funds requested for Fiscal Year 2001 will be used to complete the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $2,700,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$3,200,000
Reconnaissance Phase (Federal)	500,000
Feasibility Phase (Federal)	1,350,000
Feasibility Phase (Non-Federal)	1,350,000

The reconnaissance phase was completed in March 1998. The feasibility study is scheduled for completion in September 2001.

Total - Flood Damage Prevention Studies	7,035,000	1,319,000	824,000	946,000	3,946,000

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
c. Shoreline Protection Studies: None.					
d. Special Studies: The amount of $1,338,000 is requested to continue three feasibility studies in FY 2001.					
ILLINOIS					
Peoria Riverfront Development, IL Rock Island District	1,060,000	221,000	258,000	400,000	181,000

Peoria, Illinois, is located on the Illinois River in Peoria County. The study area would include the portion of the Illinois River that flows next to, or directly impacts, the downtown Peoria Riverfront Development project. The study will determine potential flood damages, environmental restoration opportunities, flood damage prevention solutions, and other water resources impacts that may affect the development efforts. One of the associated problems is siltation caused by sediment deposition from four creeks draining into the Illinois River. The area of siltation is located very close to the site of the Riverfront Development, and if not addressed, could cause navigation problems near the Riverfront and along the Illinois River. In addition, the silt deposits adversely impact the environment, and environmental restoration opportunities will be investigated as well as the potential use of suitable dredged material for beneficial uses. The Feasibility Cost Sharing Agreement was executed with the State of Illinois, Department of Natural Resources, in September 1999.

Fiscal Year 2000 funds are being used to continue the feasibility phase. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The estimated cost of the feasibility phase is $1,920,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$2,020,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	960,000
Feasibility Phase (Non-Federal)	960,000

The reconnaissance phase was completed in September 1999. The completion date for the feasibility study is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Upper Mississippi River System Flow Frequency Study, IL, IA, KS, MN, MO, NE and WI Rock Island District	6,650,000	3,877,000	1,600,000	888,000	285,000

The study area includes the Upper Mississippi River and its major tributaries. Water-surface profiles adopted in 1966 were employed until an interagency group - the Floodplain Management Task Force (composed of representatives from five states, Federal Emergency Management Agency, U.S. Geological Survey, Soil Conservation Service, and the Corps of Engineers) - adopted revised profiles in 1979. The 1979 profiles were based on updated data and a regional skew instead of the zero skew used in the 1966 profiles. This resulted in profiles about five feet lower in the southern reaches of the Upper Mississippi River when compared to the 1966 profiles. With 15-plus years of additional data and several high-water events over the last 30 years, an update of the profiles is needed. The Galloway Report recommended that the methodology of determining flood-flow frequency on the Upper Mississippi and the Lower Missouri Rivers should be studied. In addition, the original agreement stated that the flood-flow frequencies should be revisited as time and technology progress.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study. Fiscal Year 2001 funds will be used to continue the feasibility phase. The estimated cost of the feasibility phase is $6,300,000, which is being conducted at full Federal expense.

The initial scope of study was completed in December 1997. The completion date for the feasibility study is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
NORTH DAKOTA					
Devils Lake, ND St. Paul District	3,733,000	2,639,000	217,000	50,000	827,000

Devils Lake is located in northeastern North Dakota. Communities located on the lake include the city of Devils Lake (1990 population 7,782), the Spirit Lake Nation Indian Reservation, and the village of Minnewaukan. Camp Grafton, a National Guard training facility, is also located on the lakeshore. The lake has no natural outlet except at extremely high lake levels. The lake's levels have fluctuated widely throughout history. According to accounts of early settlers in the basin, the elevation of Devils Lake was about 1,446 feet in 1830, about 1 foot lower than the most recent high lake levels. In July 1999, lake levels reached an elevation of 1,447.2 feet above mean sea level, the result of a multi-year wet period. In 1940, following many years of drought, Devils Lake was almost dry when the level dropped close to 1,400 feet, the lowest level in recorded history. This drought has an estimated recurrence interval of between 400 to 600 years. Problems caused by the recent high water include transportation, urban, and lakeshore flood damages and water quality. The study will include a basin water management analysis of all problem areas. The Feasibility Cost Sharing Agreement was executed with the North Dakota State Water Commission on 8 October 1993. Several amendments to the FCSA have been executed.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study. The funds requested for Fiscal Year 2001 will be used to continue the feasibility study. The estimated cost of the feasibility phase is $6,368,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing follows:

Total Estimated Study Cost	$6,917,000
Reconnaissance Phase (Federal)	549,000
Feasibility Phase (Federal)	3,184,000
Feasibility Phase (non-Federal)	3,184,000

The reconnaissance phase was completed in October 1993. The feasibility study completion date is being determined.

Total - Special Studies	11,443,000	6,737,000	2,075,000	1,338,000	1,293,000

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
e. Watershed/Ecosystem Studies: The amount of $3,400,000 is requested to continue five feasibility studies in FY 2001.					
ILLINOIS					
Illinois River Ecosystem Restoration, IL Rock Island District	2,305,000	76,000	301,000	500,000	1,428,000

The Illinois River and Waterway is a major tributary river of the Upper Mississippi River System (UMRS). The UMRS is designated a nationally significant ecosystem by the Fiscal Year 1985 Supplemental Appropriations Act and the Water Resources Development Act of 1986, which mandated that the rivers be managed to balance competing interests in this natural resource. The river consists of over 86,000 acres of open water and wetland habitats and 26,000 acres of terrestrial habitats. Due to extensive backwater lakes, about 52 percent of the aquatic area consist of backwaters and side channels. The Illinois River valley is used by a wide variety and number of migratory birds; as many as 285 species of birds belonging to 17 taxonomic orders are likely to be found in this area. Degradation of the ecosystem comes from many sources that include hydrological processes, flooding, strip mining practices, runoff, sediment transport and deposition, and diminished nutrient cycles. The State of Illinois published a report called "An Integrated Management Plan for the Illinois River." The study will evaluate components of the Integrated Management Plan and address aspects of the overall degradation of the Illinois Waterway Ecosystem. Environmental restoration activities could include limited stream restoration, wetland creation, wildlife habitat restoration, land surface restoration, recommendations for maintaining viable populations of native species, and other engineering solutions to environmental problems in the watershed. A holistic review of ecosystem management practices will be conducted in partnership with state and Federal agencies to restore fish and wildlife habitat and develop a system-wide management plan. Particular emphasis will be placed on restoration of wetlands, neotropical migrants, Federal and state significant species, and protection of flood plains and floodways for fish and wildlife enhancement. A Letter of Intent was received from the State of Illinois on July 15, 1996, indicating an intent to cost-share equally in the feasibility phase of the study if a Federal interest in further study beyond the reconnaissance phase is identified. The Feasibility Cost Sharing Agreement is scheduled to be executed in June 2000.

Study	Total Estimated Federal Cost	Allocation Prior to FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional to Complete After FY 2001
	$	$	$	$	$

Fiscal Year 2000 funds are being used to complete the reconnaissance phase, and if the reconnaissance report is certified to be in accord with policy, continue into the feasibility phase. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $4,410,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$4,510,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	2,205,000
Feasibility Phase (Non-Federal)	2,205,000

The reconnaissance phase is scheduled for completion in June 2000. The completion date for the feasibility study is being determined.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Rock River, IL and WI Rock Island District	1,760,000	100,000	58,000	700,000	902,000

The Rock River originates in the lake region of southeastern Wisconsin and flows southward to join the Mississippi River just below Rock Island, Illinois. The watershed includes all or parts of 13 counties in Wisconsin and 15 in Illinois. Major tributaries of the Rock River are Green River, Rock Creek, Elkhorn Creek, Kishwaukee River, Pecatonica River, Sugar River, Turtle Creek, and Yahara River. Flood events in 1971, 1973, 1974, 1975, 1979, 1993, 1996, and 1997 caused urban and agricultural damages totaling over $82,000,000 (1998 dollars). Potential local sponsors include: Beloit and Darlington, Wisconsin; South Beloit, Winslow, McConnel, Moline, Erie, Rockford, Rock Island County, and Whiteside County, Illinois, and the States of Wisconsin and Illinois. The study will address flood control and environmental restoration opportunities throughout the drainage basin. The study will evaluate the overall degradation of the Rock River ecosystem. Environmental restoration activities could include limited stream restoration, wetland creation, wildlife habitat restoration, land surface restoration, recommendations for maintaining viable populations of native species, and other engineering solutions to environmental problems in the watershed. A holistic review of ecosystem management practices will be conducted in partnership with state and Federal agencies to restore fish and wildlife habitat and develop a system-wide management plan. Particular emphasis will be placed on restoration of wetlands, neotropical migrants, and Federal and state significant species. Emphasis will also be placed upon environmentally beneficial nonstructural flood damage amelioration practices.

Fiscal Year 2000 funds are being used to complete the reconnaissance phase, and if the reconnaissance report is certified to be in accord with policy, continue into the feasibility phase. Fiscal Year 2001 funds will be used to continue the feasibility phase. The estimated cost of the feasibility phase is $3,320,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost-sharing is as follows:

Total Estimated Study Cost	$3,420,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,660,000
Feasibility Phase (Non-Federal)	1,660,000

The reconnaissance phase is scheduled for completion in May 2000. The feasibility study completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
LOUISIANA					
Amite River and Tributaries Ecosystem Restoration, LA New Orleans District	2,100,000	0	100,000	200,000	1,800,000

The study area includes the 2,000-square-mile Amite River drainage basin in southeastern Louisiana and southwestern Mississippi. Approximately 30 miles of the Amite River corridor have directly experienced degradation of fish and wildlife habitat with potentially many more miles indirectly negatively impacted. Bottomland habitats continue to decrease in area and diversity as vegetation is removed. Approximately 10,690 acres have been directly disturbed in the study area and the potential exists for a total degradation to 24,000 acres. The degradation includes a reduction in wildlife habitat, stream and floodplain environment, and aggravation of existing flooding problems. Problems can be attributed to wider floodplain and shallower water depths, reduction in river length and the resulting steepened river gradient, reduction of the sinuosity through meander cut-offs, increased turbidity, increased temperature, and an increase in the unvegetated areas and man-made changes within the river corridor. River length from 1940 to 1981 has been reduced as much as 10 percent. Preliminary analyses indicated that a 20 percent reduction in river length would produce a stage increase of 6 to 9.6 inches inducing structural flooding. The steeper gradient of the river increases the scour force, and bridge collapses have been attributed to this force. Removal of riparian vegetation and mining of point bars reduce the resistance of riverbanks to erosion during floods. The elimination of streambank vegetation and mining operations produces a turbid stream negatively impacting many fish species. The Amite River has three to four times the number of exceedances of turbidity than comparable streams in the vicinity. As the habitat deteriorates, wildlife that uses the river and floodplain ecosystem decreases in quantity and diversity. The Amite River, which once flooded a densely vegetated valley bottom, now spreads across bare sand areas and tailings piles allowing for a multitude of geomorphic changes during flood events. The study will determine the feasibility of restoring the Amite Ecosystem to a condition similar to its natural state. This effort will consider the physical and limnological aspects of the site, and its broader landscape or watershed setting, to address all related issues and constraints. Alternatives will be developed to reduce turbidity, lower temperature, and reduce the extent of the physical changes within the river corridor in an effort to achieve fish and wildlife restoration, and provide outdoor recreation opportunities. This effort will significantly contribute to the watershed management objectives of the State of Louisiana. The heel splitter clam, an endangered species, exists in the basin and is threatened by the degraded stream conditions. The potential local sponsor for this study is the Amite River Basin Commission.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

Fiscal Year 2000 funds are being used to fully fund the reconnaissance phase at full Federal expense. Upon reconnaissance report certification, the funds requested for Fiscal Year 2001 would be used to continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $4,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$4,100,000
Reconnaissance Phase (Federal)	$100,000
Feasibility Phase (Federal)	$2,000,000
Feasibility Phase (Non-Federal)	$2,000,000

The reconnaissance phase is scheduled for completion in November 2000. The feasibility study completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Louisiana Coastal Area – Ecosystem Restoration, LA New Orleans District	17,500,000	0	1,500,000	1,750,000	14,250,000

The study area encompasses a complex coastal wetlands and barrier island ecosystem located in south Louisiana, from the Sabine River to the Pearl River. This area includes an infrastructure that supports coastal communities, commercial and industrial developments, a robust seafood industry, international inland and sea ports, and oil and gas production and processing facilities. There are numerous Federal projects in the area, which include those for flood protection, navigation, river control, and control of salinity and water levels. Developments in the study area, along with other factors such as sea level rise, have contributed to the accelerated deterioration of coastal Louisiana's wetlands. The Louisiana coastal wetlands represent about 40 percent of the Nation's total, and are experiencing about 80 percent of the entire Nation's wetlands losses. Prior to these developments and the construction and operation of Federal projects, the south Louisiana coastal ecosystem was largely self-sustainable. However, if no action is taken to protect and restore this ecosystem, the Louisiana coastal wetlands are in jeopardy of permanent and irreversible loss. In a coastwide grassroots effort termed the Coast 2050 initiative, Federal and state resource agencies, local governments, special interest groups, and the public developed the Coast 2050 Plan. This plan, completed in December 1998, documents the perceived coastal problems and describes potential strategies for sustainable coastwide ecosystem restoration. The State of Louisiana provided a letter of intent dated 22 March 1999 to cost-share as the non-Federal sponsor of the feasibility study. The Coast 2050 Plan supports the Louisiana Coastal Area, Louisiana–Ecosystem Restoration reconnaissance report approved May 1999. The primary purpose of the study is environmental restoration which is in accord with Administration policy. Nine basin feasibility studies are planned for execution under the Louisiana Coastal Area authority. The Feasibility Cost Sharing Agreement is scheduled for execution in February 2000.

Fiscal Year 2000 funds are being used to continue into the feasibility phase of the study. The funds requested for FY 2001 will be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $35,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$35,000,000
Reconnaissance Phase (Federal)	N/A
Feasibility Phase (Federal)	17,500,000
Feasibility Phase (Non-Federal)	17,500,000

The reconnaissance phase is scheduled for completion in February 2000. The feasibility study completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
MINNESOTA					
Upper Mississippi River Watershed Management, Lake Itasca to Lock and Dam 2, MN St. Paul District	1,310,000	0	100,000	250,000	960,000

Conditions in the Upper Mississippi River basin have changed since the original headwaters reservoirs were constructed in the early 1900's. From its source at Lake Itasca in northern Minnesota, to Lock and Dam 2 at Hastings, Minnesota, the Upper Mississippi River is suffering from impacts of almost 100 years of continual changes. This area is faced with increased flood damage reduction needs, reservoir operational plans that are inconsistent with today's problems, land and water development pressures, more definitive Tribal rights, dwindling natural resources, declining fish and wildlife populations, increased demands for water supplies, and water quality impacts. There is a growing recognition that addressing the needs in this part of the Mississippi River is important to the region, as is maintaining the viability of the lower Mississippi River. Resource managers at all levels of government recognize the need for a cooperative partnership and development of a coordinated and comprehensive land and watershed development and management strategy that addresses all of these needs. High reservoir levels in late fall 1999 have exacerbated the problems in the headwater reservoir area but have also created immediate opportunities to focus on the flood damage reduction needs and associated water and related land issues. Likewise, documented experiences from the drought of 1987-88 defined the water supply and water quality needs and associated water and related land issues. The study to pull all of these issues together is a first of its kind, which will allow for resolution of the problems in an holistic manner. Potential study sponsors include the Minnesota Pollution Control Agency, the Mississippi Headwaters Board, the Metropolitan Council, and the Minnesota Department of Natural Resources; many others are likely to be identified during the reconnaissance study.

Fiscal Year 2000 funds are being used to fully fund the reconnaissance phase at full Federal expense. If the reconnaissance report is certified to be in accord with policy, the funds requested for FY 2001 will be used to continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $2,420,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,520,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,210,000
Feasibility Phase (Non-Federal)	1,210,000

The reconnaissance phase is scheduled for completion in November 2000. The feasibility study completion date is being determined.

Total - Watershed/Ecosystem Studies	24,975,000	176,000	2,059,000	3,400,000	19,340,000

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
f. Comprehensive Studies: None.					
g. Project Review Studies: The amount of $2,105,000 is requested to complete one feasibility study in FY 2001.					
ILLINOIS					
Upper Mississippi and Illinois Navigation Study, IL, IA, MN, MO & WI Rock Island District	59,980,000	51,025,000	6,850,000	2,105,000	0

The Upper Mississippi and Illinois Navigation Study will address the need for navigation improvements on the Upper Mississippi River and the Illinois Waterway. The area includes 854 miles of the Upper Mississippi River, with 29 locks and dams between Minneapolis-St. Paul, Minnesota, and the mouth of the Ohio River, and 348 miles of the Illinois Waterway, with eight locks and dams, which connects the city of Chicago, Illinois, and the Great Lakes with the Mississippi River just upstream from the Melvin Price Locks and Dams. The system is experiencing delays to commercial traffic at locks upstream from Melvin Price Locks and Dams due to limited lockage capacity and increasing traffic. Reconnaissance studies indicated that navigation improvements at certain locks on the Mississippi River and Illinois Waterway may be economically justified. The feasibility report will include a recommended schedule of capital investment needs for navigation improvements on the Upper Mississippi and Illinois Waterway system for the 50-year planning horizon. In recognition of the national significance of the environmental value of both waterways, the environmental impact statement will encompass system-wide and limited cumulative impacts. The feasibility study report will recommend the implementation of system investments, including the identification of the costs of required mitigation of environmental impacts.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study. The funds requested for Fiscal Year 2001 will be used to complete the feasibility study, including the plan formulation process, the feasibility report, and Environmental Impact Statement and the Division Commander's Public Notice.

The reconnaissance phase was completed in March 1993. The feasibility study is scheduled for completion in December 2000.

Total - Project Review Studies	59,980,000	51,025,000	6,850,000	2,105,000	0
TOTAL - SURVEYS - NEW	2,000,000	0	0	500,000	1,500,000
TOTAL - SURVEYS - CONTINUING	114,513,000	65,170,000	13,200,000	9,014,000	27,129,000
TOTAL - SURVEYS	116,513,000	65,170,000	13,200,000	9,514,000	28,629,000

Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
3. PRECONSTRUCTION ENGINEERING AND DESIGN ACTIVITIES (PED) - NEW: None.					
4. PRECONSTRUCTION ENGINEERING AND DESIGN ACTIVITIES (PED) – CONTINUING					
a. Watershed/Ecosystem: The amount of $200,000 is requested to initiate one PED activity in FY 2001.					
ILLINOIS					
Alexander and Pulaski Counties, IL St. Louis District	1,125,000	0	0	200,000	925,000

The project area, approximately 740 square miles, is located in portions of the southernmost Illinois counties of Alexander, Pulaski, Union, Johnson, Massac, and Pope. For reasons of marginal flood control benefits, changing land use, the recognized environmental uniqueness of the area and changing Corps wetlands restoration policy, the investigation has shifted from its original focus on flood control to its present purpose of habitat restoration. Factors contributing to the area's uniqueness include: trees over 1,000 years old; the presence of both a state refuge (9,000 acre Cache River State Natural Area) and a national refuge (35,000 acre Cypress Creek National Wildlife Refuge); exceptionally large trees including two national records and twelve state champions; numerous endangered species; and two national natural landmarks (Lower Cache River Swamp and Heron Pond-Little Black Slough). The project area is one of six areas in the United States where four or more physiographic regions overlap. Of these, the Cache River is considered by many experts to be the most diverse. Serious habitat degradation has occurred along the Cache River at least partly caused by prior Corps projects, including the Cache River Levee and the Cache River Diversion projects. Sedimentation from tributary streams is choking Lower Cache River Swamp, and riverbed entrenchment threatens to drain Heron Pond-Little Black Slough. Based on the preliminary feasibility report, the recommended habitat restoration project is estimated to cost $15,000,000 with an estimated Federal cost of $9,750,000 and an estimated non-Federal cost of $5,250,000 at October 1999 price levels. The recommended plan includes east and west Lower Cache River Swamp water control structures, a Lower Cache River hillside sediment control program, river channel flow modifications, a grade control/flow diversion structure in Forman Floodway, and rock weir structures along the Upper Cache River. The project benefits amount to 7,000 average annual habitat units. The average annual cost per unit of habitat output is $150.00, based upon the latest economic analysis dated May 1998. The local sponsor, the Illinois Department of Natural Resources,I has requested additional modifications to the recommended project plan. This added work will extend the completion date of the feasibility phase to February 2001. The Illinois Department of Natural Resources understands the financing and cost-sharing requirements, is ready to sign a design agreement , and will have funds available to finance the PED portion of the project. PED will ultimately be cost-shared at the rate for the project to be constructed but will be financed through the PED period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost-sharing will be accomplished in the first year of construction.

Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Total Estimated Preconstruction Engineering and Design Cost	$1,500,000		Total Estimated Preconstruction Engineering and Design Cost	$ 1,500,000	
Initial Federal Share	1,125,000		Ultimate Federal Share	975,000	
Initial Non-Federal share	375,000		Ultimate Non-Federal Share	525,000	

The project is not authorized for construction. Cost sharing will be 65 percent Federal and 35 percent non-Federal in accordance with the Water Resources Development Act of 1996. Fiscal Year 2000 funds will be used to complete the feasibility phase. FY 2001 funds will be used to initiate PED. The completion date is being determined.

Total Watershed/Ecosystem	1,125,000	0	0	200,000	925,000

Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
b. Navigation: The amount of $4,972,000 is requested to continue two PED activities in FY 2001.					
ILLINOIS					
Upper Mississippi and Illinois Navigation Improvements, IL, IA, MN, MO, & WI Rock Island District	72,000,000	0	5,418,000	4,707,000	61,875,000

The Upper Mississippi River area includes 854 miles of the Upper Mississippi River, with 29 locks and dams between Minneapolis-St. Paul, Minnesota, and the mouth of the Ohio River. The Illinois River area includes 346 miles between Chicago, Illinois and the Mississippi River, with 8 locks. These systems are experiencing delays to commercial traffic at locks upstream from Melvin Price Locks and Dams due to limited lockage capacity and increasing traffic. A system feasibility report addressing combinations of small and large scale measures on both the Upper Mississippi and Illinois Rivers is scheduled for completion in December 2000. PED will ultimately be cost shared 50/50 with the Inland Waterways Trust Fund but will be financed through the PED period at 100 percent Federal. The Inland Waterways Trust Fund will reimburse the Federal Government for its share of PED costs during construction.

Total Estimated Preconstruction Engineering and Design Costs	$72,000,000	Total Estimated Preconstruction Engineering and Design Costs	$72,000,000
Initial Federal Share	72,000,000	Ultimate Federal Share	36,000,000
Initial Non-Federal Share (IWTF)	0	Ultimate Non-Federal Share (IWTF)	36,000,000

The project is not authorized for construction; however the Water Resources Development Act of 1999 directs that the Corps expedite completion of the report and, if justified, proceed directly to PED for the design of 1,200 foot locks. Fiscal Year 2000 funds are being used to continue the feasibility phase and preliminary engineering and design activities for potential lock improvements. Fiscal Year 2001 funds will be used to complete the feasibility phase and continue PED. The PED completion schedule is being determined.

Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
MISSOURI					
St. Louis Harbor, MO & IL St. Louis District	4,501,000	2,924,000	277,000	265,000	1,035,000

The Port of Metropolitan St. Louis has grown to be one of the Nation's leading inland ports; however, the port has a shortage of riverfront sites suitable for waterway dependent industrial use. In view of projected long-term growth in waterborne commerce moving through the St. Louis market, additional harbor facilities are needed. The authorized project has a St. Louis Municipal Dock sediment control structure and a 6,900-foot harbor along the Chain of Rocks Canal in Illinois. The Chief of Engineer's Report dated April 30, 1984 reflected a total cost of $31,000,000, with an estimated first Federal cost of $10,400,000 and an estimated first non-Federal cost of $20,600,000. The current project cost, without an allowance for inflation through the construction period, is $46,148,000 ($15,524,000 Federal and $30,624,000 non-Federal) at October 1999 price levels. A general reevaluation study is currently underway to determine if the project is incrementally feasible. The plan includes a limited reevaluation as directed by Section 415 of the Water Resources Development Act of 1996. The limited reevaluation will determine the feasibility of reducing interior flooding at the Illinois site. The current project formulation eliminates the sediment control structure at the St. Louis Municipal Dock and indicates a reduced harbor length along the Chain of Rocks Canal. The reevaluation will determine the economic feasibility of a harbor with dimensions between 2,000 feet and 3,500 feet long at an estimated cost of $20,000,000. Updated project cost and economic data will be included in the General Reevaluation Report. The Tri-City Regional Port District is the local sponsor for the project and has expressed support for the project. The sponsor understands the financing and cost-sharing requirements and is ready to sign a design agreement. PED will ultimately be cost shared at the rate for the project to be constructed but PED costs required after completion of the reevaluation will be financed through the PED period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost-sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$1,600,000 [1]	Total Estimated Preconstruction Engineering and Design Costs	$1,600,000 [1]
Initial Federal Share	1,200,000	Ultimate Federal Share	1,280,000
Initial Non-Federal Share	400,000	Ultimate Non-Federal Share	320,000

[1] Excludes PED expenditures prior to Fiscal Year 1996 and the cost of reevaluation report being completed with PED funds.

Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
The project was authorized for construction by the Water Resources Development Act of 1986. The cost sharing for construction will be 80 percent Federal and 20 percent non-Federal in accordance with the Water Resources Development Act of 1986. Fiscal Year 2000 funds are being used to continue the General Reevaluation Report, including engineering, economic, and environmental analyses. Fiscal Year 2001 funds will be used to complete the General Reevaluation Report and initiate PED. The PED completion date is being determined.					
Total - Navigation	76,501,000	2,924,000	5,695,000	4,972,000	62,910,000

Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
c. Beach Erosion Control: None.					
d. Flood Control: The amount of $2,814,000 is requested to initiate four and continue four PED activities in FY 2001.					
ILLINOIS					
Wood River Levee, IL St. Louis District	1,200,000	0	173,000	310,000	717,000

The project area is located in the Mississippi River flood plain of Madison County, Illinois, just upstream of the City of St. Louis. The area is protected by an urban design levee, authorized in 1938 and constructed in the 1950's. Based on the Reconnaissance Report dated April 1999, preconstruction engineering and design is being resumed to initiate a cost-shared reconstruction evaluation to address the aging infrastructure and determine its applicability as a Federal interest. The recommended project, estimated to cost $25,000,000 with an estimated Federal cost of $18,750,000 and an estimated non-Federal cost of $6,250,000 includes rehabilitation of the levee system to bring it into original performance compliance. The reevaluation will investigate the reconstruction or replacement of 7 pump stations, 37 gravity drains, 147 relief wells, and over 21 miles of levee. In response to a system failure during the flood of 1993, only swift action by Wood River Drainage and Levee District prevented major damages. In a letter dated 28 December 1999, the Wood River Drainage and Levee District indicated a willingness to be the local sponsor. The sponsor understands the financing and cost-sharing requirements and is ready to sign a design agreement. PED will ultimately be cost-shared at the rate for the project to be constructed but will be financed through the PED period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost-sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$1,600,000	Total Estimated Preconstruction Engineering and Design Costs	$1,600,000
Initial Federal Share	1,200,000	Ultimate Federal Share	1,200,000
Initial Non-Federal Share	400,000	Ultimate non-Federal Share	400,000

The project is authorized for construction by the Flood Control Act of 1938. Cost sharing will be 75 percent Federal and 25 percent non-Federal in accordance with Section 103 of the Water Resources Development Act of 1986. Fiscal Year 2000 funds are being utilized to initiate a reconstruction evaluation. Fiscal Year 2001 funds will be used to continue the reconstruction evaluation. The completion date for PED is being determined.

Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
LOUISIANA					
Jefferson Parish, LA New Orleans District	1,500,000	0	0	215,000	1,285,000

Jefferson Parish is located along the Mississippi River in southeast Louisiana. The parish is part of the major urban center in the New Orleans Metropolitan Statistical Area. Jefferson Parish has a population of 448,300 (1990). The study area is relatively flat and divided into three hydraulically independent areas. Most of the developed areas are protected by levee systems from river and hurricane flooding and drained by pumps which discharge primarily into estuarine water bodies such as Lake Pontchartrain and Barataria Bay. The leveed areas are divided by natural and man-made barriers into many sub-basins which are webbed with drainage canals which terminate at pumping stations. Heavy rainfall has produced major floods in Jefferson Parish in six of the last 12 years. Between 1977 and 1986, 22,000 claims amounting to $122,000,000 were filed with the Federal Emergency Management Agency. In April 1980, May 1980, April 1983, November 1989, and May 1995, Jefferson Parish was declared a Federal disaster area due to extensive rainfall flooding. Local interests have made substantial improvements to the flood control systems but have not kept pace with the increasing severity of the problem. The feasibility study is addressing potential solutions to flood damages. Possible alternative solutions to the flooding problems include: canal improvements, removal of canal obstructions, and increased pumping capacities. The disastrous flood event in May 1995 prompted a Congressional Directive to expedite construction of the economically justified components identified in the reconnaissance report. Subsequent to the authorization of the Southeast Louisiana project, the Jefferson Parish study scope was reevaluated, resulting in a revised cost estimate and a revised completion date. The average annual benefits and the benefit-cost ratio are yet to be determined. The local sponsor, Jefferson Parish, is fully committed to cost sharing in the project. PED will ultimately be cost shared at the rate for the project to be constructed, but will be financed through the PED period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$2,000,000	Total Estimated Preconstruction Engineering and Design Cost	$2,000,000
Initial Federal Share	1,500,000	Ultimate Federal Share	1,300,000
Initial Non-Federal Share	500,000	Ultimate non-Federal Share	700,000

The project is not authorized for construction. Cost sharing will be 65 percent Federal and 35 percent non-Federal in accordance with the Water Resources Development Act of 1996. Fiscal Year 2000 funds are being used to complete the feasibility phase in April 2001. Fiscal Year 2001 funds will be used to initiate PED. The completion date for PED is being determined.

Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Lafayette Parish, LA New Orleans District	750,000	0	0	200,000	550,000

Lafayette Parish is located along the Vermilion River in southwest Louisiana. The study area encompasses the flood prone areas of Lafayette Parish in the Vermilion River Basin as well as areas of St Martin Parish near the Bayou Tortue Swamp. The majority of structures susceptible to flood damages are located along the Vermilion River corridor within and adjacent to the city limits of Lafayette. The Vermilion River is the major drainage artery for the study area and has an estimated drainage area of 561 square miles. Significant floods have occurred in Lafayette Parish in 1922, 1927, 1940, 1946, 1953, 1955, 1959, 1961, 1964, 1966, 1969, 1971, 1980, 1985, 1991, 1993, and 1995. Since 1978 approximately 1,000 claims were reported for the communities in Lafayette Parish at a cost exceeding $5,000,000. Additionally, over 160 repetitive loss claims have been reported to the National Flood Insurance Program since 1978. A feasibility report is being conducted to reduce flood damages in Lafayette Parish. The anticipated solution is expected to consist of dredging the Vermilion River, retention facilities, and non-structural alternatives. The average annual benefits and the benefit-cost ratio are yet to be determined. The total project cost is expected to be approximately $80,000,000. The Lafayette Parish government has indicated a willingness to support such efforts and take on the responsibilities required of a non-Federal cost-sharing sponsor. PED will ultimately be cost-shared at the rate for the project to be constructed but will be financed through the PED period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost-sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$1,000,000	Total Estimated Preconstruction Engineering and Design Costs	$1,000,000
Initial Federal Share	750,000	Ultimate Federal Share	650,000
Initial Non-Federal Share	250,000	Ultimate Non-Federal Share	350,000

The project is not authorized for construction. Cost sharing will be 65 percent Federal and 35 percent non-Federal in accordance with the Water Resources Development Act of 1996. Fiscal Year 2000 funds are being used to complete the feasibility phase in June 2001. FY 2001 funds will be used to initiate PED. The completion date for PED is being determined.

Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Orleans Parish, LA New Orleans District	750,000	0	0	164,000	586,000

Orleans Parish is located along the Mississippi River in southeast Louisiana. The parish is part of the major urban center in the New Orleans Metropolitan Statistical Area. Orleans Parish has a population of 497,000 (1990). The Mississippi River bisects the area creating an east bank and west bank basin. Most of the developed areas are protected by levees from river and hurricane flooding and drained by pumps, which discharge primarily into estuarine water bodies such as Lakes Pontchartrain and Borgne. The leveed areas are divided into many sub-basins by natural and man-made barriers. In April 1980, May 1980, April 1983, November 1989, and May 1995, Orleans Parish was declared a Federal disaster area due to excessive rainfall flooding. The disastrous flood event in May 1995 prompted a Congressional Directive for the Corps to expedite construction of the economically justified projects identified in the reconnaissance report for the Southeast Louisiana area. The feasibility study scope of work was revised based on the Southeast Louisiana project to address areas that continue to experience damage due to flooding. The alternatives designed for both the east bank and west bank of Orleans Parish consist of a system of culverts, canals, and pump stations. The estimated construction cost for the east bank of Orleans Parish is $38,200,000. The estimated construction cost for the west bank of Orleans Parish is $76,000,000. The average annual benefits and the benefit-cost ratio are yet to be determined. The local sponsor, the New Orleans Sewerage and Water Board, is fully committed to cost-share the project. PED will ultimately be cost shared at the rate for the project to be constructed but will be financed through the PED period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$1,000,000	Total Estimated Preconstruction Engineering and Design Costs	$1,000,000
Initial Federal Share	750,000	Ultimate Federal Share	650,000
Initial Non-Federal Share	250,000	Ultimate Non-Federal Share	350,000

The project is not authorized for construction. Cost sharing will be 65 percent Federal and 35 percent non-Federal in accordance with the Water Resources Development Act of 1996. Fiscal Year 2000 funds are being used to complete the feasibility phase in January 2001. The funds requested in FY 2001 will be used to initiate PED. The PED completion date is being determined.

Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
MISSOURI					
Chesterfield, MO St. Louis District	1,875,000	0	0	250,000	1,625,000

The Missouri River drains an area of about 525,000 square miles and empties into the Mississippi River approximately 15 miles upstream of St. Louis, Missouri. The Monarch-Chesterfield Levee District is located along the right bank of the Missouri River between river miles 46.0 and 38.5. The length of the existing 100-year private levee system is 11.5 miles and protects approximately 4,240 acres. During the Great Flood of 1993, the existing levee failed causing flood damages and other damages such as flood fighting cost, moving expenses, lost wages, lease value differentials, and lost business profits in excess of $200,000,000. Based on the reconnaissance report, the recommended project is estimated to cost $30,500,000 with an estimated Federal cost of $19,825,000 and an estimated non-Federal cost of $10,675,000 at October 1995 price levels. The recommended plan includes construction of a levee system to provide 500-year flood protection to the Chesterfield Valley area, relief wells to control underseepage, a new railroad closure structure and small floodwall near Centaur Road, a reinforced earthen concrete closure structure and wall at Chesterfield Airport Road, two closure structures at Long Road, a small pump station, and several gravity drains. The sponsor has received approval from the Assistant Secretary of the Army (Civil Works) for a Section 104 credit for construction of three pump stations and some levee work. This work is substantially complete and will be evaluated for credit during the feasibility phase. The feasibility report, which will include updated project cost and economic analysis, is scheduled for completion in December 2000. The Monarch-Chesterfield Levee District is the local sponsor for the study. The sponsor understands and is ready to sign a design agreement. PED will ultimately be cost-shared at the rate for the project to be constructed but will be financed through the PED period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost-sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$2,500,000	Total Estimated Preconstruction Engineering and Design Costs	$2,500,000
Initial Federal Share	1,875,000	Ultimate Federal Share	1,625,000
Initial Non-Federal Share	625,000	Ultimate Non-Federal Share	875,000

The project is not authorized for construction. Cost sharing will be 65 percent Federal and 35 percent non-Federal in accordance with the Water Resources Development Act of 1996. Fiscal Year 2000 funds are being utilized to complete the feasibility phase of the study. Fiscal Year 2001 funds will be used to initiate PED. The completion date for PED is being determined.

Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
River des Peres, MO St. Louis District	1,612,000	487,000	43,000	330,000	752,000

River des Peres drains an 111 square mile area in the city of St. Louis and St. Louis County, Missouri, and empties into the Mississippi River. The floodplain encompasses about 7,500 acres of mostly urban development. The authorized project consists of two subprojects–Deer Creek and University City. The maximum flood of record occurred in 1957; property damages would have totaled $12,300,000 in October 1989 dollars and development conditions. The estimated project cost at October 1992 price levels totaled $23,500,000 with an estimated Federal cost of $17,400,000 and an estimated non-Federal cost of $6,100,000. Current financial and economic data are unavailable for each of the subprojects. The Deer Creek portion of the project consists of 2.5 miles of channel widening and stabilization improvements through the cities of Rock Hill, Webster Groves, Brentwood, and Maplewood. The majority of structures affected by Deer Creek flooding are commercial, including manufacturing, two industrial parks, warehousing and distribution structures, and retail shops. Residential structures are also flooded. A 100-year flood would affect 162 units in the Deer Creek portion of the project area. The project was deferred in the preconstruction engineering and design (PED) phase when the original sponsor, the Metropolitan St. Louis Sewer District, was unable to continue as the sponsor. The Metropolitan St. Louis Sewer District and the mayors of Brentwood, Rock Hill, Webster Groves, and Maplewood signed a letter of intent in February 1999 to serve as the local sponsors for the Deer Creek portion of the project. These sponsors understand the financing and cost sharing policy for PED and are willing to cost share the PED phase. The University City portion of the project consists of channel enlargement and stabilization along about 2.5 miles of the University City branch of upper River des Peres, a recreation trail of 2.53 miles within the improved channel right-of-way, and a small recreation park to be constructed by non-Federal interests on non-project lands. The sponsor for the University City portion of the project expressed interest on 6 December 1999, but has not signed a letter of intent. PED will ultimately be cost shared at the rate for the project to be constructed but will be financed through the PED period at 25 percent non-Federal. Any adjustment that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Cost	$2,150,000[1]	Total Estimated Preconstruction Engineering and Design Cost	$2,150,000[1]
Initial Federal Share	1,612,000	Ultimate Federal Share	1,612,000
Initial Non-Federal Share	538,000	Ultimate Non-Federal Share	538,000

[1]Costs reflect only the Deer Creek portion of the project.

The project is authorized for construction by the Water Resources Development Act of 1990. The cost sharing for construction of the project will be 75 percent Federal and 25 percent non-Federal in accordance with the Water Resources Development Act of 1986. Fiscal Year 2000 funds are being used to resume PED to initiate a reevaluation of the Deer Creek portion of the project. Fiscal Year 2001 funds will be used to complete the reevaluation and continue PED. The completion date for PED is being determined.

Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
St. Louis Flood Protection, MO St. Louis District	1,684,000	0	245,000	445,000	994,000

The St. Louis Flood Protection project area is located in St. Louis, Missouri, on the right bank of the Mississippi River between miles 176.3 and 187.2 above the mouth of the Ohio River. Approximately 3,160 acres of industrial and commercial development are protected from Mississippi River flooding by the completed St. Louis Flood Protection Project. During the Great Flood of 1993, which was less than the project's design, a short section of the project failed and only quick, extensive emergency actions by the City of St. Louis, Metropolitan St. Louis Sewer District, and Corps of Engineers prevented a large portion of the City of St. Louis from flooding. Significant potential problems identified with the project during 1993 include under seepage, foundation piping (which caused the failure in 1993), insufficient freeboard, pipe crossing, and toe drains and relief wells. Based on the Reconnaissance Report dated February 1999, preconstruction engineering and design is being resumed to initiate a cost-shared reconstruction evaluation to determine the Federal interest in correcting design or construction deficiencies. The recommended project, estimated to cost $8,000,000 with an estimated Federal cost of $6,000,000 and an estimated non-Federal cost of $2,000,000, includes correcting structural deficiencies, correcting geotechnical concerns, and enhancing recreation features within the project area. In a letter of intent dated January 1999, the City of St. Louis indicated a willingness to be the local sponsor. The sponsor understands the financing and cost-sharing requirements and is ready to sign design agreement. PED will ultimately be cost-shared at the rate for the project to be constructed but will be financed through the PED period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost-sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$2,245,000	Total Estimated Preconstruction Engineering and Design Costs	$2,245,000
Initial Federal Share	1,684,000	Ultimate Federal Share	1,684,000
Initial Non-Federal Share	561,000	Ultimate Non-Federal Share	561,000

The project is authorized for construction by Public Law 84-256, 9 August 1955. Cost-sharing will be 75 percent Federal and 25 percent non-Federal in accordance with Section 103 of the Water Resources Development Act of 1986. Fiscal Year 2000 funds are being utilized to prepare a Reconstruction Evaluation Report. Fiscal Year 2001 funds will be used to continue the Reconstruction Evaluation Report. The completion date for PED is being determined.

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APPROPRIATION TITLE: General Investigations, Fiscal Year 2001 — Mississippi Valley Division

Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
NORTH DAKOTA					
Grafton, Park River, ND St. Paul District	1,500,000	0	50,000	900,000	550,000

The City of Grafton is located in Walsh County in northeastern North Dakota along the Park River where State Highway 81 and the Park River intersect approximately 340 miles northwest of Minneapolis – St. Paul, Minnesota. The recommended plan will provide flood protection for the city of Grafton; it consists of a 3.75-mile-long bypass channel that would extend upstream and to the west of Grafton along the South Branch Park River. The tieback levee will direct the flood flows to the inlet of the bypass channel. A diversion structure will be constructed at the point where the levee crosses the Park River. River flows that exceed 2,000 cubic feet per second (cfs) will be diverted through the proposed bypass channel. During periods when the river flow is less than 2,000 cfs, the entire flow will go into the natural channel of the Park River through Grafton. The project is estimated to cost $29,000,000 with an estimated Federal cost of $18,850,000 and an estimated non-Federal cost of $10,150,000. The city of Grafton is the local sponsor. The mayor and City Council of Grafton have demonstrated a very strong support for the project. Preconstruction Engineering and Design (PED) will ultimately be cost shared at 35 percent, but will be financed through the PED period at 25 percent. Adjustments necessary to bring the non-Federal contribution in line with 35 percent project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$2,000,000	Total Estimated Preconstruction Engineering and Design Costs	$2,000,000
Initial Federal Share	1,500,000	Ultimate Federal Share	1,300,000
Initial Non-Federal Share	500,000	Ultimate Non-Federal Share	700,000

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Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

The Water Resources Development Act of 1986 authorized construction of the Grafton project; the project was subsequently deauthorized on 18 November 1991. The Water Resources Development Act of 1999 reauthorized the project for construction subject to a favorable reanalysis of project costs and benefits. In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, as amended, local interests will be required to provide lands, easements, rights-of-way, and borrow and excavated or dredged material or disposal areas; modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary in the construction of the project; pay five percent of the costs allocated to flood control; contribute an additional amount in cash as necessary to bring the non-Federal share of costs allocated to flood control to a minimum 35 percent; and bear all costs of operation, maintenance, and replacement of the flood control facilities. Fiscal Year 2000 funds are being used to initiate preparation of a General Reevaluation Report. Fiscal Year 2001 funds will be used to continue preparation of a General Reevaluation Report. The completion schedule for preconstruction engineering and design is being determined.

e. Multiple Purpose Power: None.

Total - Flood Control	10,871,000	487,000	511,000	2,814,000	7,059,000
TOTAL - PED	88,497,000	3,411,000	6,206,000	7,986,000	70,894,000
GRAND TOTAL - SURVEYS & PED	205,010,000	68,581,000	19,406,000	17,500,000	99,523,000

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APPROPRIATION TITLE: Construction, General - Major Rehabilitation - Locks and Dams (Navigation)

PROJECT: Lock and Dam 11, Mississippi River, Iowa (Major Rehabilitation) (New)

LOCATION: The project is located at Mississippi River Mile 583.0, Dubuque, in Dubuque County, Iowa. The facility is a unit of the Inland Waterway Navigation System of the Upper Mississippi River Basin and is one of twenty-nine such facilities between Minneapolis, Minnesota, and St. Louis, Missouri.

DESCRIPTION: The lock chamber is 600 feet long by 110 feet wide and has a maximum lift of 11 feet. An auxiliary lock is located adjacent to the Iowa side of the channel. The dam is 5,018-feet long and consist of a 1,278-foot gated section, a 200-foot long storage yard, and the remaining 3,540 feet is a non-overflow earth dike. Significant features of the work include miter gate electrical systems replacement, miter gate and tainter valve machinery replacement, miter gate anchorage bar replacement, culvert valve rehabilitation, dam tainter gate chain replacement, and additional scour protection above and below the dam. All work is programmed.

AUTHORIZATION: Rivers and Harbor Act of 1930, and Water Resources Development Acts of 1986 and 1992.

REMAINING BENEFIT-REMAINING COST RATIO: 9.7 to 1 at 6-7/8 percent.

TOTAL BENEFIT-COST RATIO: 9.7 to 1 at 6-7/8 percent

BASIS OF BENEFIT-COST RATIO: The Mississippi River, Dubuque, Iowa, Lock and Dam No. 11 Rehabilitation Evaluation Report, dated March 1999, revised May 1999, at October 1998 price levels.

SUMMARIZED FINANCIAL DATA	
Estimated Federal Cost	$24,600,000[1]
General Appropriations	12,300,000
Inland Waterways Trust Fund	12,300,000
Estimated Non-Federal Cost	0
Total Estimated Project Cost	$24,600,000

STATUS: (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project	0	Is being determined

PHYSICAL DATA

Scour Protection – place rock downstream of dam (125 ft) and upstream (65 feet).
Lock Rehabilitation – 600 feet long x 110 Feet wide.
Dam Rehabilitation – 849 feet gated section and 7,520 feet rock and earthen section.

[1] Based on Rehabilitation Evaluation Report dated May 1999 in the amount of $21,900,000 (Major Rehabilitation only). The estimate was updated to October 1999 price levels and an estimated inflation allowance through the construction period was applied.

SUMMARIZED FINANCIAL DATA (Continued)

	GENERAL APPROPRIATIONS	INLAND WATERWAYS TRUST FUND	ACCUM PCT OF EST FED COST
Allocations to 30 September 1999	$ 0	$ 0	
Conference Allowance for FY 2000	0	0	
Allocation for FY 2000	0	0	
Allocations through FY 2000	0	0	0
Allocation for FY 2001	1,605,000	1,605,000	13
Programmed Balance to Complete after FY 2001	10,695,000	10,695,000	
Unprogrammed Balance to Complete after FY 2001	0	0	

JUSTIFICATION: The Upper Mississippi River is a vital segment of the United States Inland Waterway Navigation System, serving as an economical transportation link from the Upper Midwest to the lower Mississippi River and the Gulf of Mexico. The Upper Mississippi River is essential to several of the most important economic sectors in the nation; namely agriculture, construction, and energy. The continued operation and maintenance of the locks and dams on the Upper Mississippi River in a safe and reliable mode is of sound economic importance.

Lock and Dam No. 11 was placed into operation in 1937, and has performed very well in the intervening 62 years of service. However, reliability and operational problems are occurring that have significant impacts to the navigation users of the Upper Mississippi River. These impacts, in the form of service disruptions leading to stalls and delays in traffic, result in increased transportation costs for grain, coal, petroleum products, and other bulk commodities. As stewards of inland navigation, the U.S. Army Corps of Engineers is addressing these reliability problems to ensure the lock and dam system continues satisfactory operations for current levels of traffic on the Upper Mississippi River.

The existing lock mechanical and electrical systems are original equipment installed in the 1930's. Most of the electrical components are not in compliance with the National Electric Code, and operation of the equipment is becoming a safety concern. Operation and maintenance costs will be increasing with a continued decrease in the reliability. The lock mechanical systems are the most critical components in keeping the lock operational. Loss of function of these systems

could reduce the efficiency of the lock by 60 percent. Spare parts for these machinery systems are also becoming increasingly difficult to obtain. The miter gate anchorages are original components that have experienced fatigue failures at other lock sites. Failure of these anchorages could shut down the lock for an extended period. The culvert valves control entry and exit of water for the lock. Failure of this component could reduce the efficiency or in some cases shut down the lock for an extended period. The dam tainter gate chains have experienced corrosion that has caused them to become stiff and difficult to pass over the chain sprockets. These chains have failed at other dam sites resulting in uncontrolled flow through the gate opening. Changes in design and operating criteria require the placement of additional scour protection above and below the dam. The additional protection will provide more reliable service for various water control scenarios. The average benefit, all navigation, are $20,024,800. Lock tonnage figures for the last ten years are as follows:

Year	Tonnage	Year	Tonnage	Year	Tonnage	Year	Tonnage
1998	20,333,000	1995	19,268,000	1992	20,648,000	1989	17,395,000
1997	18,618,000	1994	16,128,000	1991	18,768,000		
1996	19,674,000	1993	13,186,000	1990	20,435,000		

FISCAL YEAR 2001: The requested amount of $3,210,000 will be applied as follows:

Initiate Stage I, Scour Protection	$ 1,530,000
Initiate Stage II, Lock Rehabilitation	110,000
Planning, Engineering, and Design	1,340,000
Supervision and Administration	230,000
Total	$ 3,210,000

NON-FEDERAL COST: In accordance with the cost-sharing and financing concepts reflected in the Water Resources Development Act of 1986, 50 percent of the total Cost of Construction will be derived from the Inland Waterways Trust Fund.

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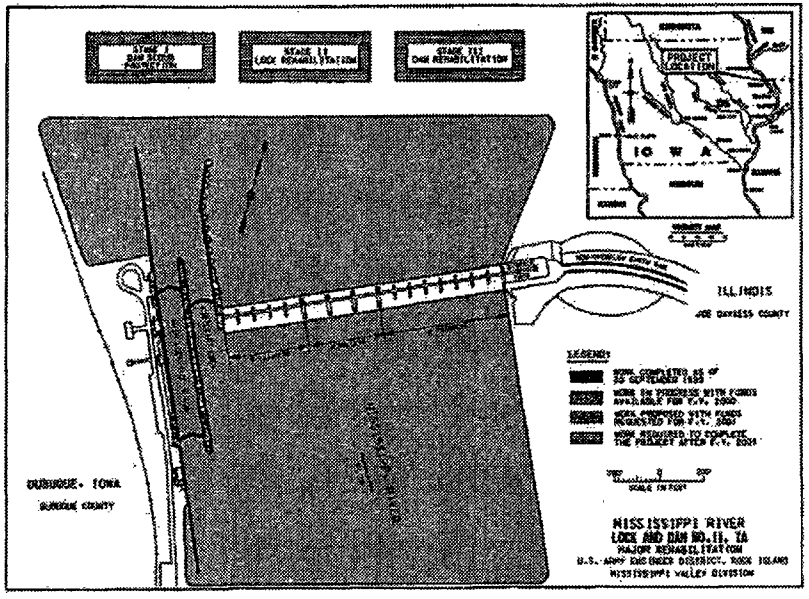
STATUS OF LOCAL COOPERATION: None required.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $24,600,000 is the initial cost estimate. No previous estimate has been presented to Congress.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An environmental assessment was distributed for public review in April 1996. A Finding of No Significant Impact was signed in August 1997.

OTHER INFORMATION: Operations and Maintenance, General, funds were allocated to initiate and complete the Rehabilitation Evaluation Report.


STAGE I
LOCK REHABILITATION
STAGE II
DAM REHABILITATION
PROJECT LOCATION
I L L I N O I S
DUBUQUE, IOWA
DUBUQUE COUNTY
LEGEND
MISSISSIPPI RIVER
LOCK AND DAM NO. 11, IA
MAJOR REHABILITATION

APPROPRIATION TITLE: Construction, General – Channels and Harbors (Navigation)

PROJECT: Chain of Rocks Canal, Illinois (Continuing Deficiency Correction)

LOCATION: The Chain of Rocks Canal is located on the Mississippi River adjacent to river miles 184 to 194.4 in Madison County, Illinois.

DESCRIPTION: The recommended plan for design deficiency correction involves the installation of relief wells and construction of berms and a pump station. All work is programmed.

AUTHORIZATION: The original project was authorized by the River and Harbor Act of 2 March 1945.

REMAINING BENEFIT-REMAINING COST RATIO: 1.6 to 1 at 7 3/8 percent.

TOTAL BENEFIT-COST RATIO: 1.6 to 1 at 7 3/8 percent.

INITIAL BENEFIT-COST RATIO: 1.6 to 1 at 7 3/8 percent (FY 1999).

BASIS OF BENEFIT-COST RATIO: Based on the Chain of Rocks Design Deficiency Report dated July 1997 at October 1996 price levels.

SUMMARIZED FINANCIAL DATA

	Original Project	
Actual Federal Cost		$59,260,000
Actual Non-Federal Cost		0
Cash Contributions	$ 0	
Other Costs	0	
Total Original Project Cost		$59,260,000

STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project	2	Being determined

PHYSICAL DATA

The proposed plan provides for correcting underseepage deficiencies on the nine-mile long levee, installing 30 new relief wells, replacing 50 nonfunctional relief wells, utility relocations, landside of the levee, adding fill to berms and filling in low areas, constructing a 292 cfs pump station, and constructing wetland mitigation features.

			ACCUM PCT OF EST FED COST (Remedial Work Only)
Remedial Work			
Estimated Federal Cost		$23,728,000	
Estimated Non-Federal Cost		0	
Cash Contributions	$ 0		
Other Costs	0		
Total Estimated Remedial Cost		$23,728,000	
Total Estimated Project Cost		$82,988,000	
Allocations to 30 September 1999		500,000	
Conference Allowance for FY 2000		2,100,000	
Allocation for FY 2000		1,801,000 [1]	
Allocations through FY 2000		2,301,000	10
Allocation Requested for FY 2001		2,100,000	19
Programmed Balance to Complete after FY 2001		19,327,000	
Unprogrammed Balance to Complete after FY 2001		0	

JUSTIFICATION: The Chain of Rocks Canal Levee System consists of a dual line of levees running parallel to the canal constructed as part of the Chain of Rocks Canal, Illinois, navigation project. The operation and maintenance of these levees is a 100 percent Federal responsibility. The eastern line of this levee system serves as an integral part of the main line levee protection to the East St. Louis and vicinity area. The east levee has demonstrated inadequate underseepage performance during past floods. Quick conditions and sand boils develop on the landside of the levee during high river stages. The original design assumptions related to the coefficients of permeability for the aquifer and top stratum materials were incorrect. The relief well system was found to be deficient. The levee relies on the impoundment of water against the landside toe of the levee in order to maintain levee stability; however, development over the last 40 years has prevented effective use of this method. Correction of the deficiencies will assure the integrity of the levee system and provide urban level protection for the East St. Louis metropolitan area. The average annual benefits for the design deficiency correction, all flood control, are $2,647,000.

[1] Reflects $299,000 reduction assigned as savings and slippage.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate: Lands and Damages	$190,000
Berms, Phase 2 Contract	280,000
Wetland Mitigation	204,000
Continue: Relocations	55,000
Relief Wells	834,000
Planning, Engineering, and Design	231,000
Supervision and Administration	306,000
Total	2,100,000

NON-FEDERAL COST: The project is 100 percent Federal.

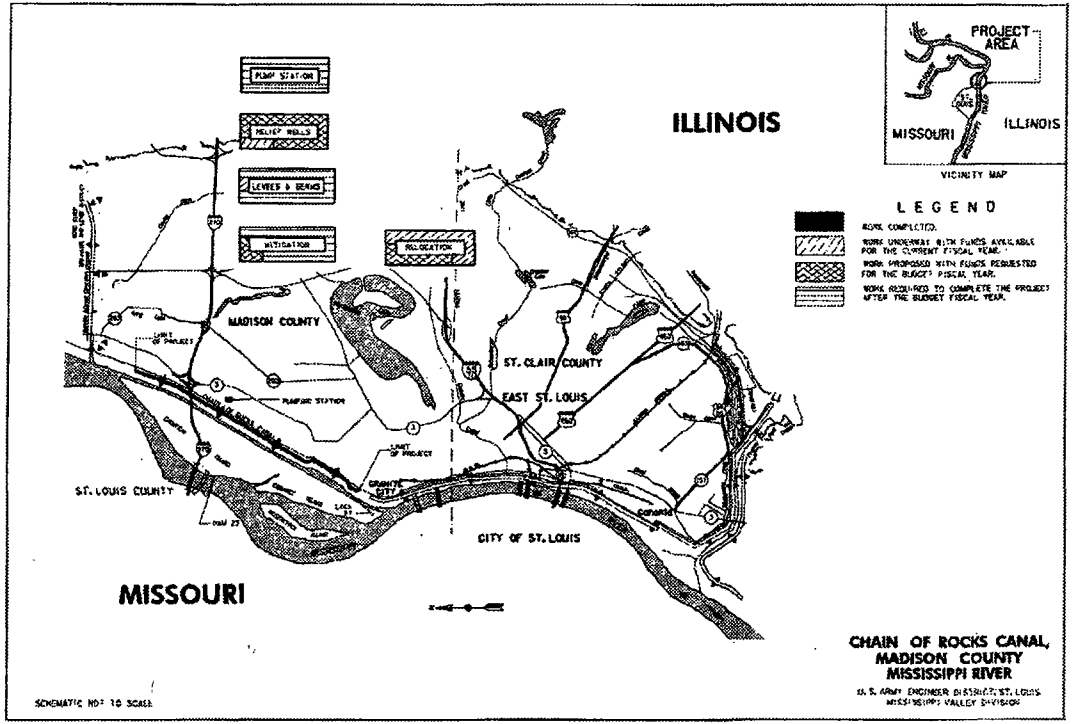
STATUS OF LOCAL COOPERATION: Not applicable.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $23,728,000 is a decrease of $772,000 from the latest estimate ($24,500,000) presented to Congress (FY 2000). This change includes the following item:

Item	Amount
Price Escalation on Construction Features	$-772,000
Total	$-772,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Environmental Assessment resulted in a Finding of No Significant Impact (FONSI), which was signed 21 May 1996.

OTHER INFORMATION: Previous funding included the actual cost of $59,260,000 for the construction of the original project, which was completed in FY 1953. Funds to initiate construction for the remedial work were appropriated in FY 1999. The Corps is seeking the transfer of 72 acres within the Charles Melvin Price Support Center, a closing army base, for construction and operational purposes associated with the original project and the deficiency corrections. Fish and Wildlife costs are $1,175,000.


PROJECT AREA
MISSOURI
ILLINOIS
VICINITY MAP
PUMP STATION
RELIEF WELLS
LEVEES & DRAINS
MITIGATION
RELOCATION
ILLINOIS
LEGEND
WORK COMPLETED.
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR.
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR.
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR.
MADISON COUNTY
ST. CLAIR COUNTY
EAST ST. LOUIS
PUMPING STATION
ST. LOUIS COUNTY
GRANITE CITY
CITY OF ST. LOUIS
MISSOURI
CHAIN OF ROCKS CANAL, MADISON COUNTY MISSISSIPPI RIVER
U.S. ARMY ENGINEER DISTRICT, ST. LOUIS
MISSISSIPPI VALLEY DIVISION
SCHEMATIC NOT TO SCALE

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APPROPRIATION TITLE: Construction, General - Channels and Harbors (Navigation)

PROJECT: Inner Harbor Navigation Canal Lock, Louisiana (Continuing)

LOCATION: The project is located within the city of New Orleans, Louisiana, in Orleans Parish. It is a combined deep and shallow draft canal extending northward from the Mississippi River to Lake Pontchartrain.

DESCRIPTION: The plan of improvement consists of construction of a precast, floated-in, concrete lock; replacement of the St. Claude Avenue bridge with a new, low level double bascule bridge; construction of a temporary by-pass bridge at St. Claude Avenue; replacement of the center lift-span and raising of the towers on the Claiborne Avenue bridge; provisions for by-pass channels during construction; extension of the Mississippi River flood protection along the canal to the site of the new lock; and implementation of a community impact mitigation plan. All work is programmed.

AUTHORIZATION: River and Harbor Act of 1956, Water Resources Development Acts of 1976, and the Water Resources Development Acts of 1986 and 1996.

REMAINING BENEFIT - REMAINING COST RATIO: 1.8 to 1 at 7-1/8 percent.

TOTAL BENEFIT - COST RATIO: 1.8 to 1 at 7-1/8 percent.

INITIAL BENEFIT - COST RATIO: 1.75 to 1 at 7-3/8 percent (FY 1961).

BASIS OF BENEFIT - COST RATIO: Benefits are from the Evaluation Report approved in February 1998 at October 1998 price levels.

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SUMMARIZED FINANCIAL DATA

			STATUS (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost (CoE)		$ 575,000,000	Total Project	0	Being determined
General Appropriations	$ 287,500,000				
Inland Waterways Trust Fund	287,500,000				
Estimated Federal Cost (USCG)		45,000			
Estimated Non-Federal Cost		115,000,000			
Cash Contribution	87,300,000				
Other	27,700,000				
Total Estimated Project Cost		$ 690,045,000			

	GENERAL APPROPRIATIONS	INLAND WATERWAYS TRUST FUND	ACCUM. PCT. OF EST. FED. COST
Allocations to 30 September 1999	26,985,000	3,534,000	
Conference Allowance for FY 2000	0	15,900,000	
Allocation for FY 2000	0	13,636,000[1]	
Allocations through FY 2000	26,985,000	17,170,000	8
Allocation Requested for FY 2001	2,267,000	12,082,000	10
Programmed Balance to Complete After FY 2001	258,248,000	258,248,000	
Unprogrammed Balance to Complete After FY 2001	0	0	

[1] Reflects $2,264,000 reduction assigned as savings and slippage.

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PHYSICAL DATA

Locks:
New Lock, 110 feet wide by 36 feet deep by 1,200 feet long
Levees and Floodwalls: 6 miles

Relocations:
Low Level Bridge, St. Claude Avenue

Semi-High Level Bridge, Claiborne Avenue

JUSTIFICATION: The existing Inner Harbor Navigation Canal Lock passes barge traffic between the Mississippi River and the Gulf Intracoastal Waterway at New Orleans and is a vital link in the Gulf Intracoastal Waterway system. The lock also is the connecting link for ship traffic between the Mississippi River-Gulf Outlet and the Mississippi River at New Orleans. Delays to the navigation traffic average is 11 hours, with 24-36 hour delays common. The average tonnage shipped thru the lock by the barge traffic the last 10 years is about 24,000,000 tons. Coal, petroleum products and crude petroleum account for about 2/3 of the tonnage. Other major commodities include metallic ores, industrial chemicals and non-metallic minerals. The number of ships locked from 1970 through 1995 averaged about 197 per year. This is a reduction in ship lockage since 1961, and is due in part to the development of the Mississippi River-Gulf Outlet channel and the inadequacy of the Inner Harbor Navigation Canal Lock for ship traffic. Studies indicate that, with a new lock, barge traffic would generally be expected to increase to about 40,000,000 tons by 2035, with minimal delays, and that the number of ship lockages by 2035 could be approximately 500 per year. The maximum size ship that could use the new lock is a 68,000,000 DWT Dry Bulk vessel and a 46,000,000 DWT container vessel. Average annual benefits are as follows:

Annual Benefits	Amount
Navigation	$ 88,466,000
Vehicular	6,547,000
Advanced Closure Navigation Losses Prevented	10,640,000
Savings to Existing Project	4,053,000
Total	$109,706,000

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FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate:	
Site Preparation Contract 2	$ 5,236,000
Initiate and Complete:	
Westbank Levees, PH I	2,138,000
Continue:	
Community Impact Mitigation Plan	3,000,000
Complete:	
Demolish Galvez St. Wharf	954,000
Planning, Engineering and Design	2,071,000
Supervision and Administration	950,000
Total	$ 14,349,000

NON-FEDERAL COST: The costs of the new lock were apportioned between general cargo navigation and inland navigation. Those costs assigned to inland navigation which represent the National Economic Development (NED) Plan (22 feet deep x 110 feet wide x 500 feet long), will be funded 50 percent from the Inland Waterways Trust Fund and 50 percent from the general fund of the U.S. Treasury. The costs of all lands, easements, rights-of-way, and dredged material disposal areas and the costs for utility relocations are included in the NED Plan. Only the compensable relocations costs will be cost-shared 50/50. The non-compensable relocations will be the responsibility of the respective non-Federal owners. Those costs assigned to general cargo navigation will be cost-shared in accordance with Section 101 of the Water Resources Development Act of 1986. Since the costs assigned to general cargo navigation are not economically justified, incrementally, the local sponsor will provide 100 percent of the additional cost assigned to general cargo navigation, the total project is overall justified. The latter case applies to this project. The difference in cost to build the lock in the recommended plan (36 feet deep x 110 feet wide x 1200 feet long) in lieu of the NED plan will be 100 percent responsibility of the local contributor.

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NON-FEDERAL COST: In accordance with the cost-sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the following requirements:

Requirements of Local Cooperation	Payments During Construction And Reimbursements	Annual Operation Maintenance Repair Rehabilitation and Replacement Costs
Modify or relocate utilities and facilities (except railroad bridges) where necessary for construction of the project.	$ 27,700,000	$
Non-Federal sponsor cash requirement based on the incremental construction cost increase between the NED Plan and the Recommended Plan reduced by the value of lands, easements, rights-of-way and dredged material disposal areas owned by the local sponsor that will be donated as an "in lieu" payment of the cash requirement.	87,300,000	
Non-Federal sponsor cash requirement based on the incremental annual operation, maintenance, repair, rehabilitation and replacement of navigation features.		2,000
Total Non-Federal Costs	$ 115,000,000	$ 2,000

STATUS OF LOCAL COOPERATION: The Port of New Orleans by letter dated 14 Apr 1997 expressed their intent to support the project and furnished their preliminary financing plan to provide their local share. Coordination of a Memorandum of Agreement (MOA) for Contributed Funds is ongoing. Execution of the MOA is expected by the end of 1999. See Other Information paragraph regarding the reason for the Memorandum of Agreement rather than a Project Coordination Agreement.

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COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $575,045,000 is an increase of $42,000,000 from the last estimate ($533,000,000) presented to Congress (FY 2000). This change includes the following item:

ITEM	AMOUNT
Price Escalation on Construction Features	$ 42,000,000
Total	$ 42,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The draft Environmental Impact Statement for the project was submitted to the Environmental Protection Agency (EPA) in December 1996, and the final statement was submitted to EPA in February 1998.

OTHER INFORMATION: Funds to initiate engineering and design were appropriated in Fiscal Year 1957. Funds to initiate construction were appropriated in Fiscal Year 1999.

The existing lock was completed in 1923 by non-Federal interests, and had been leased by the Federal Government since 1944. On 1 July 1986, the lock, adjacent land, and facilities were purchased from the Board of Commissioners of the Port of New Orleans for $3,800,000. By purchasing the lock, the Corps received fee title to the lock and appurtenances with operation and maintenance responsibility for the St. Claude and Florida Avenue bridges transferring to the Board of Commissioners of the Port of New Orleans.

Based on Congressional committee guidance in the Fiscal Year 1991 Energy and Water Development Appropriations Bill, an Open Planning Process was adopted in an attempt to build consensus among the major stakeholders for siting the shiplock at the Inner Harbor Navigation Canal (Industrial Canal) site. The Corps and the Port of New Orleans were directed to ". . . develop a comprehensive plan to identify and mitigate to the maximum extent practicable, any adverse social and cultural impacts of the project." The plan will include ". . . measures to provide adequate housing, street circulation and enhanced neighborhood amenities to insure the communities adjacent to the project remain as complete, livable neighborhoods during and after construction of the project." The legislation specifically directed the Corps to strictly follow Federal historic preservation policies in evaluating the impact of lock replacement. Also, full compliance with the provisions of the 1986 Water Resources Development Act, which requires "full participation of members of minority groups living in the affected areas" in any work related to the replacement of the lock. Finally, the legislation directed the Corps to give "maximum consideration to lock replacement alternatives which minimize residential and business disruption while meeting the goal of improving waterborne commerce. Neighborhood groups, navigation interests, affected businesses, local, governmental officials, and the Port of New Orleans comprise various committees that are discussing all the major aspects of the various alternatives being studied at this site. The Corps of Engineers and the Port of New Orleans have provided the engineering, economic, and social analyses to these committees for their deliberations.

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The final Evaluation Report, based on the Open Planning Process, was approved by HQUSACE in February 1998. The final Evaluation Report recommended that a deep draft lock, 36 feet deep by 110 feet wide by 1,200 feet long be constructed at the Industrial Canal site north of the existing lock using a prefabricated float-in construction method that would require no relocation of residents and that a comprehensive community impact mitigation plan ($35 million) be implemented in conjunction with the project. The mitigation plan was authorized by the Water Resources Development Act of 1996. In an effort to continue to involve the local stakeholders in the implementation and formulation of the impact mitigation plan, a community based committee will be formed. The Corps would then enter into a Partnering Agreement with the committee for implementation of the plan throughout the construction period.

On 30 Sep 99, a contract was awarded to a team headed by Gregory C. Rigamer & Associates, Inc. to assist in the establishment of a Community-Based Mitigation Committee (CBMC) and the development of the Partnering Agreement. Upon establishment of the CBMC (expected in Feb 2000), the contractor will lead the development of a Needs Assessment and will also serve as facilitator for the CBMC in its proceedings, including the development of mitigation plan recommendations and annual program reviews.

The existing Florida Avenue bridge (vehicular and railroad) has been assumed in our studies to be replaced by others. The vehicular bridge was scheduled to be replaced by the State of Louisiana, who had preliminary designs for a high level bridge and partial funding (about $32 million) appropriated by the State Legislature. Final plans were scheduled to be completed by mid-1996. However, the state has decided that this bridge is not in the State's interest and has informed the City of New Orleans (City) that construction of a new bridge at Florida Avenue would be the City's responsibility. Efforts are underway to coordinate with the City for construction of a new bridge (not necessarily a high-rise) at Florida Avenue. The railroad bridge has been approved for replacement under Truman Hobbs authority. The Coast Guard recommended that the existing railroad bridge is a hazard to navigation, thereby justifying the use of Truman Hobbs. The Port of New Orleans will be responsible for the design and replacement of the railroad bridge. Construction is scheduled to begin in Fiscal Year 2000.

The Senate Report accompanying the Fiscal Year 1994 Energy and Water Development Appropriations Act included language recommending examination of all alternatives for removing the siphon near Florida Avenue bridge, the convening of all interests to determine the best course of action and preparation of a report on this matter. The Evaluation Report assumes that the siphon will be removed prior to initiating construction of this project, at no cost to the Federal Government. Section 305 of H.R. 4422, the House version of the Fiscal Year 1995 Coast Guard Authorization Bill, states that the removal of the siphon, an appurtenant structure to the bridge, will be accomplished under the provisions of the Truman Hobbs Act.

The responsibility of the Local Sponsor based on the recommended plan is limited to the cost difference between the recommended plan and the NED Plan. The only cost difference is the lock structure cost for the larger lock in the recommended plan (all other costs are the same for both plans). The use of the traditional Project Coordination Agreement is not applicable. The local sponsor will be contributing funds to build the plan they prefer. Pursuant to 33 U.S.C. 560 and ER 1165-2-30, and ER 1165-2-30, a Memorandum of Agreement for Contributed Funds will be used for this project.

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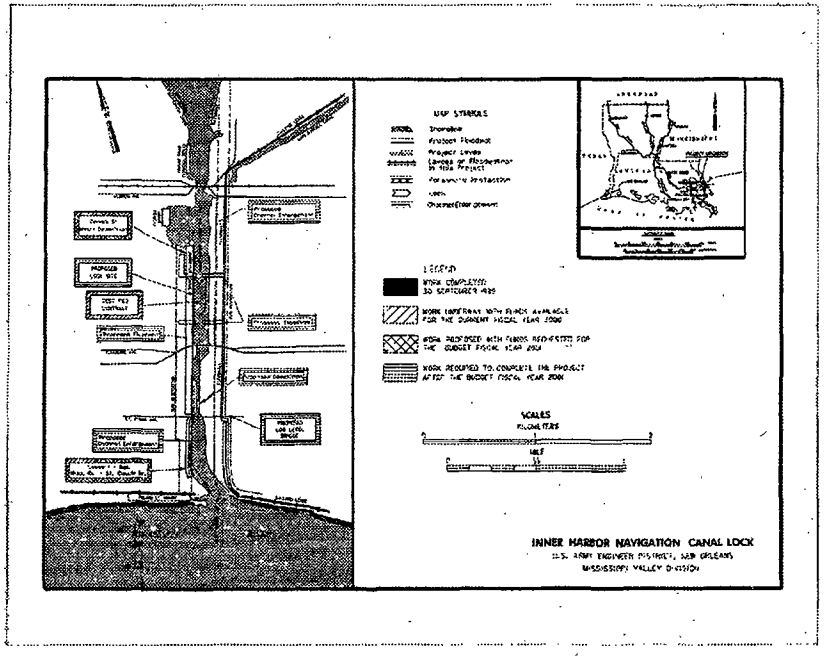
MAP SYMBOLS
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SCALES
INNER HARBOR NAVIGATION CANAL LOCK

APPROPRIATION TITLE: Construction, General - Channels and Harbors (Navigation)

PROJECT: Mississippi River Ship Channel, Gulf to Baton Rouge, Louisiana (Continuing)

LOCATION: The project is located in the southeast portion of Louisiana below Baton Rouge, in the parishes of Ascension, Assumption, St. James, St. Charles, Orleans, Lafourche, Jefferson, Plaquemines, St. Bernard, and St. John the Baptist, consisting of the Mississippi River and its major outlet to the Gulf of Mexico, Southwest Pass.

DESCRIPTION: The authorized project will provide more efficient deep-draft navigation access to the New Orleans and Baton Rouge reaches of the Mississippi River via Southwest Pass by enlarging the existing channel to a project depth of 55 feet; enlarging the adjacent channel along the left descending bank in New Orleans to a 40-foot depth, providing a turning basin at Baton Rouge, and providing training works in the passes and in four crossings between New Orleans and Baton Rouge to reduce maintenance. Construction of mitigation measures is required due to the saltwater intrusion caused by the deeper channel. The programmed work includes enlargement of the existing channel to an initial depth of 45 feet in the reach from the Gulf of Mexico to Mile 232.4 above New Orleans, the 40-foot enlargement in New Orleans Harbor, and construction of the mitigation works. The unprogrammed work includes enlargement of the 45-foot channel to 55 feet in the reach from the Gulf of Mexico to Mile 232.4, enlargement of the existing 40-foot channel to 55 feet from Mile 232.4 to Mile 233, construction of a turning basin at Baton Rouge, and training works in the passes.

AUTHORIZATION: Supplemental Appropriations Act of 1985, Water Resources Development Acts of 1986 and 1988, and the Energy and Water Development Appropriations Act of 1993.

REMAINING BENEFIT - REMAINING COST RATIO: 7.0 to 1 at 6-7/8 percent.

TOTAL BENEFIT - COST RATIO: 11.1 to 1 at 8-1/8 percent.

INITIAL BENEFIT - COST RATIO: 8.1 to 1 at 8-1/8 percent (FY 1985).

BASIS OF BENEFIT - COST RATIO: Benefits are from the latest available evaluation approved in July 1981 at 1980 price levels.

SUMMARIZED FINANCIAL DATA

			STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Appropriation Requirement (CoE)		$ 176,000,000			
Programmed Construction	$ 35,145,000		Phase I	96	Indefinite[1]
Unprogrammed Construction	140,885,000		(Gulf-Mile 181, 45')		
			Phase II	100	Dec 1994
Estimated Appropriation Requirement (USCG)		1,200,000	(Mile 181-Baton Rouge, 45')		
Programmed Construction	0		Phase III	0	Indefinite[2]
Unprogrammed Construction	1,200,000		(Gulf-Baton Rouge, 55')		
Estimated Total Appropriation Requirement		$ 177,200,000	Entire Project	30	Indefinite[2]
Programmed Construction	35,145,000				
Unprogrammed Construction	142,055,000				
Future Non-Federal Reimbursement		1,155,000			
Programmed Construction	1,155,000				
Unprogrammed Construction	0				
Estimated Federal Cost (CoE) (Ultimate)		$ 174,845,000			
Programmed Construction	33,990,000				
Unprogrammed Construction	140,855,000				
Estimated Non-Federal Cost (Ultimate)		$ 434,000,000			
Programmed Construction	21,063,000				
Cash Contributions $ 4,750,000					
Other Costs 15,158,000					
Reimbursements 1,155,000					
Navigation $ 1,155,000					

[1] Completion of mitigation will depend on future growth in Plaquemines Parish.

[2] Phase III work on the GDM is programmed. The remaining Phase III work is unprogrammed pending the results of the GDM investigations.

SUMMARIZED FINANCIAL DATA (Continued)

Unprogrammed Construction			$ 412,937,000
Cash Contributions		$ 139,986,000	
Other Costs		272,951,000	
Reimbursements		0	
Navigation	0		

Total Estimated Programmed Construction Cost	$ 56,208,000	
Total Estimated Unprogrammed Construction Cost	$ 554,992,000	
Total Estimated Project Cost	$ 611,200,000	
		ACCUM.
Allocations to 30 September 1999	24,480,000	PCT. OF EST.
Conference Allowance for FY 2000	1,500,000	FED. COST
Allocation for FY 2000	1,286,000 [1]	
Allocations through FY 2000	25,766,000	15
Allocation Requested for FY 2001	719,000	15
Programmed Balance to Complete After FY 2001	$ 8,660,000	
Unprogrammed Balance to Complete After FY 2001	$ 140,855,000	

PHYSICAL DATA

Channels and Canals:
Southwest Pass: 55 feet deep (Mean Low Gulf) by 750 feet wide, 17.5 miles.
Southwest Pass Bar Channel: 55 feet deep (Mean Low Gulf) by 600 feet wide from Mile 18.0 below Head of Passes to the -55 foot (Mean Low Gulf) contour in the Gulf of Mexico (Mile 22.1 below Head of Passes)

Mississippi River: 55 feet deep (Mean Low Gulf) by 750 feet wide, 233 miles long.
Baton Rouge Turning Basin: 55 feet deep (Mean Low Gulf) by 1,600 feet wide, 4,000 feet long.

Breakwaters and Seawalls:
Control and contraction structures in South Pass and Pass-a-Loutre. Size and number of structures to be determined in the future.

[1] Reflects $214,000 reduction assigned as savings and slippage.

Mitigation Measures:
Underwater dredged material sill at Mile 64 Above Head of Passes (top elevation -55.0 Mean Low Gulf), modifications to the Belle Chasse water treatment plant with water supply pipelines to the West Pointe-a-la-Hache and Boothville water treatment plants, and construction of a water supply reservoir at Davant, LA to supply the East Pointe-a-la-Hache water treatment plant. Until construction of a permanent mitigation plan is completed, an interim plan has been implemented to barge fresh raw water, with Operations and Maintenance, General funds, to three existing water treatment plants during periods of increased salinity caused by the deeper channel. (See Other Information).

JUSTIFICATION: According to the latest data, the ports of South Louisiana, Baton Rouge, New Orleans, and Plaquemines are ranked as the first, fourth, sixth, and seventh ports in the United States, respectively, based on the total tonnage of waterborne commerce. Collectively, these ports represent the greatest concentration of Waterborne Commerce in the United States. Much of this commerce is in liquid bulk and dry bulk oceangoing cargo which could be shipped much more economically using a deeper channel. The cargo was previously shipped in smaller ships or in lightly loaded larger ships over the 40-foot deep channel. The construction of the 45-foot channel has resulted in significant savings in the transportation cost of the oceangoing commerce moving over the channel. Deepening the channel to 55 feet will result in additional significant savings. The average annual benefits, all navigation, are $1,292,000,000, based on October 1980 prices.

Existing Commerce (000 tons):

Commodity	1991 (000)	1992 (000)	1993 (000)	1994 (000)	1995[1] (000)
Coal and Coal Products	55,257	51,694	42,295	42,175	43,411
Petroleum and Petroleum Products	67,046	69,173	72,331	70,081	69,582
Crude Petroleum	48,687	52,459	58,877	60,997	55,467
Chemicals and Chemical Products	35,256	36,608	38,511	44,979	46,443
Crude Materials, Inedible (except fuels)	36,478	35,381	36,919	40,903	41,300
Primary Manufactured Goods	11,792	10,544	13,476	27,078	28,255
Food & Farm Products	39,045	42,169	39,533	38,317	40,727
Corn	70,059	72,743	65,121	59,522	80,655
Wheat	16,705	21,455	16,223	12,820	13,971
Soybeans	30,171	33,111	31,718	29,911	33,630
Manufactured Equip, Machinery & Products	824	845	980	876	938
Miscellaneous	76	161	164	192	266
Total	411,396	426,343	416,148	427,851	454,645

[1] Latest available information.

The average deep draft tonnage trafficked thru the project from 1979 thru 1989 was 183,197,960 tons. The deep draft savings per ton for liquid bulk cargo is $4.60; for dry bulk cargo, $6.60, and for general cargo, $.90. The ships expected to traffic the project in the future would carry up to 150,000 DWT (dead weight tons). Dredged material will be deposited on lands adjacent to the channel from Venice, Louisiana to the Gulf of Mexico. A substantial amount of these lands are within existing rights-of-way. Disposal for construction work above Venice, Louisiana, will be accomplished in the main channel of the Mississippi River.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue:	
Permanent Saltwater Intrusion Mitigation Facilities	$ 582,000
Planning, Engineering and Design - Phase I	25,000
Planning, Engineering and Design - Phase III	79,000
Supervision and Administration - Phase I	33,000
Total Project	$ 719,000

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Acts of 1986 and 1988, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Phase I, 45', Gulf - Mile 181.0		
Provide lands, easements, rights-of-way and dredged material disposal areas.	$ 154,000	$
Modify or relocate pipelines and submarine cables where necessary for the construction of the project.	6,795,000	
Dredge New Orleans Harbor.	1,114,000	
Pay 25 percent of costs to construct the channel to 45 feet (cash contributions and/or equivalent work).	3,237,000	
Pay 25 percent of costs for mitigation reimbursement contributions and/or equivalent work.	6,341,000	
Pay maintenance dredging costs adjacent to New Orleans harbor wharves.		1,422,000
Pay an additional 10 percent of the cost allocated to deep draft navigation within a period of 30 years following completion of construction [which is partially offset by a credit allowed for the value of lands, easements, rights-of-way, relocations and dredged material disposal areas].	1,155,000	
Subtotal, Phase I	$18,796,000	$ 1,422,000

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Requirements of Local Cooperation (Continued)	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Phase II, 45', Mile 181 to Baton Rouge		
Modify or relocate pipelines and submarine cables where necessary for the construction of the project.	$ 754,000	$
Pay 25 percent of costs to construct the channel to 45 feet (cash contributions).	1,513,000	
Subtotal, Phase II	$ 2,267,000	
Phase III, 55', Gulf to Baton Rouge		
Provide lands, easements, rights-of-way and dredged material disposal areas.	$ 424,000	
Modify or relocate pipelines and submarine cables where necessary for the construction of the project.	272,527,000	
Pay 25 percent of costs to construct the channel to 45 feet (cash contributions).	1,425,000	
Pay 50 percent of costs to construct the channel from 45 feet to 55 feet (cash contributions).	138,561,000	
Pay 50 percent of maintenance dredging costs between 45 feet and 55 feet.		49,692,000
Subtotal, Phase III	$ 412,937,000	$ 49,692,000
Project Total	$ 434,000,000	$ 51,114,000

The non-Federal sponsor has agreed to make all payments of first costs (excluding the reimbursement) concurrently with project construction and to pay an additional 10 percent reimbursement of the costs allocated to deep draft navigation less a credit for the value of lands, easements, rights-of-way, relocations, and dredged material disposal area, within a period of 30 years following completion of construction.

STATUS OF LOCAL COOPERATION: On 13 September 1985, the Governor of the State of Louisiana designated the Louisiana Department of Economic Development, formerly the Department of Commerce, as the local sponsor for the project. A Local Cooperation Agreement for a 45-foot channel from the Gulf of Mexico to Mile 181 Above Head of Passes (Phase I) was executed on 30 June 1986. The first supplement to the Local Cooperation Agreement reflecting the Water Resources Development Act of 1986 cost-sharing provisions was executed on 15 June 1987. A second supplement reflecting the changes required by the Water Resources Development Act of 1988 was executed on 25 June 1990. A third supplement was executed on 28 May 1993 that provides for the local sponsor to construct the permanent saltwater intrusion mitigation facilities. (See Other Information for more details). A Project Cooperation Agreement for the 45-foot channel from Mile 181 to Mile 232.4 (Phase II) was executed on 3 September 1993.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $176,000,000 is an increase of $5,000,000 from the latest estimate ($171,000,000) presented to Congress (FY 2000). This change includes the following item:

Item	Amount
Price Escalation on Construction Features	$ 5,000,000
Total	$ 5,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed with the Environmental Protection Agency on 2 July 1982. A Supplemental Information Report to this final Environmental Impact Statement addressing the prototype dredging of Fairview Crossing was filed with the Environmental Protection Agency on 28 July 1983. A similar report addressing construction of a prototype saltwater intrusion sill was filed with the Environmental Protection Agency on 14 September 1983. A Supplemental Information Report addressing the underwater dredged material sill at Mile 64 Above Head of Passes, to mitigate for increased saltwater intrusion, was filed with the Environmental Protection Agency on 24 September 1985. An Environmental Assessment/Finding of No Significant Impact for the Venice, Louisiana to Mile 181 Above Head of Passes reach, for dredging four crossings and the approach channels to berthing areas in New Orleans Harbor, was filed with the Environmental Protection Agency on 18 December 1987. Another Environmental Assessment/Finding of No Significant Impact addressing the interim saltwater mitigation plan and revised marsh creation quantities was filed with the Environmental Protection Agency on 22 April 1987. Another Environmental Assessment/Finding of No Significant Impact addressing the training works required at four crossings between mile 181 Above Head of Passes and mile 232.4 Above Head of Passes was signed on 13 July 1990. Another Environmental Assessment/Finding of No Significant Impact addressing the permanent saltwater intrusion mitigation plan (water pipeline construction) was signed on 15 January 1991. An Environmental Assessment/Finding of No Significant Impact evaluating dredging of Sardine Point was completed 1 April 1991.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in Fiscal Year 1982, and funds to initiate construction were appropriated in Fiscal Year 1985.

Dredging of the 45-foot channel south of New Orleans to the Gulf of Mexico was completed on 1 December 1987. Dredging of the 45-foot channel from New Orleans to Mile 181 Above Head of Passes was completed on 17 December 1988. Dredging of the 45-foot channel from Mile 181 Above Head of Passes to Baton Rouge (Mile 232.4) was completed on 9 December 1994.

As a result of the severe drought conditions in the midwest part of the country during the summer of 1988, interim saltwater intrusion mitigation measures for the 45-foot channel were implemented on 30 June 1988, with construction of an underwater dredged material sill in the Mississippi River at Mile 63.7 Above Head of Passes which was completed to an elevation of -45.0 feet NGVD on 1 August 1988.

The other part of the interim mitigation plan was to barge fresh water to the three municipal water treatment plants at Boothville and at East and West Pointe-a-la-Hache, Louisiana, downstream of the sill. Approximately 101 million gallons of water was barged, commencing on 14 July 1988 and continuing through 2 December 1988. Operations and Maintenance, General, funds were used for both the barging operation and sill construction. The intrusion event was dealt with effectively, and both the sill and the barging of freshwater to Lower Plaquemines Parish were demonstrated to be practicable.

The permanent mitigation plan involves the State of Louisiana taking the responsibility for having Plaquemines Parish upgrade their existing water distribution system to handle the increase in saltwater intrusion caused by the 45-foot channel. The Corps of Engineers will reimburse the State for the Federal share (75%) of the cost for this plan which is more cost effective than the Corps' barging plan for a 45-foot channel. The State will relieve the Corps of responsibility to mitigate for the potable water needs in lower Plaquemines Parish once this plan is complete. Federal participation in the construction of the permanent mitigation plan is limited by a cost cap. The cost cap was incorporated into the third supplemental local cooperation agreement for Phase I. The cost cap is based on the least costly Federal alternative which is the cost to barge water to Plaquemines Parish during times of increased salinity caused by the deeper channel over the 50-year project life. Once the cost of the permanent mitigation plan equals or exceeds the cost cap, Federal participation in mitigation for Phase I of the project will end. Construction of the permanent mitigation plan began on 21 October 1993. The Corps remains responsible for construction of the underwater sill to mitigate above Mile 64 above Head of Passes when required. Design Memorandum Supplement No. 6 covering the permanent mitigation plan was approved on 7 December 1992.

Phase II of the project provides for the construction of the 45-foot channel from mile 181.0 to Baton Rouge. Language contained in the Fiscal Year 1993 Energy and Water Development Appropriations Conference Report directed the Corps to initiate construction of Phase II immediately after execution of the Project Cooperation Agreement. The Project Cooperation Agreement was executed on 3 September 1993. Construction of the 45-foot channel in this reach began on 31 July 1994 and was completed on 9 December 1994.

The State of Louisiana requested a preliminary analysis of Phase III, the remaining work on the authorized project. This analysis included a review of cost estimates and design assumptions and proposals for maintenance dredging reductions. Based on the results of this analysis, the State of Louisiana requested the Corps to proceed with a General Design Memorandum for the Phase III work. A General Design Memorandum is scheduled for submission in March 2001.

SUMMARIZED FINANCIAL DATA FOR PROGRAMMED SEPARABLE ELEMENTS:

		PHASE I
Estimated Appropriation Requirement		
(Corps of Engineers)		$ 27,578,000
Programmed Construction	$ 27,578,000	
Unprogrammed Construction	0	
Estimated Appropriation Requirement		
(US Coast Guard)		0
Programmed Construction	0	
Unprogrammed Construction	0	
Estimated Total Appropriation Requirement		$ 27,578,000
Programmed Construction	27,578,000	
Unprogrammed Construction	0	
Future Non-Federal Reimbursement		1,155,000
Programmed Construction	1,155,000	
Unprogrammed Construction	0	
Estimated Federal Cost (Ultimate)		
(Corps of Engineers)		$ 26,423,000
Programmed Construction	26,423,000	
Unprogrammed Construction	0	
Estimated Non-Federal Cost (Ultimate)		$ 18,796,000
Programmed Construction	18,796,000	
Cash Contributions $ 3,237,000		
Other Costs 14,404,000		
Reimbursements 1,155,000		
Navigation $ 1,155,000		
Unprogrammed Construction	0	
Total Estimated Programmed Construction Cost		$ 46,374,000
Total Estimated Unprogrammed Construction Cost		$ 0
Total Estimated Project Cost		$ 46,374,000

REMAINING BENEFIT - REMAINING COST RATIO FOR PHASE I: Not applicable because construction is complete.

TOTAL BENEFIT - COST RATIO FOR PHASE I: The Phase I channel has been complete since 1988. A total benefit-cost ratio was not computed for Phase I as a separable element.

		PHASE II		
Estimated Appropriation Requirement				
(Corps of Engineers)			$ 4,594,000	
Programmed Construction		$ 4,594,000		
Unprogrammed Construction		0		
Estimated Appropriation Requirement				
(US Coast Guard)			0	
Programmed Construction		0		
Unprogrammed Construction		0		
Estimated Total Appropriation Requirement			$ 4,594,000	
Programmed Construction		4,594,000		
Unprogrammed Construction		0		
Future Non-Federal Reimbursement			0	
Programmed Construction		0		
Unprogrammed Construction		0		
Estimated Federal Cost (Ultimate)				
(Corps of Engineers)			$ 4,594,000	
Programmed Construction		4,594,000		
Unprogrammed Construction		0		
Estimated Non-Federal Cost (Ultimate)			$ 2,267,000	
Programmed Construction		2,267,000		
Cash Contributions	$ 1,513,000			
Other Costs	754,000			
Reimbursements	0			
Unprogrammed Construction		0		
Total Estimated Programmed Construction Cost				$ 6,861,000
Total Estimated Unprogrammed Construction Cost			$ 0	
Total Estimated Project Cost			$ 6,861,000	

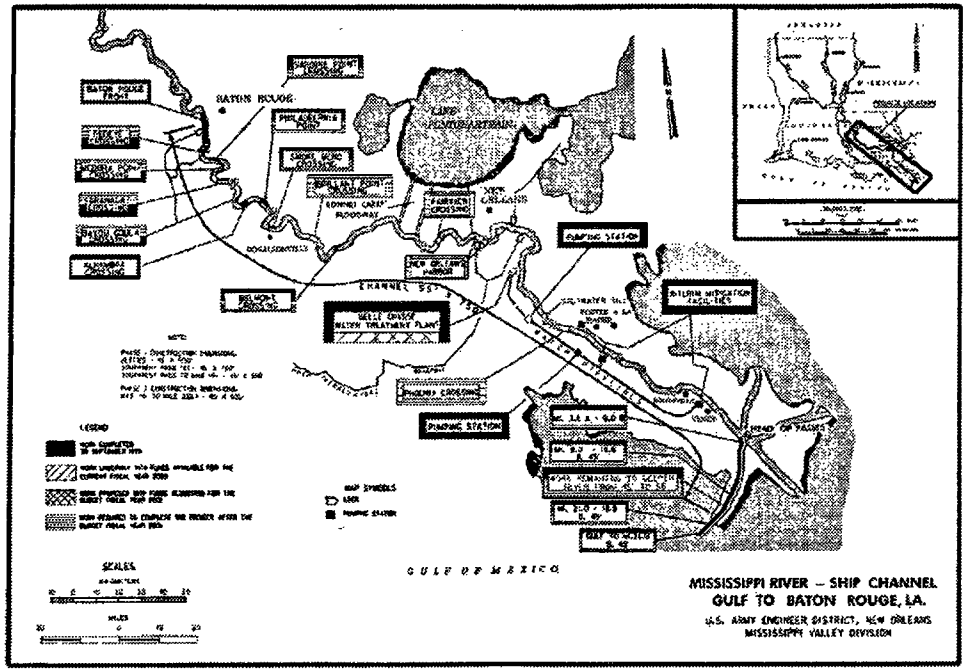
REMAINING BENEFIT - REMAINING COST RATIO FOR PHASE II: Not applicable because construction is complete.

TOTAL BENEFIT-COST RATIO FOR PHASE II: The Phase II channel was completed on 9 December 1994.

		PHASE III	
Estimated Appropriation Requirement			
(Corps of Engineers)			$ 143,828,000
Programmed Construction		$ 2,973,000	
Unprogrammed Construction		$ 140,855,000	
Estimated Appropriation Requirement			
(US Coast Guard)			$ 1,200,000
Programmed Construction		$ 0	
Unprogrammed Construction		$ 1,200,000	
Estimated Total Appropriation Requirement			$ 145,028,000
Programmed Construction		$ 2,973,000	
Unprogrammed Construction		$ 142,055,000	
Future Non-Federal Reimbursement			$ 0
Programmed Construction		$ 0	
Unprogrammed Construction		$ 0	
Estimated Federal Cost (Ultimate)			
(Corps of Engineers)			$ 143,828,000
Programmed Construction		$ 2,973,000	
Unprogrammed Construction		$ 140,855,000	
Estimated Non-Federal Cost (Ultimate)			$ 412,937,000
Programmed Construction		$ 0	
Cash Contributions	$ 0		
Other Costs	0		
Reimbursements	0		
Unprogrammed Construction		$ 412,937,000	$ 412,937,000
Cash Contributions	$ 139,986,000		
Other Costs	$ 272,951,000		
Reimbursements	0		
Total Estimated Programmed Construction Cost			$ 2,973,000
Total Estimated Unprogrammed Construction Cost			$ 554,992,000
Total Estimated Project Cost			$ 557,965,000

REMAINING BENEFIT - REMAINING COST RATIO FOR PROGRAMMED SEPARABLE ELEMENTS: The remaining benefit - remaining cost ratio for Phase III is being determined in the GDM studies which are currently underway.

TOTAL BENEFIT - COST RATIO FOR PROGRAMMED SEPARABLE ELEMENTS: The total benefit - cost ratio for Phase III is being determined in the GDM studies which are currently underway.


BATON ROUGE
LAKE PONTCHARTRAIN
NEW ORLEANS
PUMPING STATION
CHANNEL
GULF OF MEXICO
MISSISSIPPI RIVER – SHIP CHANNEL
GULF TO BATON ROUGE, LA.
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
MISSISSIPPI VALLEY DIVISION

APPROPRIATION TITLE: Construction, General – Channels and Harbors (Navigation)

PROJECT: Mississippi River Between the Ohio and Missouri Rivers (Regulating Works) (Continuing)

LOCATION: The project involves improvement of the Mississippi River from the mouth of the Ohio River to the mouth of the Missouri River at mile 195 above the mouth of the Ohio River. The project covers the following counties: (Missouri) St. Louis, Jefferson, Ste. Genevieve, Perry, Cape Girardeau, Scott, Mississippi; (Illinois) Madison, St. Clair, Monroe, Randolph, Jackson, Union, Alexander, and Pulaski.

DESCRIPTION: The project consists of a navigation channel 9 feet deep and not less than 300 feet wide with additional width in bends, from the mouth of the Ohio River to the northern boundary of the City of St. Louis, a distance of approximately 191 miles, thence 200 feet wide, with additional width in bends, to the mouth of the Missouri River. It will be achieved by means of dikes, revetment, construction dredging, and rock removal. All work is programmed.

AUTHORIZATION: River and Harbor Acts of 1910, 1927, and 1930.

REMAINING BENEFIT-REMAINING COST RATIO: 23.8 to 1 at 2.5 percent.

TOTAL BENEFIT-COST RATIO: 10.5 to 1 at 2.5 percent.

INITIAL BENEFIT-COST RATIO: 4.5 to 1 at 2.5 percent (FY 1961).

BASIS OF BENEFIT-COST RATIO: Benefits are based on the Upper Mississippi River Master Plan Report of 1982 at 1986 price levels.

SUMMARIZED FINANCIAL DATA		ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost	$274,327,000		Entire Project	76	Being determined
Estimated Non-Federal Cost	0				
Cash Contributions	0				
Other Cost	0		PHYSICAL DATA		
Total Estimated Project Cost	$274,327,000		Channel 195 miles Ohio River to St. Louis 9 x 300 feet		
Allocations to 30 September 1999	$189,477,000		St. Louis to Missouri River 9 x 200 feet		
Conference Allowance for FY 2000	3,000,000				
Allocations for FY 2000	3,494,000 [1]				
Allocations through FY 2000	192,971,000	70			
Allocation Requested for FY 2001	6,500,000	73			
Programmed Balance to Complete After FY 2001	74,856,000				
Unprogrammed Balance to Complete After FY 2001	0				

JUSTIFICATION: The Mississippi River between the Ohio and Missouri Rivers is a major artery of the inland waterway system. Commerce in this reach has increased from 4,500,000 tons in 1945 to 116,000,000 tons in 1998 worth approximately $15 billion. Commerce is expected to increase to 167,000,000 tons by the year 2020; therefore, it is essential that construction of project works be continued at a rate which will insure 9-foot channel depths for a year-round navigation season. The average annual benefits, all navigation, are $261,809,000.

1 Reflects $427,000 reduction assigned as savings and slippage and $921,000 reprogrammed to the project.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate and Complete:	Chester Reach, Phase 2, Channel Mile 112-103	$1,455,000
	Devil's Island Phase 3, Channel Mile 67-60	1,140,000
	Ivory Landing Phase 3, Channel Mile 184-154	1,663,000
Continue:	Lands and Damages	367,000
	Thompson Bend Riparian Corridor	56,000
	Project Dedicated Operating Equipment	40,000
Planning, Engineering and Design		1,518,000
Construction Management		261,000
Total		$6,500,000

NON-FEDERAL COST: None

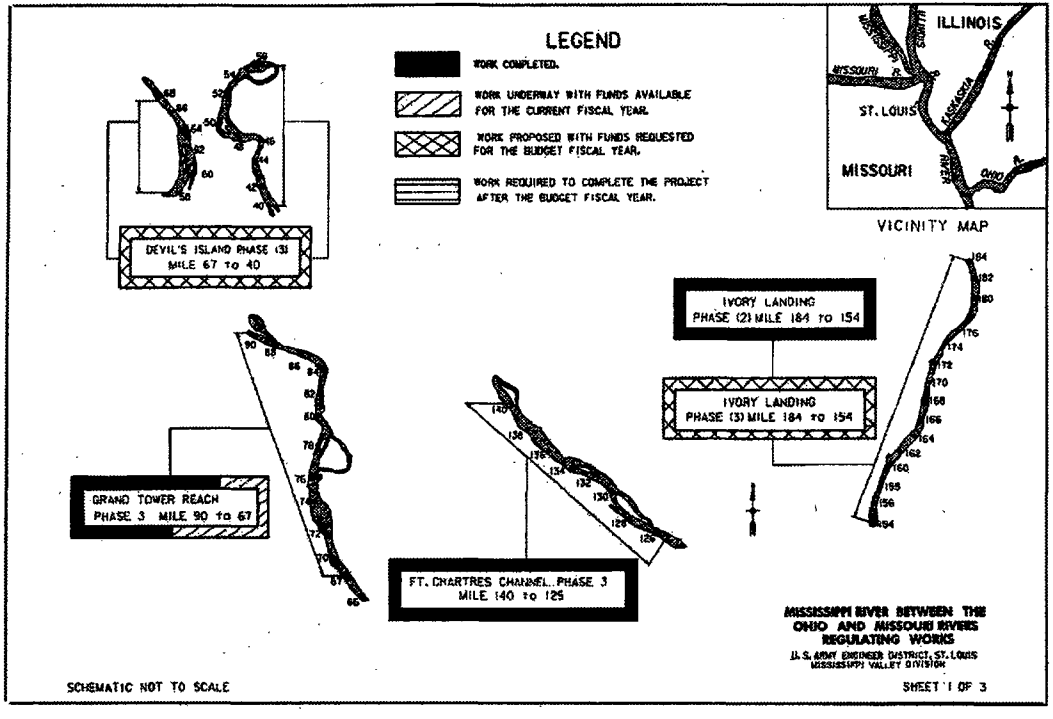
STATUS OF LOCAL COOPERATION: Not applicable.

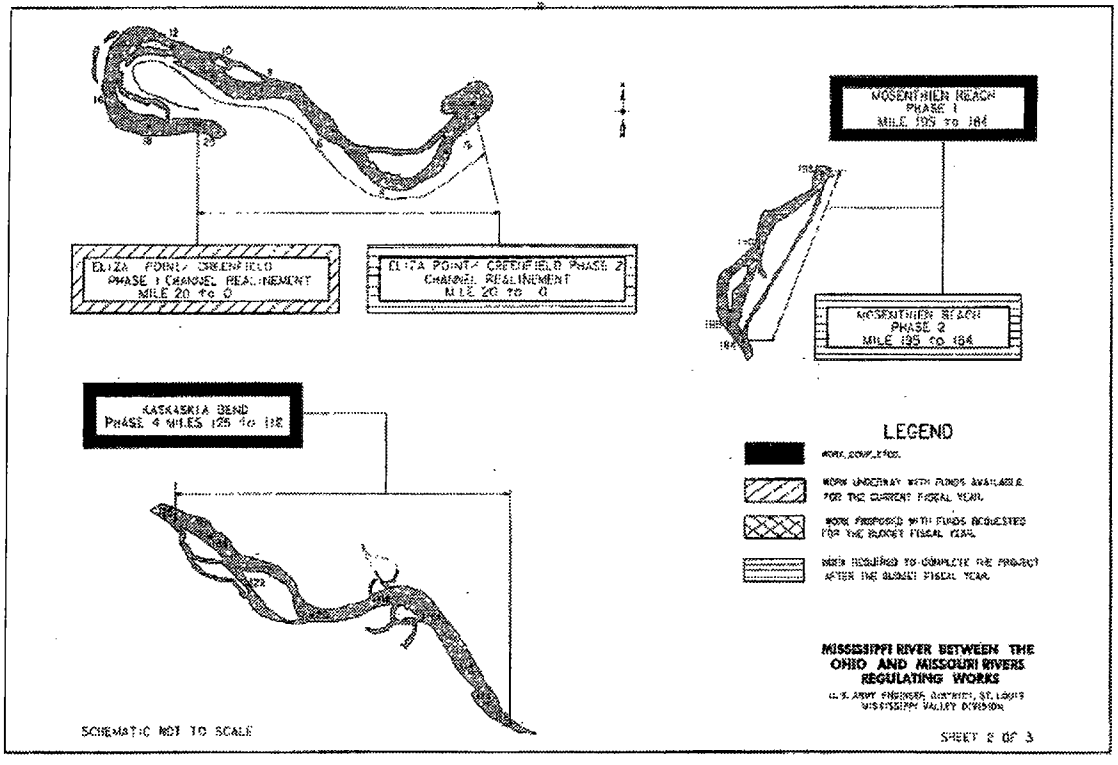
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $274,327,000 is an increase of $327,000 from the latest estimate ($274,000,000) presented to Congress (FY 2000). This change includes the following item:

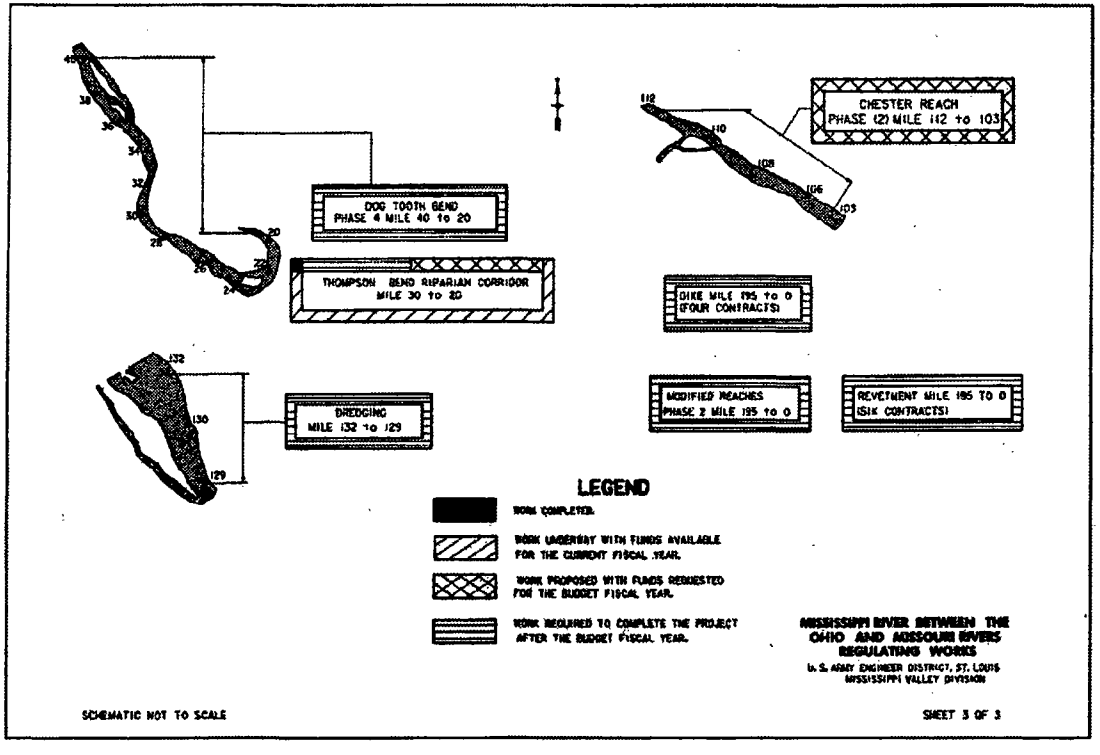
Item	Amount
Price Escalation on Construction Features	$327,000
Total	$327,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed with the Council on Environmental Quality on 8 April 1976 and published in the Federal Register on 23 April 1976. An Environmental Analysis was completed for the Rock Removal and Finding of No Significant Impact signed on 28 October 1988.

OTHER INFORMATION: Planning was initiated prior to 1910, and construction was initiated in 1910. This project requires no mitigation.


LEGEND
WORK COMPLETED.
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR.
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR.
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR.
ILLINOIS
MISSOURI R.
ST. LOUIS
MISSOURI
VICINITY MAP
DEVIL'S ISLAND PHASE (3) MILE 67 TO 40
GRAND TOWER REACH PHASE 3 MILE 90 TO 67
FT. CHARTRES CHANNEL, PHASE 3 MILE 140 TO 125
IVORY LANDING PHASE (2) MILE 184 TO 154
IVORY LANDING PHASE (3) MILE 184 TO 154
MISSISSIPPI RIVER BETWEEN THE OHIO AND MISSOURI RIVERS REGULATING WORKS
U.S. ARMY ENGINEER DISTRICT, ST. LOUIS
MISSISSIPPI VALLEY DIVISION
SCHEMATIC NOT TO SCALE
SHEET 1 OF 3


ELIZA POINT/ GREENFIELD
PHASE 1 CHANNEL REALIGNMENT
MILE 20 TO 0
ELIZA POINT/ GREENFIELD PHASE 2
CHANNEL REALIGNMENT
MILE 20 TO 0
MOSENTHIEN REACH
PHASE 1
MILE 195 TO 184
MOSENTHIEN REACH
PHASE 2
MILE 195 TO 184
KASKASKIA BEND
PHASE 4 MILES 125 TO 118
LEGEND
WORK COMPLETED.
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR.
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR.
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR.
MISSISSIPPI RIVER BETWEEN THE OHIO AND MISSOURI RIVERS REGULATING WORKS
U.S. ARMY ENGINEER DISTRICT, ST. LOUIS
MISSISSIPPI VALLEY DIVISION
SCHEMATIC NOT TO SCALE
SHEET 2 OF 3


DOG TOOTH BEND
PHASE 4 MILE 40 to 20
THOMPSON BEND RIPARIAN CORRIDOR
MILE 30 to 20
CHESTER REACH
PHASE (2) MILE 112 to 103
DIKE MILE 195 to 0
(FOUR CONTRACTS)
DREDGING
MILE 132 to 129
MODIFIED REACHES
PHASE 2 MILE 195 to 0
REVETMENT MILE 195 TO 0
(SIX CONTRACTS)
LEGEND
WORK COMPLETED.
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR.
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR.
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR.
MISSISSIPPI RIVER BETWEEN THE OHIO AND MISSOURI RIVERS REGULATING WORKS
U. S. ARMY ENGINEER DISTRICT, ST. LOUIS
MISSISSIPPI VALLEY DIVISION
SCHEMATIC NOT TO SCALE
SHEET 3 OF 3

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APPROPRIATION TITLE: Construction, General – Locks and Dams (Navigation)

PROJECT: Melvin Price Lock and Dam, Illinois and Missouri (Continuing)

LOCATION: Melvin Price Lock and Dam is located in Madison County, Illinois, and St. Charles County, Missouri, in the vicinity of Alton, Illinois, at approximately mile 200.8 above the mouth of the Ohio River.

DESCRIPTION: The project includes one 1,200-foot lock; one 600-foot lock (see Other Information); a gated dam with 9 tainter gates, an overflow dike; removal of most of the existing structure; relocation/abandonment of the Burlington-Northern Railroad bridge and a visitors center. Mitigation land was provided to compensate for wildlife losses due to creation of a new pool for the two-mile distance downstream of the existing structure. Recreation facilities will be developed with the city of Alton, Illinois, consistent with the Water Resources Development Acts of 1986, 1990, 1992, and 1996. The project is part of the Upper Mississippi River Navigation System. All work is programmed.

AUTHORIZATION: Internal Revenue Code of 1954, Title I – Replacement of Locks and Dam 26; Water Resources Development Acts of 1986, 1990, 1992, and 1996.

REMAINING BENEFIT-REMAINING COST RATIO: The remaining benefit-remaining cost ratio is not applicable since the project is nearing completion.

TOTAL BENEFIT-COST RATIO: 2.1 to 1 at 6 7/8 percent.

INITIAL BENEFIT-COST RATIO: 1.6 to 1 at 6 7/8 percent (FY 1974).

BASIS OF BENEFIT-COST RATIO: Benefits are based on Supplement No. 2 to Design Memorandum No. 2, approved on 31 August 1979 at October 1978 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST
Estimated Federal Cost		$740,700,000	
Estimated Non-Federal Cost		7,390,000	
Cash Contribution	$7,390,000		
Other	0		
Total Estimated Project Cost		$748,090,000	
Allocations to 30 September 1999		$728,505,000	
Conference Allowance for FY 2000		2,900,000	
Allocation for FY 2000		1,566,000 [1]	
Allocations through FY 2000		730,071,000	99
Allocation Requested for FY 2001		1,400,000	99
Programmed Balance to Complete after FY 2001		$9,229,000	
Unprogrammed Balance to Complete after FY 2001		0	

STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Entire Project	98	Being determined
Lock and Dam	99	Dec 1994
Open to Navigation	100	Feb 1990

PHYSICAL DATA

Locks: One – 1,200 feet x 110 feet
One – 600 feet x 110 feet (see Other Information)
Dam: Non-navigable 9 tainter gates
Overflow Dike: Earth Embankment, 2000 feet
Spur Dike: Earth Embankment, 2.4 miles
Relocations:
Roads ($2,233,000)
Railroad ($13,933,000)
Utilities ($15,959,000)
Pumping Plant: One – 225 cubic feet per second
Lands and Damages:
Acres – 4,286; Type – Predominantly crop, brush, and timberland and some commercial, recreational, and industrial land and improvements fronting the river.
Improvements – Industrial, commercial, and recreation buildings.

[1] Reflects $413,000 reduction assigned as savings and slippage and $921,000 reprogrammed from the project.

JUSTIFICATION: The poor physical condition of the old Locks and Dam No. 26 and the inability of the locks to handle current and projected traffic without costly delays made replacement imperative. Both the dam and locks were set on piles, which were driven into the riverbed sands and were not supported by bedrock. The structure, which was placed in operation in 1938, had a history of excessive deflections, settlements, and loss of foundation material. Remedial measures were undertaken to correct deficiencies, but permanent repair of the old structure was impractical because of engineering and cost considerations. The average annual waterborne commerce tonnage (1990-1999) was 73.5 million tons valued at approximately $10.1 billion. Grains, chemicals, petroleum, and coal account for 90 percent of this traffic. Because of the small size of the locks, multiple lockages were required to pass a complete tow measuring 1,200 feet in length. The average delay to tows at the old Locks No. 26 was approximately 10.5 hours. Based on the Master Plan Study (authorized by P.L. 95-502), a single lock 110 feet wide by 1,200 feet long would have an estimated capacity of 94 to 100 million tons per year. The length of 1,200 feet permits tows to lock through as a single unit, thus eliminating the delays from double locking and congestion. Future tow sizes are expected to remain at 110 feet wide by 1,200 feet long. Total transportation charges for commodity movements by inland water range between 40 and 60 percent lower than least cost alternative modes. More than 60 percent of traffic is grain, the bulk of which is for export. Gulf export grain now moves, depending on the origin and volume, at approximately $4.00 to $6.00 savings per ton. Average annual benefits are as follows:

Annual Benefits	Amount
Navigation	$82,678,000
Recreation	469,000
Total	$83,147,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue:	Real Estate Closeout	15,000
	O&M Manuals	100,000
	Miscellaneous Operating Equipment	22,000
	Visitor Center Exhibits	416,000
Complete:	Esplanade Landscaping	100,000
	Visitor Access on Dam	270,000
	Civil War Memorial	128,000
	Automated Data Acquisition System Modifications	39,000
Planning, Engineering, and Design		192,000
Construction Management		118,000
	Total	$1,400,000

NON-FEDERAL COST: In accordance with the cost-sharing and financing concepts reflected in the Water Resources Development Act of 1986, as amended, which are applicable to unstarted separable elements, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Pay one-half of the separable and joint costs allocated to recreational navigation, pay one-half of the separable cost of recreation facilities, and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of recreation and recreational navigation facilities.	$7,390,000	$306,000
Total Non-Federal Costs	$7,390,000	$306,000

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STATUS OF LOCAL COOPERATION: The Water Resources Development Act of 1990 contains provisions that allow the state of Illinois and the Corps to enter into a Project Cost-sharing Agreement (PCA) for the construction of riverfront recreation facilities. The Water Resources Development Act of 1992 amended the 1990 Act by allowing cost sharing with other non-Federal interests. The city of Alton, Illinois, submitted a letter of intent dated 13 February 1991 for sharing the cost of developing recreation facilities along the riverfront at Alton, in the vicinity of the existing structure. A plan for recreational development will be prepared. Construction of the recreation facilities, will be initiated when a PCA is executed.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $740,700,000 is the same as the latest estimate presented to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed with the Council on Environmental Quality on 24 August 1976 and published in the Federal Register on 8 September 1976.

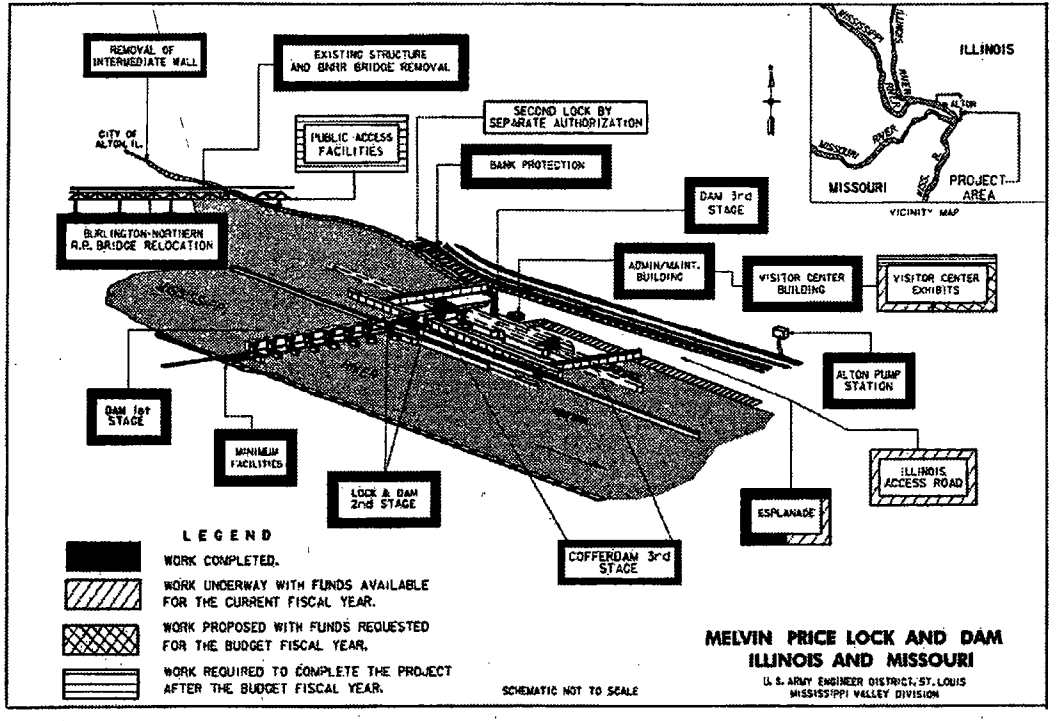
OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in Fiscal Year 1970, and funds to initiate construction were appropriated in Fiscal Year 1974.

In accordance with Public Law 97-118, the project name changed from Lock and Dam 26 (Replacement) to Melvin Price Lock and Dam.

Dredge material disposal sites were used on Ellis Island during construction, but this phase is complete and no further construction dredging is expected.

The completed 600-foot second lock was funded as a separate project, cost shared with the Inland Waterways Trust Fund. The second lock was authorized by the Supplemental Appropriations Act of 1985 and the Water Resources Development Act of 1986.

Fish and Wildlife mitigation costs are $3,446,000.


REMOVAL OF INTERMEDIATE WALL
EXISTING STRUCTURE AND BNRR BRIDGE REMOVAL
SECOND LOCK BY SEPARATE AUTHORIZATION
PUBLIC ACCESS FACILITIES
CITY OF ALTON, IL.
BANK PROTECTION
DAM 3rd STAGE
BURLINGTON-NORTHERN R.R. BRIDGE RELOCATION
ADMIN/MAINT. BUILDING
VISITOR CENTER BUILDING
VISITOR CENTER EXHIBITS
ALTON PUMP STATION
DAM 1st STAGE
MINIMUM FACILITIES
LOCK & DAM 2nd STAGE
ILLINOIS ACCESS ROAD
ESPLANADE
COFFERDAM 3rd STAGE
ILLINOIS
MISSOURI
ALTON
PROJECT AREA
VICINITY MAP
LEGEND
WORK COMPLETED.
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR.
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR.
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR.
SCHEMATIC NOT TO SCALE
MELVIN PRICE LOCK AND DAM
ILLINOIS AND MISSOURI
U. S. ARMY ENGINEER DISTRICT, ST. LOUIS
MISSISSIPPI VALLEY DIVISION

440

APPROPRIATION TITLE: Construction, General - Locks and Dams (Navigation)

PROJECT: J. Bennett Johnston Waterway - Mississippi River to Shreveport, Louisiana (Continuing)

LOCATION: The project is located in central and northwest Louisiana and provides a navigation route from the Mississippi River at its juncture with Old River via Old and Red Rivers to Shreveport, Louisiana. The effected parishes and counties for this project include (Louisiana) Caddo, Bossier, Webster, De Soto, Red River, Bienville, Lincoln, Winn, Natchitoches, La Salle, Grant, Rapides, Avoyelles, Concordia; and (Arkansas) Hempstead, Miller, Nevada, Lafayette, and Columbia.

DESCRIPTION: The project provides for a 9- by 200-foot navigation channel extending about 236 miles from the Mississippi River through Old River and Red River to the vicinity of Shreveport, Louisiana. Five locks with dimensions of 84 by 705 by 14 feet and adjacent dams provide a lift of about 141 feet. The project also provides for realigning the channel by means of dredging, cutoffs, and training works and for stabilizing its banks by means of revetments, dikes, and other methods. Recreation facilities and fish and wildlife development are also an integral part of the project. The major unprogrammed work includes recreation sites, and acquisition of a portion of mitigation lands. This project is part of the J. Bennett Johnston Waterway, Louisiana, Texas, Arkansas, and Oklahoma, which also includes the Shreveport, to Daingerfield, Texas (navigation), Shreveport, Louisiana, to Index, Arkansas (bank stabilization), and Index, Arkansas, to Denison Dam (bank stabilization) reaches.

AUTHORIZATION: River and Harbor Act of 1968, Water Resources Development Act of 1976, Supplemental Appropriations Act of 1984, Water Resources Development Acts of 1986, 1988, 1990, 1992, and 1996 and Energy and Water Development Appropriations Act of 1994.

REMAINING BENEFIT - REMAINING COST RATIO: 7.7 to 1 at 3-1/4 percent.

TOTAL BENEFIT-COST RATIO: 1.3 to 1 at 3-1/4 percent.

INITIAL BENEFIT-COST RATIO: 1.2 to 1 at 3-1/4 percent (FY 1973).

BASIS OF BENEFIT-COST RATIO: Benefits are from the General Reevaluation Report and Final Supplement No. 2 to the Environmental Impact Statement, at 1982 price levels, approved 4 January 1984. Costs for current analysis are based on October 1999 costs deflated to October 1982 price levels.

SUMMARIZED FINANCIAL DATA

Estimated Federal Cost (COE)			$1,893,651,000
Programmed Construction		$1,833,527,000	
Unprogrammed Construction		60,124,000	
Estimated Apprn Requirements (U.S. Coast Guard)			506,000
Programmed Construction		506,000	
Unprogrammed Construction		0	
Estimated Non-Federal Cost			89,799,000
Programmed Construction		39,358,000	
Cash Contributions	$12,313,000		
Other Costs	27,045,000		
Unprogrammed Construction		50,441,000	
Cash Contributions	30,976,000		
Other Costs	19,465,000		

STATUS (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULED
Entire Project	89	Indefinite
Open to 9-Foot Navigation		Dec 87
Lindy Boggs Lock & Dam		Dec 87
John H. Overton Lock and Dam		Dec 87
Lock and Dam No. 3		Dec 91 1/
Russell B. Long Lock and Dam		Dec 94
Joe D. Waggonner, Jr., Lock and Dam		Dec 94

PHYSICAL DATA

Lands and Damages: 26,000 acres, mitigation of wildlife losses above mile 104
Channels and Canals: Channel 9 feet deep, 200 feet wide, and 236 miles long from Old River to Shreveport, Louisiana. Total length of bank protection - 273 miles
Locks: Number - 5; Size - 84 by 705 feet
Dams: Number - 5; Type - Tainter Gated
Relocations: Roads (Modify one bridge)
Railroads (Replace one and modify one bridge)

1/ Initial interim pool impounded.

SUMMARIZED FINANCIAL DATA		ACCUM PCT OF EST FED COST
Total Estimated Programmed Construction Cost	$1,873,391,000	
Total Estimated Unprogrammed Construction Cost	110,565,000	
Total Estimated Project Cost	1,983,956,000 1/	
Allocations to 30 September 1999	1,697,708,000	
Conference Allowance for FY 2000	23,600,000	
Allocations for FY 2000	16,939,000 2/	
Allocations through FY 2000	1,714,647,000 1/	91
Allocation Requested for FY 2001	18,040,000	92
Programmed Balance to Complete After FY 2001	100,840,000	
Unprogrammed Balance to Complete After FY 2001	60,124,000	

1/ Includes $26,654,000 for John H. Overton Lock and Dam and $21,653,000 for Red River Emergency Bank Protection for construction work.

2/ Reflects $3,361,000 reduction assigned as savings and slippage and $3,300,000 reprogrammed from the project.

JUSTIFICATION: The Red River is a very erratic river, subject to wide fluctuations in stage and meandering because of the erodible soils. For navigation to become a reality on Red River, a system of dependable pools and a properly aligned channel are necessary. The pools are provided by locks and dams and the proper alignment is provided by bank and channel stabilization works. These works preserve lands and improvements along the navigation route. Dredged material disposal sites for construction and maintenance are within the limits of the river bank or areas furnished by local interests at no cost to the United States. With preproject open river conditions, the controlling depths for navigation from January to July are 9 feet from the Mississippi River to the mouth of the Black River, 6 feet from the mouth of the Black River to Alexandria, Louisiana, and 5 feet to Shreveport, Louisiana. During the remainder of the year, controlling depths are generally about 9 feet from the Mississippi River to the mouth of the Black River, about 4 feet from there to Alexandria, and 1 to 2 feet to Shreveport. On 31 December 1994, a 9-foot-deep by 200-foot-wide navigation channel was opened from the Mississippi River to Shreveport. The channel provides dependable 9-foot navigation depths year-round.

Navigation from the Mississippi River to Shreveport will provide an artery for low-cost transportation which, will stimulate economic growth of the region. Estimated savings are based on an average annual movement of 7,845,000 tons. Just prior to opening all five pools to navigation, 1996 waterborne commerce tonnage on the waterway was 2,356,000 tons. Commodities to be carried over the waterway include iron and steel products and pipe, industrial chemicals, paper and allied paper products, petroleum and petroleum products, other metals and ores, sulphur, agricultural chemicals, and grain. The public will realize an average annual savings of $68,831,000 which will result from reduced transportation costs. Several local entities are actively involved in port development on the waterway. The city of Alexandria has constructed port facilities in Pool 2 for use by industry. The Natchitoches Parish Port in Pool 3 was opened in 1996, and a wood chip mill has been constructed at the port. The Caddo-Bossier Port in Pool 5 was officially opened in April 1997 with 209,000 tons shipped that year. Commodity movements through the port increased to 375,000 tons in 1997, and is steadily increasing. Red River Parish has also initiated actions to develop a port site in Pool 4. A private firm has also recently indicated an interest in developing port facilities in Pool 5, separate from Caddo-Bossier Port. These ports will be able to accommodate tows or barges of various sizes. The usable lock dimensions were designed for a configuration of six barges with individual dimensions of 35 by 195 feet and a towboat. Larger grain and petroleum barges can also be expected to call at the ports. The project is credited with benefits derived from transportation savings from use of the waterway, flood control, damages prevented by bank stabilization, security against levee crevasses, fish and wildlife, recreation, area redevelopment, reduced maintenance on existing revetments, reduced sedimentation, irrigation, reduced costs of municipal and industrial water supply, and reduced pumping costs.

The average annual benefits are as follows:

Annual Benefits	Amount
Navigation	$ 68,831,000
Flood Control	2,037,000
Bank Stabilization	16,602,000
Fish and Wildlife	460,000
Recreation	4,435,000
Area Redevelopment	14,808,000
Other:	
Irrigation and reduced costs of municipal and industrial water supply	53,000
Total Annual Benefits	$107,226,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Pools 1-5	
Initiate and Complete:	
Grand Ecore Visitor Center	$1,124,000
Continue:	
Smith/Marteau/Meade Revetment	1,800,000
Catfish Reinforcement	1,250,000
Patton Reinforcement	700,000
Cognac ACS	1,199,000
England/Hudson Reinforcement	1,675,000
Pointfield/Boyce	1,250,000
Choctaw Reinforcement	933,000
Complete:	
Cupples Landing Reinforcement	279,000
Kadesh Closure Dike	581,000
Lock and Dam 1 Rec Facilities	470,000
Colfax Phase I Rec Facilities	858,000
Hampton Lake Rec Facilities	612,000
Grand Bend Capout	403,000
Hadden/Ft. DeRussey Reinforcement	734,000
Continue:	
Miscellaneous Hired Labor	73,000
Cultural Resource Hired Labor	24,000
Planning Engineering and Design	2,833,000
Supervision and Administration	1,165,000
Subtotal	$17,963,000
Mitigation	
Continue:	
Planning Engineering and Design	2,000
Complete:	
Loggy Bayou	75,000
Subtotal	77,000
GRAND TOTAL	$18,040,000

NON-FEDERAL COST: With the exception of the Louisiana-Arkansas Railroad Bridge Relocation and the mitigation element, local interests are required to provide all lands, easements, and rights-of-way, including a proportionate share of the cost of the bridge relocations over existing channels in accordance with the principles of Section 6 of the Bridge Alteration Act (Truman-Hobbs) of 21 June 1940, as amended by the Act of 16 July 1952, 25 percent of the cost of necessary retaining dikes for dredged materials and 50 percent of the total cost of recreation facilities. Non-Federal costs associated with the total project are broken down as follows.

The non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights-of-way, and dredged material disposal areas	$ 36,433,000	$
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project	10,077,000	211,700
Pay one-half of the separable costs allocated to recreation (except recreational navigation) and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of recreation facilities	40,757,000	1,448,000
Pay 6 percent of the first costs allocated to fish and wildlife and pay 6 percent of the costs of operation, maintenance, repair, rehabilitation, and replacement of fish and wildlife facilities	527,000 1/	332,800 2/
Pay 25 percent of the first cost allocated to retention dikes required for construction and maintenance dredging	2,005,000	31,200
Replacement costs		302,900
Total Non-Federal Costs	$ 89,799,000	$ 2,326,600

1/ Since the local sponsor will assume all operation and maintenance costs and this cost will exceed the 6 percent local share, there will be no local requirement toward implementation costs for Loggy Bayou increment. Implementation costs shown are for the Bayou Bodcau increment.

2/ 100 percent of annual management costs for Loggy Bayou and Bayou Bodcau increments.

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction. Non-Federal cost associated with the scheduled portion of the project are broken down as follows:

Lands and Damages	$18,999,000
Utility Relocations	8,046,000
Cash Contribution:	12,313,000
Recreation Facilities	(9,172,000)
Bridge Relocations	(1,006,000)
Retaining Dikes	(1,973,000)
Mitigation	(162,000)
Total	$39,358,000

STATUS OF LOCAL COOPERATION: Formal assurances of local cooperation were furnished by the Red River Waterway Commission on 26 February 1969 and accepted on behalf of the United States on 15 April 1969. That agency was formed expressly to provide the local cooperation required for the project and has levied a 2-mill assessment to fulfill its obligations. Amended assurances covering the provisions of the Uniform Relocations Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, and the specific written agreement requirements of Section 221 of the Flood Control Act of 1970, Public Law 91-611, were executed by the Red River Waterway Commission on 23 May 1973 and were accepted on behalf of the United States on 14 November 1973. A cost sharing agreement covering nine recreation sites in Pools 1 and 2 was approved by the Deputy Chief of Engineers on 23 July 1985. A Memorandum of Understanding between the Corps and the local sponsor for development of these nine sites was executed in January 1986. A supplement to this cost-sharing agreement was executed in the last quarter of FY 1994 to cover the advance construction of three boat ramps and ancillary facilities in Pools 4 and 5 in FY 1995. In the Conference Report that accompanied the Energy and Water Development Appropriation Act of 1993, Congress directed the Corps of Engineers to prepare a supplement to the recreation master plan and serve as the project document to support the contract for recreation development in Pools 3-5. The current schedule for execution of the Project Cooperation Agreement is February 2000.

The Red River Waterway Commission agreed by letter dated 6 September 1983 to fulfill all responsibilities of the local sponsor relative to the purchase of wildlife mitigation lands. The Louisiana Department of Wildlife and Fisheries, by letter dated 22 July 1983, agreed to assume operation and maintenance responsibilities for acquired wildlife mitigation lands. Updated letters of agreement covering the mitigation plan as presently conceived (i.e., acquisition of up to 5,000 acres in the vicinity of Loggy Bayou) were furnished by the Red River Waterway Commission and the Louisiana Department of Wildlife and Fisheries on 13 August 1990 and 17 August 1990, respectively. The Local Cooperation Agreement between the Federal Government and the State of Louisiana for the acquisition of up to 5,000 acres of mitigation lands in the vicinity of Stumpy Lake/Swan Lake/Loggy Bayou Wildlife Management Area was executed by the Red River Waterway Commission in May 1993 and by the Assistant Secretary of the Army in June 1993.

The Red River Waterway Commission furnished a letter of agreement to support the Bayou Bodcau mitigation increment subject to certain conditions on 9 September 1992. All conditions with the exception of one had been resolved prior to passage of the Energy and Water Development Appropriations Act of 1994. Passage of the Act resolved this last condition, which involves how the costs for the Federal share of operation and maintenance undertaken by the Red River Waterway Commission will be treated by authorizing annual reimbursement in lieu of crediting. All Red River Waterway Commission conditions were satisfactorily resolved, and the Project Cooperation Agreement covering the acquisition of mitigation lands in the vicinity of the Bayou Bodcau Wildlife Management Area was executed in June 1996.

The Red River Waterway Commission furnished a letter of agreement dated 10 October 1997 supporting additional mitigation lands in Red River and Caddo Parishes that are to be considered adjacent to the Loggy Bayou Wildlife Management Area. These new areas were directed in the Water Resources Development Act of 1996. A report detailing a plan of action to acquire these lands is being processed through the Corps to Congress as directed by the legislation. Amendment No. 1 to the June 1993 Loggy Bayou Area Local Cooperation Agreement covering the initial acquisition effort in Caddo Parish was executed by the Red River Waterway Commission and the Assistant Secretary of the Army in October 1999.

Pool 3 will require new structural features at Nantachie Lake so that the lake can continue to be drawn down subsequent to pool impoundment. As a result, the Red River Waterway Commission was requested to agree to accept operation and maintenance responsibilities for the new Nantachie Lake drawdown structure and to agree to provide amended assurances of local cooperation to this effect in December 1993. At the same time, they were also requested to agree to accept responsibility for related modification or replacement of bayou crossings downstream of Nantachie Lake. The sponsor has not yet agreed to accept responsibility related to the bayou crossings.

The Red River Waterway Commission is providing its share of the project first costs by furnishing the necessary lands, easements, and rights-of-way, performing utility relocations as needed, and providing cash contributions for recreation facilities, bridge relocations, and retaining dikes. They will contribute their share of retention dike construction for maintenance dredging by cash contribution and they will provide the lands, easements, and rights-of-way for these dikes.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate (Corps of Engineers) of $1,893,651,000 is a decrease of $2,040,000 from the latest estimate ($1,895,691,000) presented to Congress (FY 2000). This change includes the following item.

Item	Amount
Price Escalation on Construction Features	$-2,040,000
Total	$-2,040,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final statement was filed with the Council on Environmental Quality on 11 May 1973. The Environmental Impact Statement is included in the project "Red River Waterway." Supplement No. 1 to the Environmental Impact Statement was prepared for the Mississippi River to Shreveport reach of the J. Bennett Johnston Waterway due to a change in project alignment from the authorizing document, and to include updated environmental information due to a reanalysis and to include results of the ground-water studies. The final Supplement No. 1 was filed with the Council on Environmental Quality on 18 February 1977, and published in the Federal Register on 25 February 1977. A third Environmental Impact Statement (Supplement No. 2) was submitted to the Environmental Protection Agency in final form on 10 November 1983, and the record of decision was signed by the Division Engineer on 4 January 1984. This supplement was necessary to document the expanding base of data and design information being developed and accompanied the General Reevaluation Report.

An Environmental Assessment was prepared for Pool No. 2 to present the results of investigations of the impacts of the 58- and 64-foot elevations. The Environmental Assessment resulted in a Finding of No Significant Impact which allowed a design change from 58- to 64-foot pool elevations. Following review by the public, the Finding of No Significant Impact was signed on 21 April 1982.

An Environmental Assessment of the Loggy Bayou Area mitigation increment has been performed. This area was not included in the original mitigation report. The Environmental Assessment was required to satisfy the National Environmental Policy Act. The Environmental Assessment resulted in a Finding of No Significant Impact, which was signed 11 January 1993. Environmental Assessment's are required to present the impacts associated with the construction of riverside levee protection berms in Pools 3 and 5. The berms are necessary to ensure the integrity of the existing flood control levee system. The Environmental Assessment for the berms in Pool 3 resulted in a Finding of No Significant Impact, which was signed on 16 July 1992. The Environmental Assessment for the berms in Pool 5 also resulted in a Finding of No Significant Impact which was signed on 24 May 1993.

Environmental Assessments are also required for the Bayou Bodcau mitigation increment and the Nantachie Lake drawdown structure to satisfy National Environmental Policy Act requirements. The Bayou Bodcau mitigation Environmental Assessment resulted in a Finding of No Significant Impact that was signed on 28 April 1995, and the Nantachie Lake drawdown structure Environmental Assessment was completed in FY 1996, also resulting in a Finding of No Significant Impact. An Environmental Assessment for the mitigation lands to be acquired in Caddo and Red River Parishes will be done at the appropriate time. An assessment of the initial tract in Caddo Parish is underway.

A Final Environmental Assessment has been prepared covering instream disposal of maintenance dredge material in Pools 3, 4, and 5 in lieu of disposal in contained upland areas. A Finding of No Significant Impact was signed on 19 March 1996.

A Final Environmental Assessment has been prepared covering maintenance dredging of the oxbow lakes designated for preservation in project documentation. The dredging consists of maintaining a 5-foot-deep by 20-foot-wide connection from the river into the oxbow lakes in order to achieve all project benefits. The dredged material will be disposed of instream. A Finding of No Significant Impact was signed 18 November 1997.

An Environmental Assessment and Finding of No Significant Impact are included in Supplement No. 2 to the Recreation Master Plan which presents the revised plan for recreation development in Pools 3, 4, and 5. Supplement No. 2 was approved by the Mississippi River Commission on 1 May 1998. The Finding of No Significant Impact was signed on 6 October 1997.

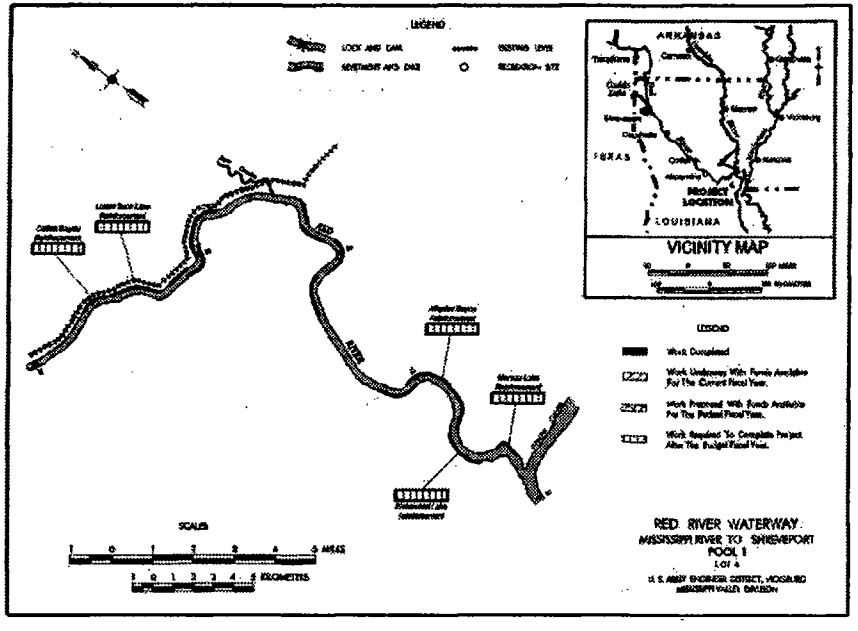
OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1971 and allotted in FY 1972. Funds to initiate construction were appropriated in FY 1973.

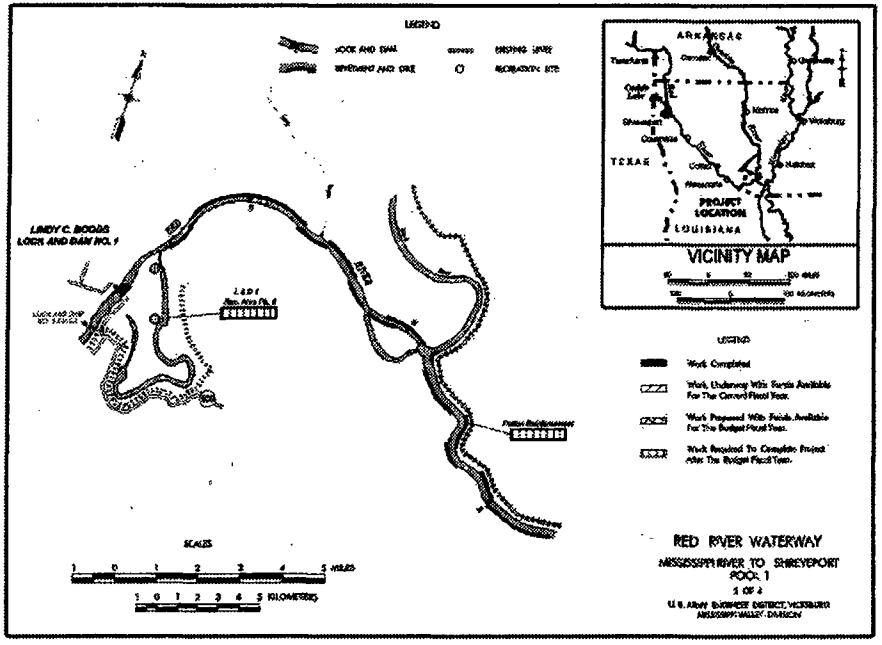
The Energy and Water Development Appropriations Act of 1996 authorized a Regional Visitors Center in the vicinity of Shreveport. The Energy and Water Development Appropriations Act of 1997 provided $3,000,000 and directions to initiate design and construction of the Regional Visitors Center in FY 1997. The 1997 Appropriations Act also provided funds to initiate design of the previously authorized Project Visitors Center at Grand Ecore. Design for both of the Visitors Centers is underway, but delays have been experienced as a result of site availability issues. Design, construction, and operation and maintenance of the Visitors Centers are to be at 100 percent Federal expense.

The Draft Master Plan Supplement No. 3 covering cost-shared recreation facilities in Pools 3, 4, and 5 was approved by the Mississippi River Commission in September 1999. Preparation of the draft Project Cooperation Agreement covering the same recreation facilities is underway, and Project Cooperation Agreement execution is scheduled for February 2000.

The Water Resources Development Act of 1996 increased the total cost of the Loggy Bayou mitigation increment to $10,500,000. It further provided that lands that are purchased adjacent to the Loggy Bayou Wildlife Management Area may be located in Caddo Parish or Red River Parish. The Water Resources Development Act of 1996 also modified the waterway project to require the Secretary to dredge or perform other related work as required to reestablish and maintain access to, and the environmental value of, the bendway channels designated for preservation in previous project documentation. Further, this work shall be carried out in accordance with the local cooperation requirements for other navigation features of the project. These project modifications are subject to completion of reports showing the work is technically sound and environmentally and economically acceptable, as applicable. A favorable report on the Loggy Bayou mitigation, Caddo and Red River Parishes area, has been approved. The favorable bendway channel (oxbow lakes) dredging report has been returned by OMB for the development of supplemental environmental data and resubmission.

The Water Resources Development Act of 1986, as modified by the Water Resources Development Acts of 1988 and 1990 and the FY 1990 and FY 1994 Energy and Water Development Appropriation Acts, authorized the wildlife mitigation project for the waterway above mile 104 to Shreveport, Louisiana, at a total cost of $9,420,000. The Water Resources Development Act of 1990 modifies the mitigation project by authorizing the Secretary of the Army to acquire an additional 12,000 acres adjacent to or close to the Bayou Bodcau Wildlife Management Area. The real estate design memorandums, which present the real estate requirements for the Loggy Bayou area and Bayou Bodcau area mitigation lands, have been approved. The Chief of Engineers report on mitigation was returned unendorsed to the Secretary of the Army by the Office of Management and Budget because it does not clearly demonstrate compliance with the Administration's policy on mitigation. A supplemental report which provides the requested information required to demonstrate compliance was submitted to the Assistant Secretary of the Army. The supplemental report, which was submitted prior to passage of the FY 1990 Energy and Water Development Appropriations Act and the Water Resources Development Act of 1990, recommends the acquisition of only 300 acres in the Stumpy Lake area and no lands in the vicinity of the Bayou Bodcau Wildlife Management Area in the Energy and Water Development Appropriation Act of 1994 the Corps was directed reimburse the project local sponsor annually for the Federal share of management costs for the Bayou Bodcau mitigation area.


LEGEND
LOCK AND DAM
EXISTING LEVEE
RECREATION SITE
ARKANSAS
TEXAS
LOUISIANA
PROJECT LOCATION
VICINITY MAP
LEGEND
Work Completed
Work Underway With Funds Available For The Current Fiscal Year.
Work Proposed With Funds Available For The Budget Fiscal Year.
Work Required To Complete Project After The Budget Fiscal Year.
SCALES
MILES
KILOMETERS
RED RIVER WATERWAY
MISSISSIPPI RIVER TO SHREVEPORT
POOL 8
LOCK 4
U.S. ARMY ENGINEER DISTRICT, VICKSBURG
MISSISSIPPI VALLEY DIVISION


LEGEND
LOCK AND DAM
EXISTING LEVEE
IMPROVEMENT AND USE
RECREATION SITE
LEGEND
Work Completed
Work Underway With Funds Available For The Current Fiscal Year.
Work Proposed With Funds Available For The Budget Fiscal Year.
Work Required To Complete Project After The Budget Fiscal Year.
VICINITY MAP
ARKANSAS
TEXAS
LOUISIANA
PROJECT LOCATION
SCALES
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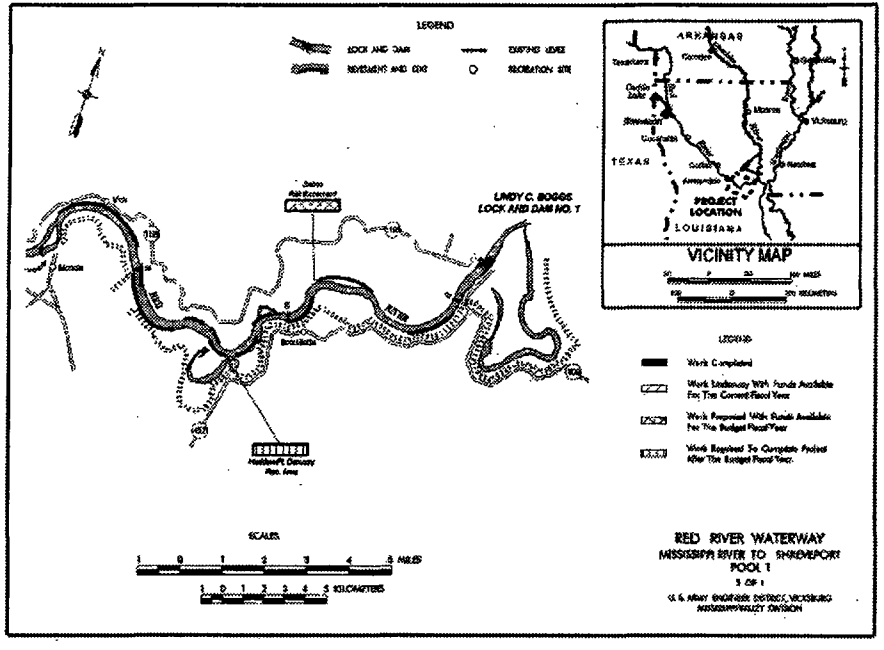
RED RIVER WATERWAY
MISSISSIPPI RIVER TO SHREVEPORT
POOL 1
1 OF 2


LEGEND
LOCK AND DAM
REVETMENTS AND DIKE
EXISTING LEVEE
RECREATION SITE
LINDY C. BOGGS
LOCK AND DAM NO. 1
ARKANSAS
TEXAS
LOUISIANA
PROJECT
LOCATION
VICINITY MAP
Work Completed
Work Underway With Funds Available For The Current Fiscal Year
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SCALES
MILES
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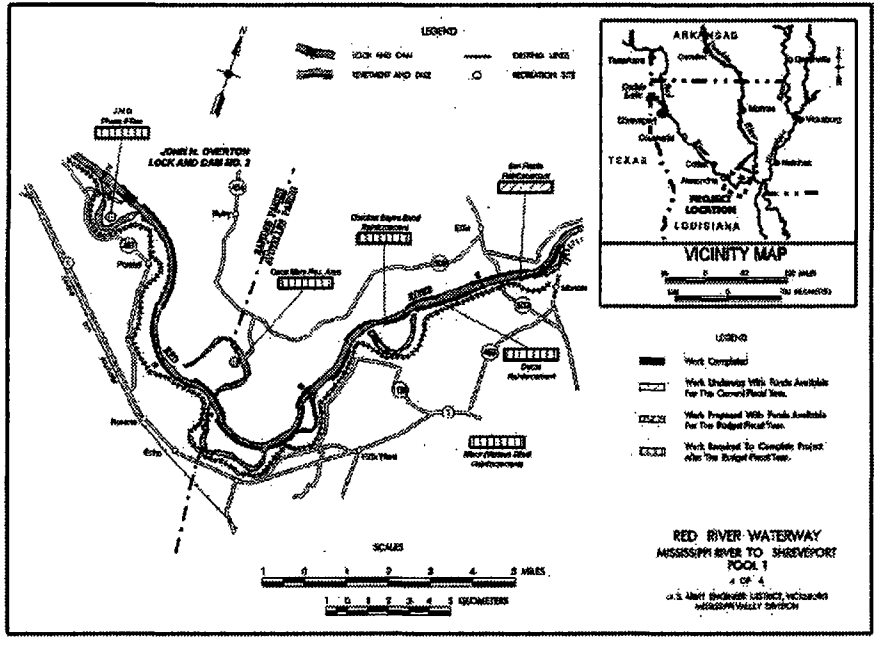
RED RIVER WATERWAY
MISSISSIPPI RIVER TO SHREVEPORT
POOL 1
1 OF 1


LEGEND
JOHN H. OVERTON LOCK AND DAM NO. 2
ARKANSAS
TEXAS
LOUISIANA
PROJECT LOCATION
VICINITY MAP
LEGEND
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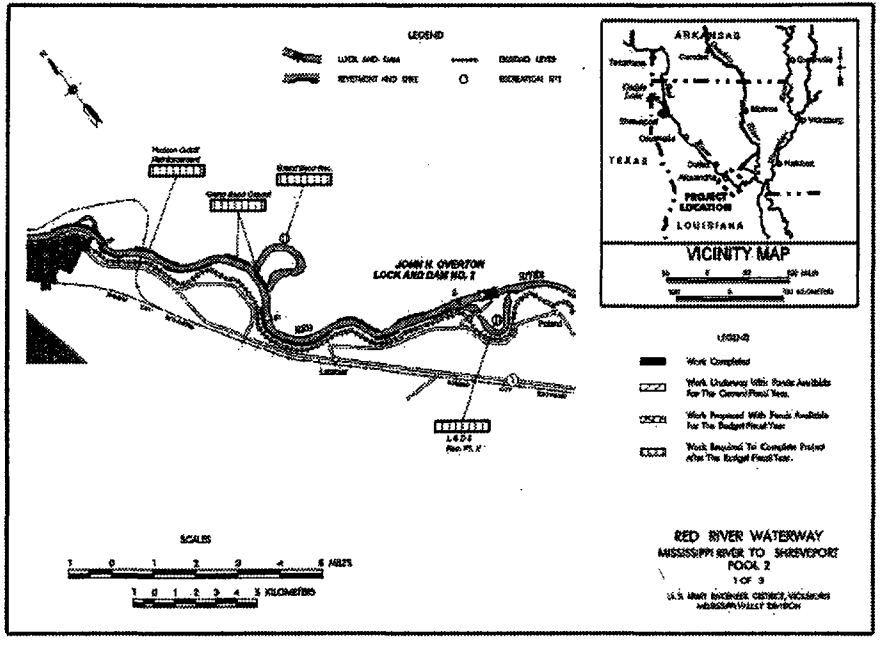
SCALES
MILES
KILOMETERS
RED RIVER WATERWAY
MISSISSIPPI RIVER TO SHREVEPORT
POOL 1
4 OF 4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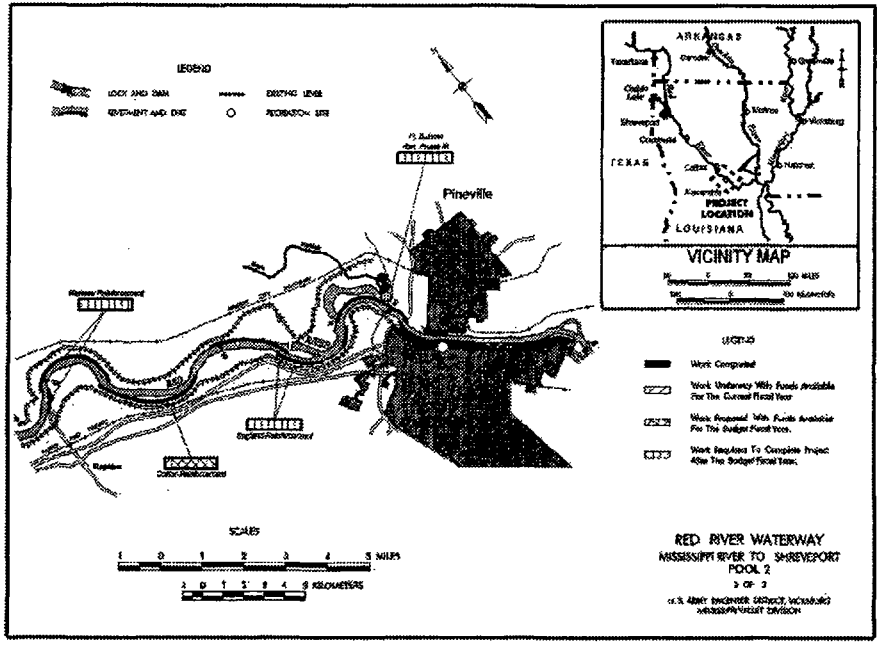
KILOMETERS
RED RIVER WATERWAY
MISSISSIPPI RIVER TO SHREVEPORT
POOL 2
1 OF 3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VICINITY MAP
SCALES
RED RIVER WATERWAY
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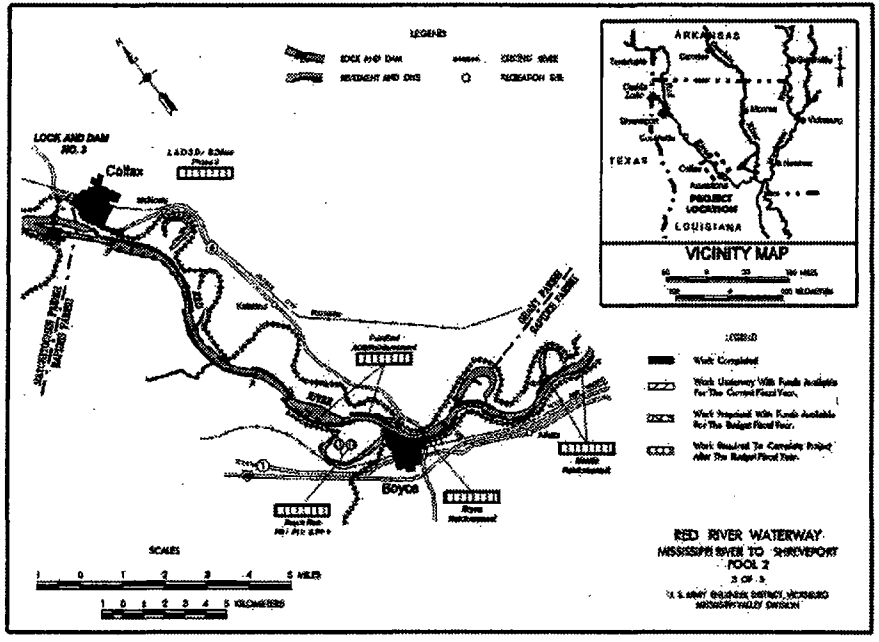
POOL 2

458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RESIDENT AND DIS
RECREATION SITE
LOCK AND DAM NO. 3
Colfax
Boyce
ARKANSAS
TEXAS
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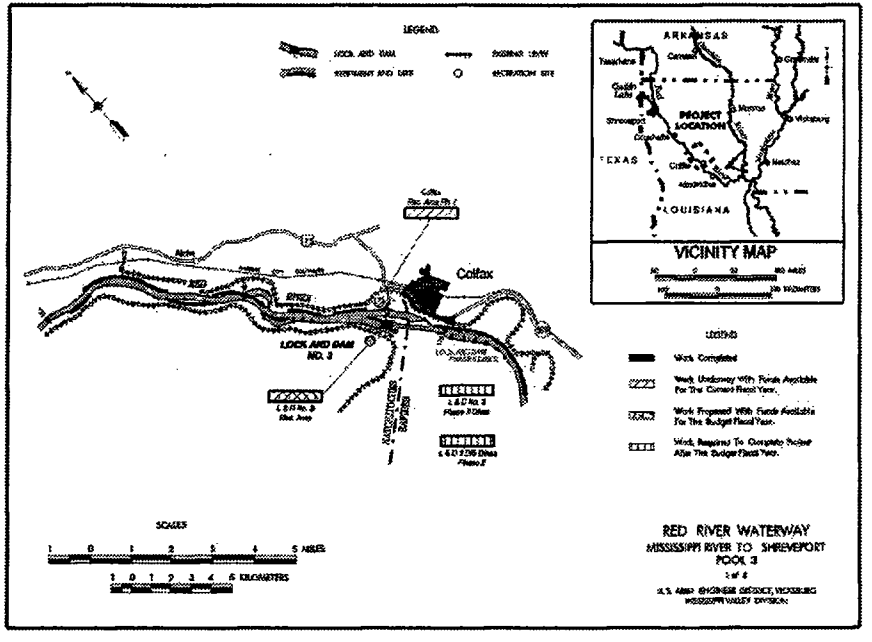
VICINITY MAP
Work Completed
SCALES
RED RIVER WATERWAY
MISSISSIPPI RIVER TO SHREVEPORT
POOL 2

459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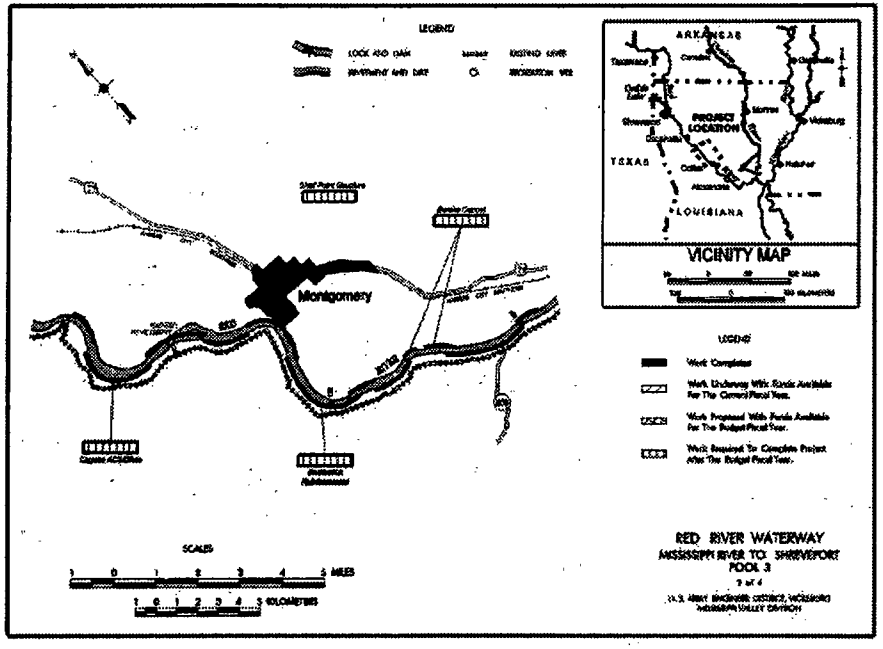
MISSISSIPPI RIVER TO SHREVEPORT
POOL 3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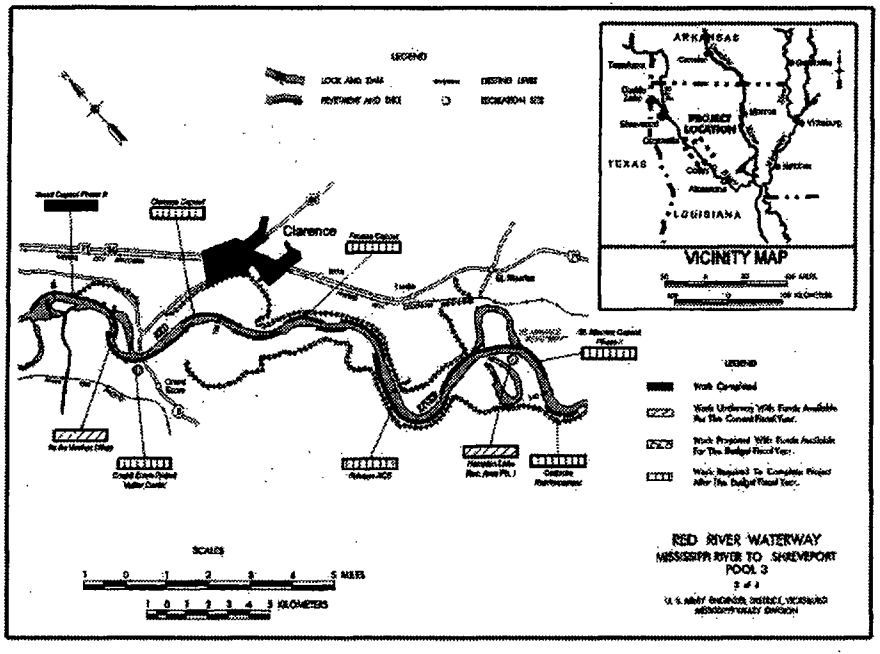
LOCK AND DAM
EXISTING LEVEE
Montgomery
SCALES
MILES
KILOMETERS
ARKANSAS
PROJECT LOCATION
TEXAS
LOUISIANA
VICINITY MAP
LEGEND
Work Complete
Work Underway With Funds Available For The Current Fiscal Year.
Work Proposed With Funds Available For The Budget Fiscal Year.
Work Required To Complete Project After The Budget Fiscal Year.
RED RIVER WATERWAY
MISSISSIPPI RIVER TO SHREVEPORT
POOL 3
3 of 4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LOCK AND DAM
REVETMENT AND DIKE
EXISTING LEVEE
RECREATION SITE
Clarence
ARKANSAS
TEXAS
LOUISIANA
PROJECT LOCATION
VICINITY MAP
LEGEND
Work Completed
Work Underway With Funds Available For The Current Fiscal Year.
Work Proposed With Funds Available For The Budget Fiscal Year.
Work Required To Complete Project After The Budget Fiscal Year.
SCALES
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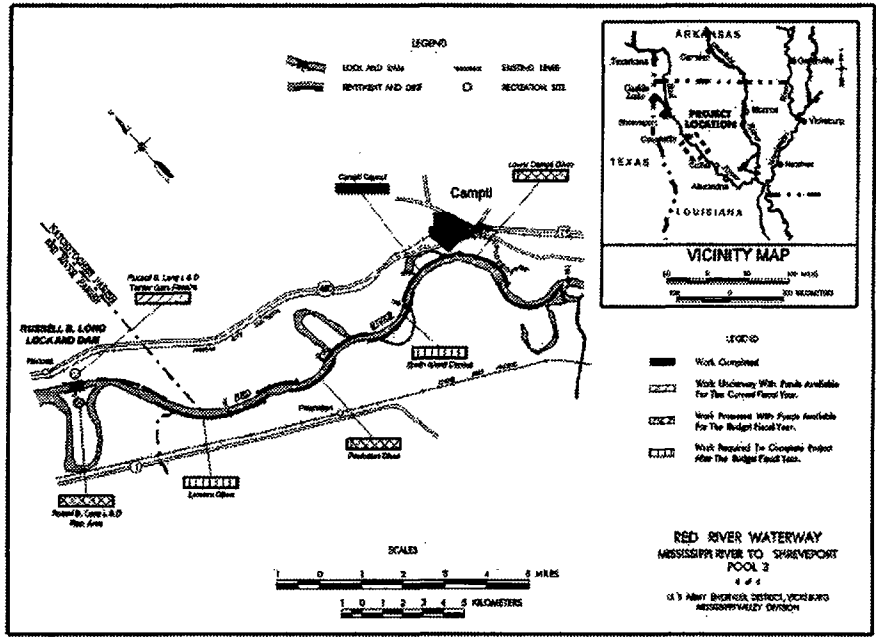
RED RIVER WATERWAY
MISSISSIPPI RIVER TO SHREVEPORT
POOL 3
3 of 3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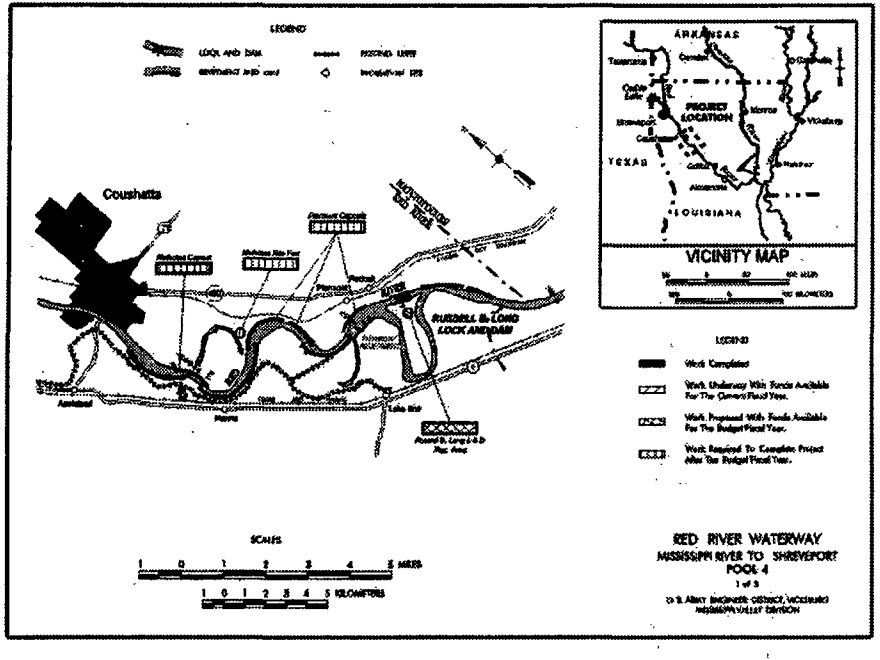
LOCK AND DAM
EXISTING LEVEE
RETIREMENT AND DIKE
RECREATION SITE
Campti
RUSSELL B. LONG LOCK AND DAM
Campti Cutoff
Lower Channel Dikes
South Island Dikes
Peterson
Peterson Dikes
Lonesome Dikes
Russell B. Long L & D Weir Area
SCALES
1 0 1 2 3 4 5 MILES
1 0 1 2 3 4 5 KILOMETERS
ARKANSAS
TEXAS
LOUISIANA
PROJECT LOCATIONS
Shreveport
Vicksburg
Alexandria
VICINITY MAP
Work Completed
Work Underway With Funds Available For The Current Fiscal Year.
Work Proposed With Funds Available For The Budget Fiscal Year.
Work Required To Complete Project After The Budget Fiscal Year.
RED RIVER WATERWAY
MISSISSIPPI RIVER TO SHREVEPORT
POOL 3
U.S. ARMY ENGINEER DISTRICT, VICKSBURG
MISSISSIPPI VALLEY DIVISION


LEGEND
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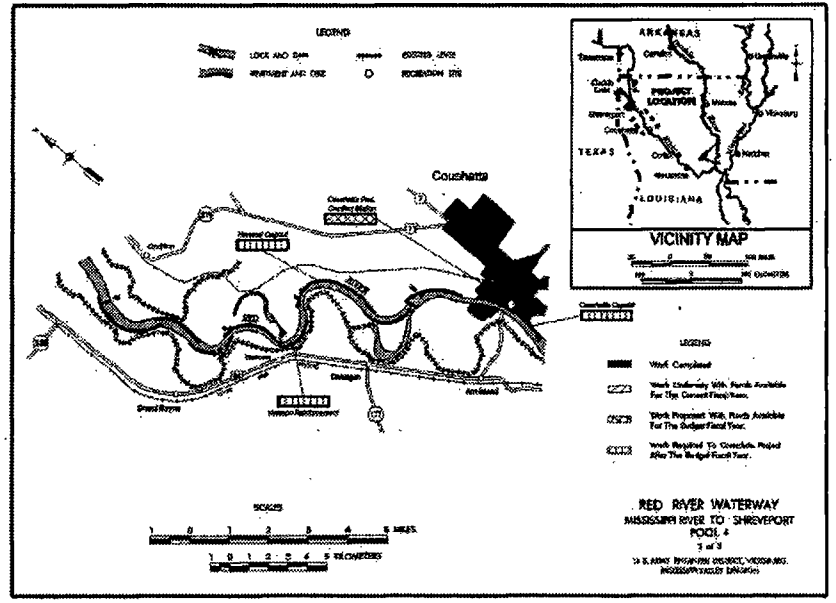
RUSSELL B. LONG LOCK AND DAM
ARKANSAS
PROJECT LOCATION
YOKAS
LOUISIANA
VICINITY MAP
LEGEND
Work Completed
SCALES
RED RIVER WATERWAY
MISSISSIPPI RIVER TO SHREVEPORT
POOL 4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Coushatta
ARKANSAS
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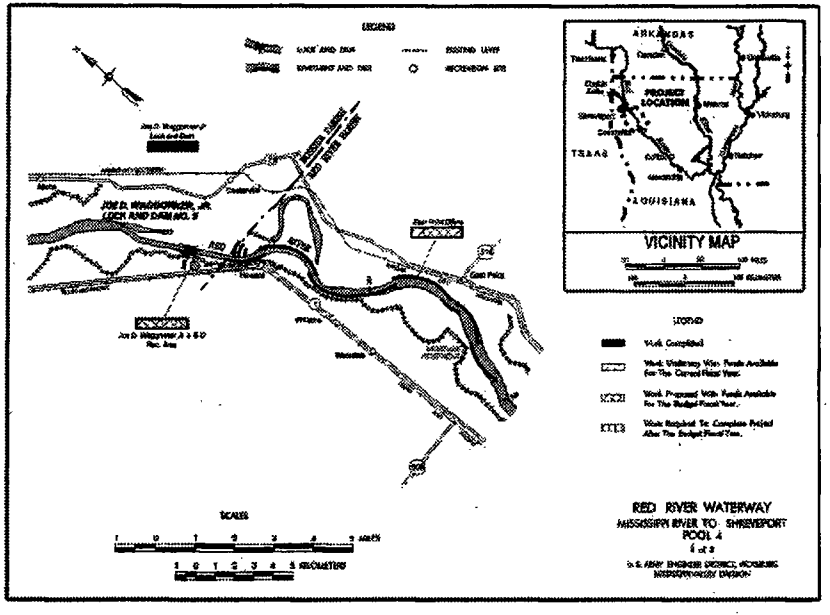
LOUISIANA
VICINITY MAP
SCALES
RED RIVER WATERWAY
MISSISSIPPI RIVER TO SHREVEPORT
POOL 4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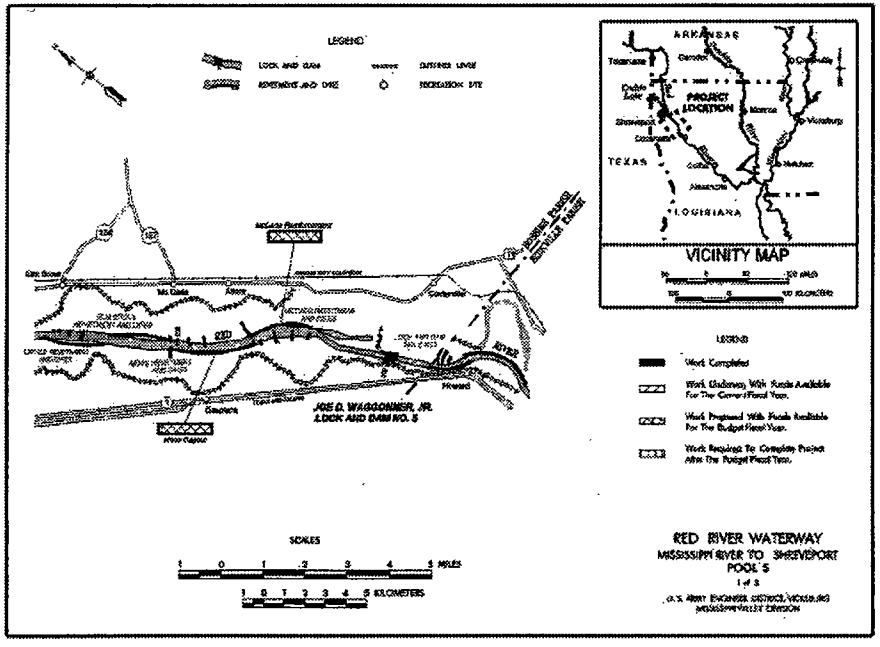
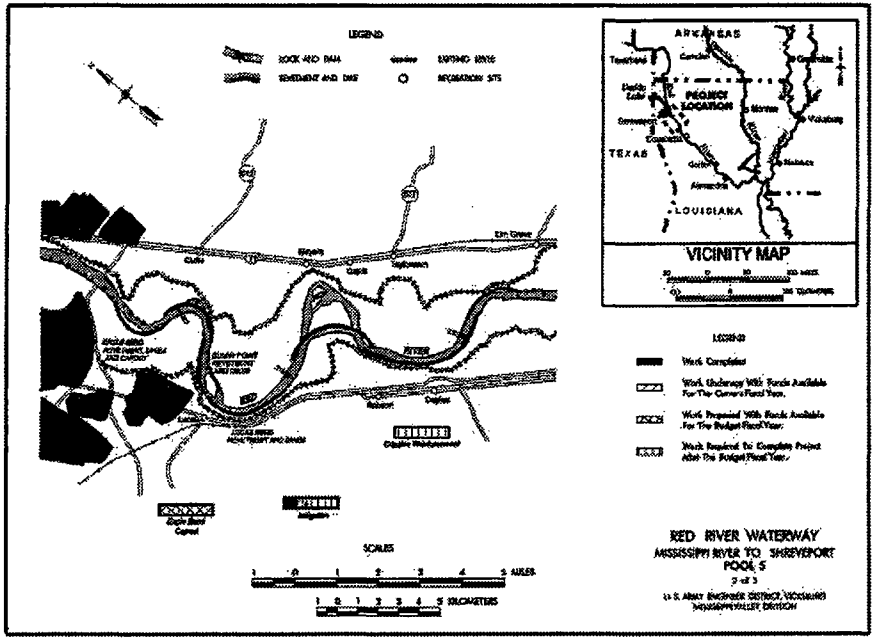
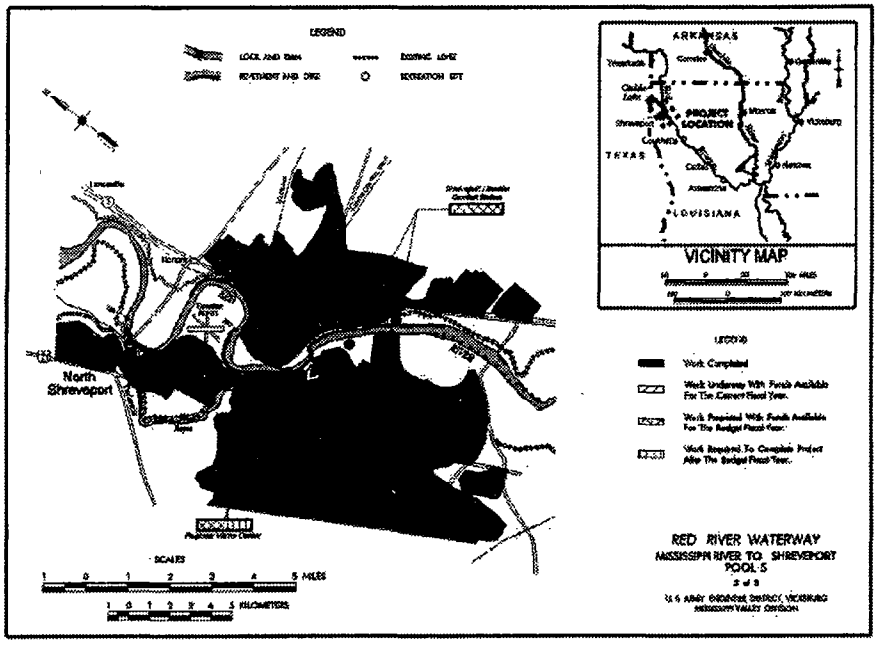
RED RIVER WATERWAY
MISSISSIPPI RIVER TO SHREVEPORT
POOL 4


LEGEND
LOCK AND DAM
DISTANCE LEVEE
REVETMENT AND DIKE
RECREATION SITE
JOE D. WAGGONNER, JR.
LOCK AND DAM NO. 5
ARKANSAS
TEXAS
LOUISIANA
PROJECT LOCATION
VICINITY MAP
LEGEND
Work Completed
Work Underway With Funds Available For The Current Fiscal Year.
Work Proposed With Funds Available For The Budget Fiscal Year.
Work Required To Complete Project After The Budget Fiscal Year.
SCALES
1 0 1 2 3 4 5 MILES
1 0 1 2 3 4 5 KILOMETERS
RED RIVER WATERWAY
MISSISSIPPI RIVER TO SHREVEPORT
POOL 5
1 of 3


LEGEND
ARKANSAS
PROJECT LOCATION
TEXAS
LOUISIANA
VICINITY MAP
Work Completed
Work Underway With Funds Available For The Current Fiscal Year.
Work Proposed With Funds Available For The Budget Fiscal Year.
Work Required To Complete Project After The Budget Fiscal Year.
SCALES
RED RIVER WATERWAY
MISSISSIPPI RIVER TO SHREVEPORT
POOL 5


LEGEND
LOCK AND DAM
EXISTING LEVEE
REVETMENT AND DIKE
RECREATION SITE
North Shreveport
SCALES
1 0 1 2 3 4 5 MILES
1 0 1 2 3 4 5 KILOMETERS
ARKANSAS
TEXAS
LOUISIANA
PROJECT LOCATION
VICINITY MAP
Work Completed
Work Underway With Funds Available For The Current Fiscal Year.
Work Required To Complete Project After The Budget Fiscal Year.
RED RIVER WATERWAY
MISSISSIPPI RIVER TO SHREVEPORT
POOL 5
2 of 3

APPROPRIATION TITLE: Construction, General - Dam Safety Assurance - Reservoirs

PROJECT: Pine River Dam, Cross Lake, Minnesota (Continuing)

DESCRIPTION: The recommended plan for improvements to the Pine River Dam for dam safety assurance includes: rehabilitation of the existing structure to include 13 new gates, concrete replacement and a sheetpile and concrete wall along the current main dam embankment and rehabilitation of the 16 perimeter dikes located around the pool. All work is programmed.

AUTHORIZATION: River and Harbor Acts of 14 June 1880 and 2 August 1882.

REMAINING BENEFIT - REMAINING COST RATIO: No detailed economic analysis has been performed on this project.

TOTAL BENEFIT - COST RATIO: No detailed economic analysis has been performed on this project.

INITIAL BENEFIT - COST RATIO: No detailed economic analysis has been performed on this project.

BASIS OF BENEFIT - COST RATIO: No detailed economic analysis has been performed on this project.

SUMMARIZED FINANCIAL DATA		ACCUM PCT OF EST FED COST
Estimated Federal Cost	$10,200,000	
Estimated Non-Federal Cost	0	
Total Estimated Project Cost	$10,200,000	
Allocations to 30 September 1999	3,616,000	
Conference Amount for FY 2000	3,190,000	
Allocation for FY 2000	2,711,000[1]	
Allocations through FY 2000	6,327,000	62

STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Entire Project	35	Sep 2001

PHYSICAL DATA

Rehabilitation of Existing Structure:
13 new gates
Concrete replacement
Sheetpile and concrete wall

[1] Reflects $454,000 reduction assigned as savings and slippage and $25,000 reprogrammed from the project.

SUMMARIZED FINANCIAL DATA (Continued)

Allocation Requested for FY 2001	3,873,000	100
Programmed Balance to Complete after FY 2001	0	
Unprogrammed Balance to Complete after FY 2001	0	

JUSTIFICATION: The National Dam Safety Program found that many older dams were unsafe not because of internal structural problems but because land use had changed drastically. When the Mississippi River Headwaters dams were built 80 to 100 years ago, very few people lived in the surrounding areas. Because these areas were undeveloped, flooding of any magnitude would have had minor economic impacts and little threat to life. Since then, development has occurred, population has increased dramatically, and more data has become available for hydrologic studies. This site has been identified as having inadequate spillway capacity that would result in the unmodified dam embankment being overtopped by about 4.6 feet during the probable maximum flood (PMF) and by 1.1 feet during the 70 percent PMF. The loss of life estimate at the current spillway capacity (39 percent of PMF) suggests that the dam cannot safely pass events greater than this value with adequate freeboard and that a failure resulting from a breach of the main embankment would have extreme consequences downstream.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Construction	$3,359,000
Planning, Engineering and Design	292,000
Supervision and Administration	222,000
Total	$3,873,000

NON-FEDERAL COST: There are no non-Federal costs.

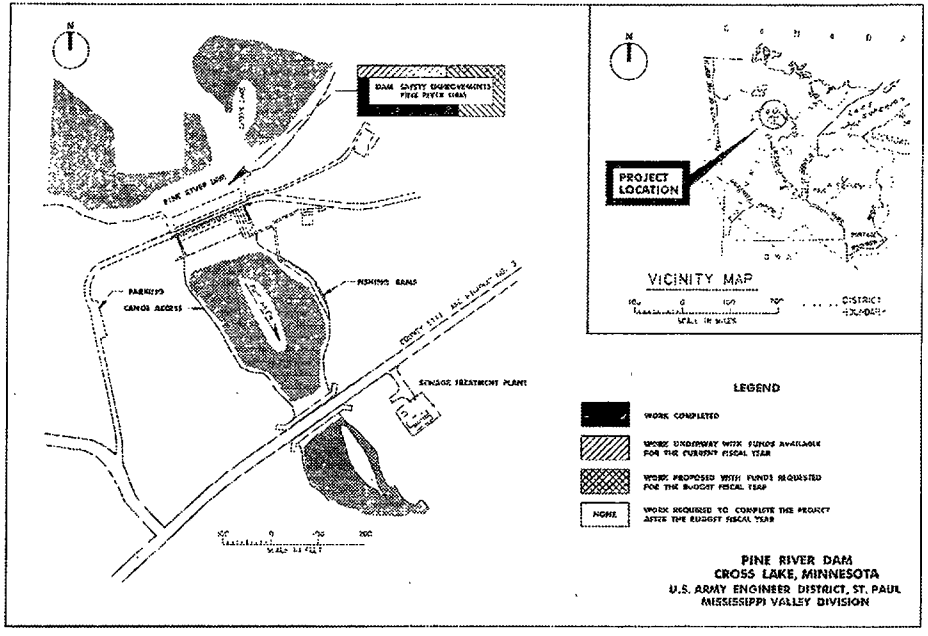
STATUS OF LOCAL COOPERATION: Not applicable.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $10,200,000 is an increase of $380,000 over the latest estimate ($9,820,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	$307,000
Post Contract Award and Other Estimating Adjustments	73,000
Total	$380,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An Environmental Assessment (EA) was prepared during the development of the Design Memorandum dated April 1997. The EA concluded that there was no significant impact.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were provided in FY 1995. The Reconnaissance Report approved in April 1995 proposed a solution that would protect against the 70 percent Probable Maximum Flood (PMF) because of substantial cost savings over designing for 100 percent PMF with little risk to life. This solution was to be accomplished by a combination of increasing the existing spillway capacity and raising the perimeter dike system and main embankment. A Value Engineering study, completed in 1996, recommended that the structure be altered to include larger openings. Accordingly, the project scope and cost were reduced in the April 1997 Design Memorandum to reflect rehabilitation rather than replacement of the structure to include 13 new gates, concrete replacement, a sheetpile and concrete wall along the current main dam embankment, and rehabilitation of the perimeter dikes to contain the water held by the structure. The scheduled completion date remains September 2001.


N
DAM SAFETY IMPROVEMENTS
PINE RIVER DAM
PINE RIVER DAM
PARKING
CANOE ACCESS
FISHING BANS
SEWAGE TREATMENT PLANT
N
PROJECT LOCATION
VICINITY MAP
LEGEND
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR
NONE
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR
PINE RIVER DAM
CROSS LAKE, MINNESOTA
U.S. ARMY ENGINEER DISTRICT, ST. PAUL
MISSISSIPPI VALLEY DIVISION

APPROPRIATION TITLE: Construction, General – Local Protection (Flood Control)

PROJECT: East St. Louis, Illinois (Continuing)

LOCATION: The project is located in St. Clair and Madison Counties, Illinois, along the left bank of the Mississippi River between river miles 175 and 195 above the Ohio River.

DESCRIPTION: The project consists of rehabilitation of 21 small gravity drains, 10 large gravity drains (gatewells), 20 closure structures, and 300 relief wells: minor floodwall and levee rehabilitation work: rehabilitation of 12 pumping stations, 3 drainage control structures, and 6 segments of channel rehabilitation; replacement of 3 bridge structures; and abandonment and removal of 4 bridge structures. All work, except bridges, is programmed. The bridge work, which is unprogrammed, will be performed at 100 percent non-Federal cost.

AUTHORIZATION: Energy and Water Development Appropriation Act of 1988 (PL 100-202).

REMAINING BENEFIT-REMAINING COST RATIO: 18.0 to 1 at 8 7/8 percent.

TOTAL BENEFIT-COST RATIO: 10.3 to 1 at 8 7/8 percent.

INITIAL BENEFIT-COST RATIO: 9.6 to 1 at 8 7/8 percent (FY 1988).

BASIS OF BENEFIT-COST RATIO: Benefits are from the Supplemental Project Report, completed March 1999.

SUMMARIZED FINANCIAL DATA				ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost			$37,861,000		Entire Project	91	Being determined
Programmed Construction		$37,861,000					
Unprogrammed Construction		0					
Estimated Non-Federal Cost			15,759,000		PHYSICAL DATA		
Programmed Construction		12,478,000					
Cash Contributions	9,693,000 [1]				Small Gravity Drains		21
Other Costs	2,785,000				Large Gravity Drains		10
Estimated Non-Federal Cost					Closure Structures		20
Unprogrammed Construction		3,281,000			Relief Wells		300
Other Cost	3,281,000				Floodwall & Levee Work		Minor
					Pumping Stations		12
Total Estimated Programmed Construction Cost			50,339,000		Drainage Control Structures		3
Total Estimated Unprogrammed Construction Cost			3,281,000		Bridge Replacements		3
Total Estimated Project Cost			53,620,000		Bridge Abandonment and Removal		4
					Channels		6 segments
Allocations to 30 September 1999			26,928,000				
Conference Allowance for FY 2000			2,000,000				
Allocation for FY 2000			1,715,000 [2]				
Allocations through FY 2000			28,643,000	76			
Allocation Requested for FY 2001			900,000	78			
Programmed Balance to Complete After FY 2001			8,318,000				
Unprogrammed Balance to Complete After FY 2001			0				

[1] A cash contribution of $11,920,000 is partially offset by an estimated credit of $57,000 for Fish and Wildlife, $1,577,000 for work-in-kind on Harding Ditch Excavation and Clearing, $570,000 on Schoenberger Clearing and Excavation, and $23,000 on Nameoki Ditch.
[2] Reflects $285,000 reduction assigned as savings and slippage.

JUSTIFICATION: The original project, authorized by the Flood Control Act of 1936, provides protection for 85,000 acres of business, industrial and residential areas, including East St. Louis, Granite City, Madison, Venice, Brooklyn, Fairmont and Sauget, Illinois. Urban design flood protection is provided for a Mississippi River flood stage of 52 feet on the St. Louis, Market Street gage. The rehabilitation project was authorized by the Energy and Water Development Appropriations Act of 1988. As a result of failure of a deteriorated roller gate, localized flooding occurred in 1986 causing the evacuation of 1,200 persons and an estimated $35,000,000 in damages. The need for extensive rehabilitation work was verified during preparation of a General Design Memorandum for the project during Fiscal Year 1990. The extensive rehabilitation work needed is the result of several decades of deferral of needed project maintenance due to the limited financial capability of the local sponsor, Metro East Sanitary District. A tax referendum, which was passed in February 1989, provides the Metro East Sanitary District with increased tax revenue necessary to cost share in the rehabilitation project and to perform the necessary maintenance of the project after the rehabilitation is completed. The average annual benefits, all flood control, are $30,159,000.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Complete: Phase 3 Relief Well Rehabilitation	$650,000
Planning, Engineering and Design	198,000
Construction Management	52,000
Total	$900,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights-of-way, and dredged material disposal areas.	$ 604,000	$
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities where necessary for construction of the project.	3,235,000	
Pay 22.2 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, as determined under Section 103(m) of the Water Resources Development Act of 1986 to reflect the non-Federal sponsor's ability to pay for credit allowed based on section 215 of the Flood Control Act of 1968.	11,920,000	
Total Non-Federal Costs	$ 15,759,000	0

Local interests are also required to operate and maintain all works after completion.

STATUS OF LOCAL COOPERATION: The local sponsor, the Metro East Sanitary District, is strongly supportive of the project. A tax referendum to provide sufficient funds for local sponsorship of the project was passed in February 1989. Three Project Cooperation Agreements will be utilized for this project. The Project Cooperation Agreement for the first construction item was executed in November 1989. The second Project Cooperation Agreement was executed on 11 December 1990. The third Project Cooperation Agreement was executed on 11 March 1992. Amendment No. 1 to the third Project Cooperation Agreement, which provides for the local sponsor to be credited for costs of work-in-kind (Clearing & Excavation of Drainage Channels), was executed on 9 August 1994. Amendment No. 2, executed on 2 September 1997, allows the Corps to award a contract for the previously identified work-in-kind and adds mitigation as a project cost feature. A Third Party Agreement, executed in August 1999 between Metro East Sanitary District and Canteen Creek Drainage District, eliminates the requirement for a fourth Project Cooperation Agreement for this project. The current non-Federal cost estimate of $15,759,000, which includes a cash contribution of $9,693,000, is an increase of $8,155,000 from the non-Federal cost estimate of $7,604,000 noted in the Project Cooperation Agreement, which included a cash contribution of $7,062,000. In a financial document dated 19 May 1999, the non-Federal sponsor indicated that it is financially capable and willing to contribute the increased non-Federal share. Our analysis of the non-Federal sponsor's financial capability to participate in the project affirms that the sponsor has a reasonable and implementable plan for meeting its financial commitment.

COMPARISON OF FEDERAL COSTS ESTIMATES: The current Federal cost estimate of $37,861,000 is an increase of $5,526,000 from the latest estimate ($32,335,000) presented to Congress (FY2000). This change includes the following items:

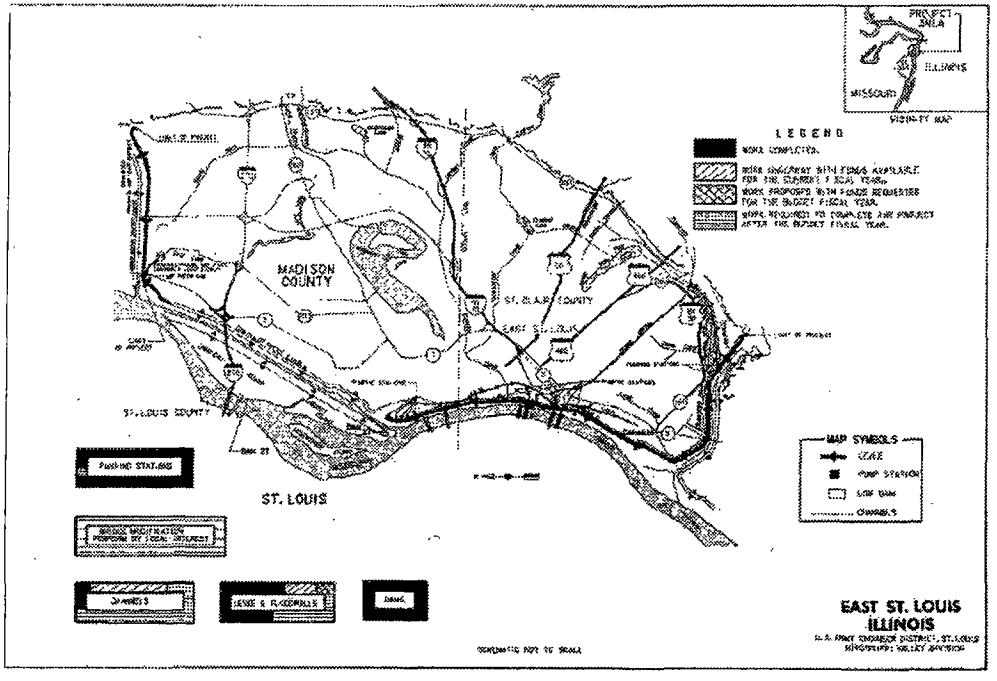
Item	Amount
Price Escalation on Construction Features	$ 494,000
Post Contract Award and Other Estimating Adjustments (including contingency adjustments)	5,032,000
Total	$5,526,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The project consists of rehabilitation of existing facilities and, for the major part of the project, will not affect environmental conditions except for short-term localized impacts. An environmental assessment and Finding of No Significant Impact was signed by the District Commander on 1 August 1991.

OTHER INFORMATION: Funds to initiate construction were appropriated in Fiscal Year 1988.

As a result of the drainage ditch clearing and excavation, mitigation was approved as a project cost per amendment Number 2 to the third project cooperation agreement and is being accomplished on project lands.

Fish and Wildlife mitigation costs are estimated to be $57,000.


PROJECT AREA
ILLINOIS
MISSOURI
VICINITY MAP
LEGEND
MADISON COUNTY
ST. CLAIR COUNTY
ST. LOUIS COUNTY
ST. LOUIS
MAP SYMBOLS
EAST ST. LOUIS
ILLINOIS

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Loves Park, Illinois (Continuing)

LOCATION: Loves Park is located in Winnebago County in north central Illinois, just north of the city of Rockford.

DESCRIPTION: The project will provide 100-year protection for a highly urbanized portion of the city of Loves Park along Loves Park Creek. The project will divert excess runoff to detention areas. Floodwaters will be stored until channel stages subside such that the floodwaters may he evacuated from the detention areas. The protective works include 17,900 lineal feet of improved channel, 3 detention lakes, and a pump station. All work is programmed.

AUTHORIZATION: Water Resources Development Act of 1986 (Public Law 99-662).

REMAINING BENEFIT-REMAINING COST RATIO: 7.2 to 1 at 8-5/8 percent.

TOTAL BENEFIT-COST RATIO: 1.1 to I at 8-5/8 percent.

INITIAL BENEFIT-COST RATIO: 1.4 to 1 at 8-5/8 percent (FY 1990).

BASIS OF BENEFIT-COST RATIO: Analysis based on General Design Memorandum dated March 1988.

SUMMARIZED FINANCIAL DATA		STATUS (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost	$ 21,000,000	Entire Project	66	Being determined
Estimated Non-Federal Cost	9,400,000			
Cash Contribution	$ 1,500,000			
Other	7,900,000			
		PHYSICAL DATA		
Total Estimated Project Cost	$ 30,400,000	Relocations: Bridges & Utilities Channels: 17,900 feet Pump Plants: 1		

SUMMARIZED FINANCIAL DATA (Continued)

		ACCUM PCT OF FED COST
Allocations to 30 Sep 1999	$11,808,000	
Conference Allowance for FY 2000	3,588,000	
Allocation for FY 2000	1,177,000[1]	
Allocations through FY 2000	12,985,000	62
Allocation Requested for FY 2001	$4,010,000	81
Programmed Balance to Complete After FY 2001	$4,005,000	
Unprogrammed Balance to Complete After 2001	0	

JUSTIFICATION: The Loves Park Creek floodplain is dominated by residential neighborhoods, with some concentrations of industrial and commercial development. Flooding problems are caused by intense storms falling over the highly urbanized 7.8-square mile drainage basin of Loves Park Creek. Loves Park Creek, which bisects the city, has inadequate channel capacity and hydraulically inefficient bridges incapable of handling the amount of runoff produced by such storms (it is estimated that a 2-year flood would exceed existing channel capacity). Major floods along Loves Park Creek have been of a flash flood nature and of short duration (less than 1 day). Recent flooding occurred in April 1973, 1975, 1978, and June 1994. The flood of record occurred on April 20, 1973, with damage estimated at $2,780,000. Damages under present conditions of development are estimated at $9,060,000 at 1999 price levels. A 100-year flood would cause an estimated $20,100,000 in damage. Average annual damages caused by flooding along Loves Park Creek are estimated at $3,552,000 of which over 90 percent are attributable to residential damages. The annual damage and benefit calculations are based on the economic analysis included in the General Design Memorandum for Loves Park, IL, dated March 1988, approved November 1988, and revised September 1989. Average annual benefits, all flood control, are $3,056,000.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Lands and Damages Acquisition Expense	$20,000
Continue Construction of Stage I, Channels and Pump Plant	3,695,000
Continue Revegetation	60,000
Planning, Engineering, and Design	17,000
Supervision and Administration	218,000
Total	$4,010,000

[1] Reflects $511,000 reduction assigned as savings and slippage and $1,900,000 reprogrammed from the project.

NON-FEDERAL COSTS: In accordance with the cost-sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, and rights-of-way	$4,500,000[1]	$
Modify or relocate buildings, utilities, roads bridges (except railroad bridges), and other facilities where necessary in the construction of the project	2,480,000	
In accordance with Assistant Secretary of Army (Civil Works) decision of 17 May 1988, the Government shall apply credit for external compatible work associated with the construction of the Pebble Creek Dam	439,000	
Provide services for Planning, Engineering and Design and Supervision and Administration for relocation work	175,000	
Provide for contingency reserve on lands, easements, and relocations.	306,000	
Pay 5 percent of the cost allocated to flood control in cash to bring the total non-Federal share of flood control costs to 32 percent, and bear all cost of operation, maintenance, repair, rehabilitation, and replacement of flood control facilities	1,500,000	28,000
Total Non-Federal Cost	$9,400,000	$28,000

The Non-Federal sponsor has agreed to make required payments concurrently with project construction.

[1] Includes $60,000 in costs sunk by the local sponsor prior to construction.

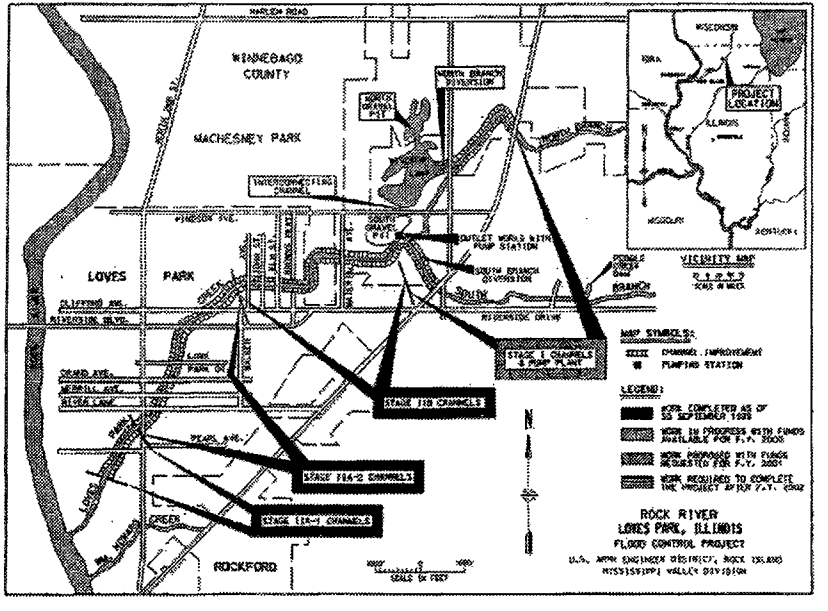
STATUS OF LOCAL COOPERATION: The City of Loves Park, Illinois, is the local sponsor for this project. The Local Cooperation Agreement was executed on 26 March 1991. The State of Illinois has executed an agreement with the city that provides for $3,550,000 in financial assistance for the project. The current non-Federal cost estimate of $9,400,000, which includes a cash contribution of $1,500,000, is a decrease of $170,000 from the non-Federal cost estimate of $9,570,000 noted in the Local Cooperation Agreement, which included a cash contribution of $1,375,000. The non-Federal sponsor is financially capable and willing to contribute the increased non-Federal share.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal Cost Estimate of $21,000,000 is a decrease of $1,500,000 from the latest estimate ($22,500,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	$ -138,000
Post Contract Award and Other Estimating Adjustments (including contingency adjustments)	-1,362,000
Total	$-1,500,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement (EIS) was approved by the Council on Environmental Quality on 14 March 1980. In 1985, an Environmental Assessment (EA) was coordinated to address changes to the project incorporated in the General Reevaluation Report, which resulted in a Finding of No Significant Impact (FONSI) that was signed in December 1986. An EA addressing further changes identified in the General Design Memorandum has been prepared and was released for Public Review on 17 July 1990. The review resulted in a FONSI, which was signed on 11 October 1991. With regard to Section 404 requirements, the project is covered under a nationwide permit; however, Section 401, State Certification, was required from the State of Illinois. Certification was received on 24 September 1990.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1985. Funds to initiate construction were appropriated in FY 1990. Intensive efforts are underway with the local sponsor to ensure availability of right of way in order to maintain current construction schedule.


WINNEBAGO COUNTY
MACHESNEY PARK
LOVES PARK
ROCKFORD
STAGE I CHANNELS & PUMP PLANT
STAGE IIB CHANNELS
STAGE IIA-2 CHANNELS
STAGE IIA-1 CHANNELS
VICINITY MAP
PROJECT LOCATION
LEGEND:
ROCK RIVER
LOVES PARK, ILLINOIS
FLOOD CONTROL PROJECT

APPROPRIATION TITLE: Construction, General - Flood Control

PROJECT: Comite River Diversion Channel, Louisiana (Continuing)

LOCATION: The Comite River basin comprises approximately 348 square miles and includes portions of Wilkinson and Amite Counties in Mississippi and East Feliciana and East Baton Rouge Parishes in Louisiana. The diversion project is located between the Comite and Mississippi Rivers north of the Town of Baker, Louisiana, and south of the Town of Zachary, Louisiana.

DESCRIPTION: The purpose of the project is to provide flood protection for the residents of the Comite River Basin. The authorized project will reduce stages on the Comite River from the diversion point to the confluence with the Amite River, on the Amite River from the confluence with the Comite River near Denham Springs to Port Vincent, and on Hurricane Creek, Robert Canal, and White's, Cypress and Baton Rouge Bayous. The Comite River is a right bank tributary of the Amite River, with a confluence near the city of Denham Springs, east of Baton Rouge, LA. The project provides for the construction of a 12-mile-long diversion channel located between the Comite and Mississippi Rivers north of the town of Baker, LA and south of the town of Zachary, LA. Included in the project are a diversion structure, a control structure at Lilly Bayou, four drop structures to handle intercepted drainage, three low flow augmentation pumps to supplement flows down stream of the diversion channel, improvements to Bayou Baton Rouge, White Bayou, and Cypress Bayou, and the provision of project mitigation areas. All work is programmed.

AUTHORIZATION: Water Resources Development Acts, of 1992, 1996 and 1999.

REMAINING BENEFIT - REMAINING COST RATIO: 1.4 to 1 at 7-1/8 percent (October 1999).

TOTAL BENEFIT - COST RATIO: 1.3 to 1 at 7-1/8 percent (October 1997).

INITAL BENEFIT - COST RATIO: 1.1 to 1 at 7 percent.

BASIS OF BENEFIT - COST RATIO: Benefits are from the design memorandum approved in August 1996 at October 1995 price levels updated to October 1999 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM. PCT. OF EST. FED. COST	STATUS (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$107,200,000		Entire Project	0	Being determined
Estimated Non-Federal Cost		45,300,000				
Cash Contributions	$ 7,537,000					
Other Costs	37,763,000					
Total Estimated Project Cost		$152,500,000				
Allocations to 30 September 1999		$7,201,000				
Conference Allowance for FY 2000		4,000,000				
Allocation for FY 2000		1,930,000[1]				
Allocations through FY 2000		9.131,000	9			
Allocation Requested for FY 2001		10,000,000	18			
Programmed Balance to Complete After FY 2001		$ 88,069,000				
Unprogrammed Balance to Complete After FY 2001		$ 0				

PHYSICAL DATA

CHANNELS AND CANALS: 12 miles.
LEVEES AND FLOODWALLS: An earthen closure will be constructed at Brooks Lake.
PUMPING STATIONS: Three 1.5 cfs
FLOODWAY CONTROL AND DIVERSION STRUCTURES: Comite River Diversion Structure
Lilly Bayou Control Structure
Four drop structures
MITIGATION: 1,484 acres to include planting of trees on 765 acres.

[1] Reflects $570,000 reduction assigned as savings and slippage and $1,500,000 reprogrammed from the project.

JUSTIFICATION: Flooding within the project area originates from excessive rainfall resulting in headwater and backwater overflow of the Comite River and tributary systems. Between 1973 and 1983, four major floods occurred in the subbasin. The maximum flood of record in the Amite River basin occurred in 1983 and caused approximately $172,000,000 in damages, (1983 price levels) including $48,000,000 occurring in the Comite River subbasin. East Baton Rouge Parish experienced $65,200,000 in damages, with 75 percent occurring in the Comite River subbasin. Flooding up to eight feet above the first floor level was reported with inundation of structures lasting from a few hours to several days. About 55,000 acres of land was flooded and a total of 1,550 urban residences, 20 rural residences and 37 urban businesses were flooded in East Baton Rouge Parish. The total average annual benefits, all flood control, are $13,252,000.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue: Lilly Bayou Channel	$5,733,000
Federal Real Estate	95,000
Planning, Engineering & Design	2,304,000
Supervision & Administration	1,868,000
Total	$10,000,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1996, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights-of-way, and borrow and excavated or dredged material disposal area.	$14,883,000	$
Provide during the period of construction a cash contribution equal to 5 percent of total project cost allocated to flood control.	7,537,000	
Modify or relocate utilities, roads, bridges (except railroad bridges) where necessary for the construction of the project.	22,880,000	
Pay all cost allocated to operation, maintenance,repair, rehabilitation, and replacement of the project features.		528,000
Total Non-Federal Cost	$45,300,000	$ 528,000

The non-Federal sponsor has agreed to make all payments of first costs concurrently with project construction.

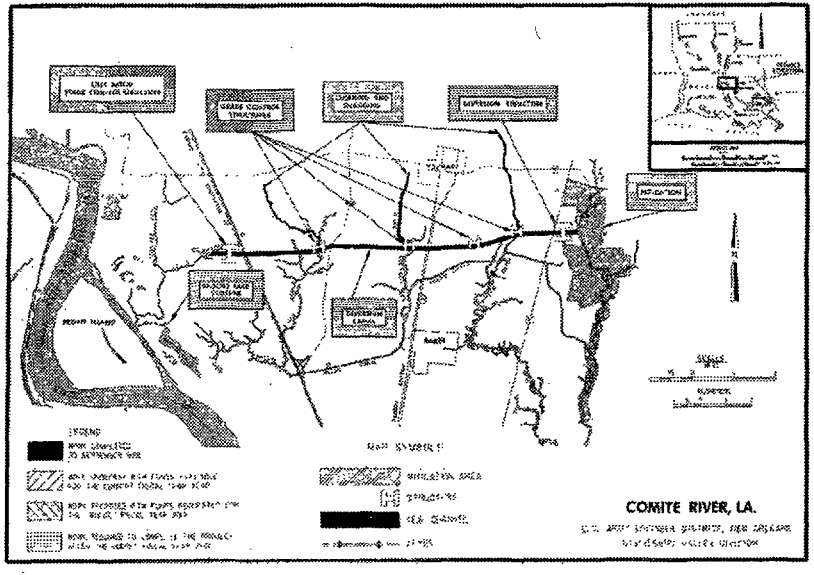
STATUS OF LOCAL COOPERATION: The construction local sponsor is the Louisiana Department of Transportation and Development. The operation and maintenance (O&M) local sponsor is the City/Parish of East Baton Rouge. The terms of the Project Cooperation Agreement (PCA) are currently being negotiated. The PCA is scheduled for execution in June 2000.

COMPARISON OF FEDERAL COST ESTIMATE: The current Federal cost estimate is $107,200,000. This is an increase of $24,500,000 from the latest ($82,700,000) presented to Congress (FY 2000). This change includes the following items:

ITEM	AMOUNT
Authorized Modification	$17,700,000
Price Escalation on Construction Features	6,800,000
TOTAL	$24,500,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed with the Environmental Protection Agency on April 10, 1991. An Environmental Assessment which documents changes to the authorized project has been completed and a Finding of No Significant Impact was signed on 19 December 1995.

OTHER INFORMATION: Funds to initiate Preconstruction Engineering and Design were appropriated in FY 1991. Funds to initiate construction were appropriated in Fiscal Year 1999. Water Resources Development Act of 1999, dated 17 August 1999 (PL106-53) Section 371 modified the project to include the costs of highway relocations to be cost shared as a project construction feature.


COMITE RIVER, LA.

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Lake Pontchartrain, Louisiana, and Vicinity (Hurricane Protection) (Continuing)

LOCATION: The project is located in St. Charles, Jefferson, Orleans, St. Bernard and St. Tammany Parishes in southeast Louisiana in the general vicinity of New Orleans, adjacent to Lake Pontchartrain.

DESCRIPTION: The recommended plan consists of a new levee north of US Highway 61, from the east Bonnet Carré Spillway guide levee to the Jefferson-St. Charles Parish boundary; a floodwall along the Jefferson-St. Charles Parish line; an enlarged levee along the Jefferson Parish lakefront; an enlarged New Orleans lakefront levee landward of the seawall including parallel flood protection on the 17th Street, Orleans Avenue, and London Avenue outfall canals; a new and enlarged levee and floodwall along both sides of the Inner Harbor Navigation Canal (IHNC); a new levee and floodwall along the lakefront from the airport to South Point; an enlarged levee from South Point to the Gulf Intracoastal Waterway (GIWW); an enlarged levee and new floodwall along the northside of the Mississippi River-Gulf Outlet (MR-GO) and GIWW; a new levee in the Chalmette area from the IHNC levee along the south bank of the MR-GO to approximately 2-1/2 miles northwest of Verret and west to the Mississippi River levee near Caernarvon; a strengthened Mandeville seawall on the north shore at present height; and a new pumping station and vertical lift gates for the Florida Avenue Complex. The parallel protection work for Orleans and London Avenue Outfall canals is unprogrammed after FY 1998.

AUTHORIZATION: Flood Control Act of 1965; Water Resources Development Acts of 1974, 1986, 1990, 1992, and 1996.

REMAINING BENEFIT TO REMAINING COST RATIO: 4.3 to 1 at 3 1/8 percent.

TOTAL BENEFIT - COST RATIO: 3.0 to 1 at 3 1/8 percent.

INITIAL BENEFIT-COST RATIO: 17.6 to 1 at 3-1/8 percent (FY 1967).

BASIS OF BENEFIT - COST RATIO: Benefits are from the latest available evaluation dated December 1982 at 1981 price levels.

SUMMARIZED FINANCIAL DATA			
Estimated Total Appropriation Requirement			$525,000,000
Programmed Construction		$500,900,000	
Unprogrammed Construction		24,100,000	
Future Non-Federal Reimbursement			7,000,000
Programmed Construction		7,000,000	
Unprogrammed Construction		0	
Estimated Federal Cost (Ultimate)			518,000,000
Programmed Construction		493,900,000	
Unprogrammed Construction		24,100,000	
Estimated Non-Federal Cost			214,000,000
Programmed Construction		221,000,000	
Cash Contribution	$ 64,258,000		
Other Costs	148,869,000		
Reimbursements:			
Hurricane Protection	7,000,000		
Unprogrammed Construction		873,000	
Cash Contribution	0		
Other Costs	873,000		
Reimbursements	0		

	STATUS (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
New Orleans East Unit		90	Being determined
New Orleans West Unit		50	Being determined
Mandeville Unit		100	March 1996 [1]
Chalmette Unit		98	Being determined
Entire Project		80	Being determined

[1] Work accomplished by the Fiscal Year 1992 Dire Emergency Supplemental under Appropriation 96x3125, Flood Control and Coastal Emergencies.

SUMMARIZED FINANCIAL DATA (Continued)

Total Estimated Programmed Construction Cost	$714,027,000	
Total Estimated Unprogrammed Construction Cost	24,973,000	
Total Estimated Project Cost	$739,000,000	
		ACCUM
Allocations to 30 September 1999	385,442,000	PCT OF EST
Conference Allowance for FY 2000	16,887,000	FED COST
Allocation for FY 2000	16,122,000[1]	
Allocations through FY 2000	401,564,000	76
Allocation Requested for FY 2001	3,100,000	77
Programmed Balance to Complete after FY 2001	$ 96,236,000	
Unprogrammed Balance to Complete after FY 2001	$ 24,100,000	

PHYSICAL DATA

Levees: Average Height: 16 feet
Length: 80 miles

Dam Closures: 2

Pumping Plant: 1

Control Valve Structures: 3

Drainage Structures: 9

Floodwalls: 17.9 miles

Floodgates: 2

JUSTIFICATION: The lowlands in the Lake Pontchartrain tidal basin are subject to tidal overflow. The Greater New Orleans Metropolitan Area which lies in this basin will continue its rapid economic development in the future years even though severe damages have resulted from several hurricanes in the past years. Hurricane damages result from surges entering Lake Pontchartrain from Lake Borgne through natural tidal passes at the Rigolets and Chef Menteur Passes and the Inner Harbor Navigation Canal. The surges are intensified by local wind effects and the combination of waves and surges causing overtopping of the pre-project protective works along the shores of Lake Pontchartrain. The eastern portion of the area is also subject to flooding by surges and waves that move directly from Lake Borgne and overtop the then existing inadequate protective system seaward of the developed land areas. As a result, residences and industrial and commercial establishments suffer damage, business activities are disrupted, lives are endangered, and hazards to health are created. Hurricanes much more severe than any of record are possible. In the event of the occurrence of such a severe hurricane, catastrophic property damage and loss of human life would be

[1] Reflects $2,405,000 reduction assigned as Savings and Slippage and $1,640,000 reprogrammed into the project.

experienced. Local interests have requested protection against these threats to life and property. Hurricane Betsy in September 1965 caused extensive damage and flooding of urban areas of the New Orleans area to depths of up to 10 feet. Hurricane Camille occurred in the project area in August 1969 and flooded areas along the Inner Harbor Navigation Canal. Extensive flooding and overtopping of levees would have occurred in the project area in September 1974 if Hurricane Carmen had continued on its predicted course. In 1985 Hurricane Juan caused extensive flooding in the St. Charles Parish area. The Lake Pontchartrain hurricane protection project will provide protection from similar occurrences. The project will provide protection against flooding from the Standard Project Hurricane (SPH). The average annual benefits, all flood control, are $95,771,000.

FISCAL YEAR 2001: The requested amount will be applied as follows:

NEW ORLEANS EAST UNIT	
Initiate:	
Hammond Hwy Bridge	$ 371,000
Federal Real Estate Support	5,000
Surveys and Layouts	4,000
Planning, Engineering and Design	10,000
Subtotal	$ 390,000
NEW ORLEANS WEST UNIT	
Initiate:	
Hammond Hwy Bridge	359,000
Complete:	
Frontal Protection at Pump Station 2 & 3	1,257,000
Cross Bayou	389,000
Federal Real Estate Support	15,000
Survey and Layouts	30,000
Planning, Engineering and Design	500,000
Supervision and Administration	100,000
Subtotal	$ 2,650,000
CHALMETTE UNIT	
Federal Real Estate Support	10,000
Planning, Engineering and Design	50,000
Subtotal	$ 60,000
Total	$ 3,100,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Flood Control Act of 1965, the non-Federal sponsors must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, and right-of-ways, and borrow and excavated or dredged material disposal areas.	$ 43,255,000	$
Accomplish alterations to roads, pipelines, cables, wharves, oil wells, and any other facilities necessary for construction of the project.	19,916,000	
Pay 30 percent of the total project cost, including the items listed above and a cash contribution or equivalent work specifically undertaken as an integral part of the project after authorization and in accordance with construction schedules as required by the Chief of Engineers, excluding a reimbursement to the Federal Government for costs allocated pursuant to the Water Resources Development Act of 1974.	150,829,000	
Reimburse the Federal Government for costs allocated pursuant to the Water Resources Development Act of 1974.	7,000,000	
Pay all costs of operations, maintenance, repair, rehabilitation, and replacements of all features of the project works.		1,223,000
Total Non-Federal Costs	$221,000,000	$1,223,000

In addition, local interests, through the combined efforts of the State of Louisiana, local levee and drainage districts, and parish police juries, have spent an estimated $25,366,000 between 1930-1963, based on the best cost records available, to improve and maintain the hurricane protection system existing prior to project authorization. Available costs of record are as follows:

Combination of State of Louisiana and Lake Borgne Levee District and Chalmette Back Levee District on the Chalmette Back Levee Protection Systems	$ 4,410,000
Orleans Levee District	12,010,000
Port of New Orleans (levees along Industrial Canal)	924,000
Pontchartrain Levee District	5,022,000
Fourth Drainage District of Jefferson Parish	3,000,000
Total	$25,366,000

A very severe hurricane, "Betsy," occurred in the project area in September 1965, just prior to the authorization of the project in October 1965. Considerable damage was done to many of the existing levees, and local interests immediately instituted an accelerated rehabilitation program, with the view of restoring and strengthening existing protection prior to succeeding hurricane seasons. Any work performed by the non-federal interests after project authorization, that conforms to the project design criteria and alignment, is considered as work-in-kind in lieu of a cash contribution.

STATUS OF LOCAL COOPERATION: Assurances are required for the two independently justified plans.

1. Chalmette Area Plan:

a. Orleans Levee District: New agreements of assurances covering all project cooperation requirements and a deferred payment plan as authorized by the Water Resources Development Act of 1974 were executed on 30 March 1976. These assurances were accepted on behalf of the United States on 7 December 1977.

b. St. Bernard Parish Police Jury and Lake Borgne Basin Levee District: New joint agreements of assurances covering all project cooperation requirements and a deferred payment plan as authorized by the Water Resources Development Act of 1974, were executed on 2 April 1976. These assurances were accepted on behalf of the United States on 7 December 1977.

2. High Level Plan:

a. Orleans Levee District: For the Barrier Plan, new agreements of assurances covering all project cooperation requirements and a deferred payment plan as authorized by the Water Resources Development Act of 1974, were executed on 30 March 1976. These assurances were accepted on behalf of the United States on 7 December 1977. Amended assurances for the High Level Plan were executed by the local sponsor on 29 May 1985, and accepted by the United States on 21 June 1985.

b. St. Tammany Parish: The Louisiana Office of Public Works executed an act of assurance dated 8 November 1976, agreeing to fulfill all project cooperation requirements for that portion of the project in St. Tammany Parish. These assurances were accepted on behalf of the United States on 7 December 1977. Amended assurances for the High Level Plan are required; however, due to failure of the local sponsor to agree to the items of local cooperation, this portion of the project has an indefinite completion date.

c. Pontchartrain Levee District: New agreements of assurances covering all project cooperation requirements and a deferred payment plan as authorized by the Water Resources Development Act of 1974, were executed on 20 September 1976. On 8 November 1976, the Louisiana Office of Public Works agreed to lend financial assistance above $100,000 to the Pontchartrain Levee District for that portion of the Barrier Plan which is the responsibility of that levee district. These assurances were accepted on behalf of the United States on 7 December 1977. Supplemental assurances for the High Level Plan were executed by the Pontchartrain Levee District for the St. Charles Parish portion of the project on 20 April 1987, and accepted on behalf of the United States on 7 August 1987.

d. East Jefferson Levee District: Supplemental assurances for the High Level Plan were executed by the East Jefferson Levee District for the Jefferson Parish portion of the project on 16 January 1987. A financial plan was received on 25 November 1987, and accepted on behalf of the United States on 21 December 1987. These levees were previously the responsibility of the Pontchartrain Levee District.

COMPARISON OF FEDERAL COST ESTIMATE: The current Federal cost estimate of $525,000,000 is an increase of $5,000,000 from the latest estimate ($520,000,000) presented to Congress (FY 2000). This change includes the following item:

Item	Amount
Price Escalation on Construction Features	$ 5,000,000
Total	$ 5,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed with the Council on Environmental Quality on 17 January 1975. By court order dated 30 December 1977, a revised Environmental Impact Statement was ordered. A draft revised Environmental Impact Statement for the High Level Plan and the Reevaluation Report, which documents the proposal to adopt that plan instead of the Barrier Plan, were released to the public and filed with the Environmental Protection Agency on 16 December 1983. The final revised Environmental Impact Statement was filed with the Environmental Protection Agency on 7 December 1984.

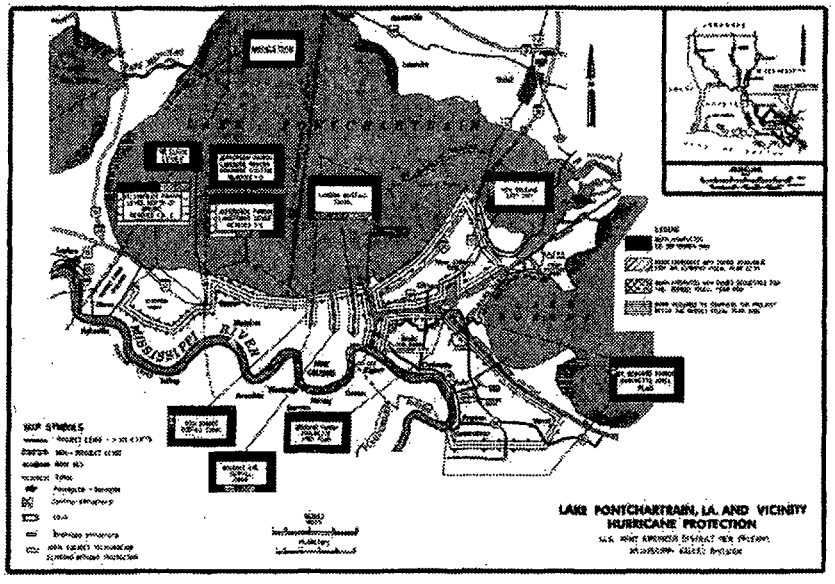
OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in Fiscal Year 1966, and funds to initiate construction were appropriated in Fiscal Year 1967.

Authorizations

		Estimated Cost and Year of Price Level
FC Act of 1965 dated 27 October 1965 (PL 89-298) (HD 231/89/1)	A program for protection from hurricane flood levels at New Orleans, LA and surrounding areas by means of levees, floodwalls, control structures, navigation structures, locks, dams and drainage structures.	$56,235,000 (1961)[1]
Water Resources Development Act of 1974 dated 7 March 1974 (PL 93-251) Section 92	A modification of the FC Act of 1965 (PL 89-298) to provide that non-Federal public bodies may agree to pay the unpaid balance of the cash payment due with interest, in yearly installments.	
Water Resources Development Act of 1986, dated 17 November 1986 (PL 99-662), Section 805	A modification of the project to include construction of a floodwall with sluice gates or other necessary means to ensure that hurricane-flood protection within Jefferson Parish will be unimpaired as a result of any pumping station constructed by local interests.	$3,500,000 (1985)
Water Resources Development Act of 1990, dated 28 November 1990 (PL 101-640) Section 116(k)	A restudy of and report on project benefits to determine whether or not sponsors have received expected benefits and whether or not there should be a reallocation of costs as a result of any unrealized expected benefits. No non-Federal payment for the St. Bernard Parish portion of project was required during the study period (28 November 1990 - 28 November 1991)	
Water Resources Development Act of 1992, dated 31 October 1992 (PL 102-580) Section 102(j)(2)	A reevaluation of the reallocation of project cost based on the benefit study required by the WRDA 1990 Sec. 116(k)	

[1] This is net cost to the Federal Government. The gross cost is $60,185,000. The difference is $3,950,000, which is capitalized value at 3-1/8 percent interest over 100 years for O&M on Rigolets Lock which is to be contributed by local interests and used by the Federal government for project construction.

Water Resources Development Act of 1992, dated 31 October 1992 (PL 102-580) Section 102(j)(1)	A modification to the project to include conveying landsite runoff from the Jefferson Parish Lakefront levee from the levee right-of-way to the street drainage system.
Water Resources Development Act of 1996, dated 12 October 1996 (PL 109-843) section 325	A modification to the project to provide that St. Bernard Parish, Louisiana, and the Lake Borgue Basin Levee District, Louisiana, shall not be required to pay the unpaid balance, including interest, of the non-Federal cost-share of the project.


LAKE PONTCHARTRAIN, LA. AND VICINITY
HURRICANE PROTECTION

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Larose to Golden Meadow, Louisiana (Hurricane Protection) (Continuing)

LOCATION: The project is located in Lafourche Parish, Louisiana, about 28 miles southwest of New Orleans and about 25 miles inland from the Gulf of Mexico along Bayou Lafourche, south of the Gulf Intracoastal Waterway, extending from Larose to Golden Meadow, a distance of about 16 miles.

DESCRIPTION: The project consists of a ring levee approximately 40 miles in length encircling the areas along Bayou Lafourche from Larose to Golden Meadow and extending approximately 9,800 feet from each side of the bayou. Enlargement of about 3 miles of the existing levee at Golden Meadow and construction of floodgates on Bayou Lafourche at the upper and lower limits of the protection system would be used for navigation and hurricane protection purposes. Approximately 8 miles of low interior levees and eight multi-barrelled culverts controlled by flap gates are needed to regulate intercepted drainage. All work is programmed.

AUTHORIZATION: Flood Control Act of 1965.

REMAINING BENEFIT - REMAINING COST RATIO: 20.1 to 1 at 3-1/4 percent.

TOTAL BENEFIT - COST RATIO: 1.9 to 1 at 3-1/4 percent.

INITIAL BENEFIT - COST RATIO: 1.4 to 1 at 3-1/4 percent (FY 1972).

BASIS OF BENEFIT - COST RATIO: Benefits are based on General Design Memorandum Number 1, and Supplement Number 1, approved 18 May 1973 at 1971 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$ 80,000,000		Entire Project	88	Being determined
Estimated Non-Federal Cost		34,000,000				
Cash Contribution	$ 6,479,000					
Other	27,521,000					
Total Estimated Project Cost		$114,000,000				
Allocations to 30 September 1999		71,819,000				
Conference Allowance for FY 2000		2,000,000				
Allocation for FY 2000		1,715,000 [1]				
Allocations through FY 2000		73,534,000	92			
Allocation Requested for FY 2001		1,414,000	94			
Programmed Balance to Complete After FY 2001		$ 5,052,000				
Unprogrammed Balance to Complete After FY 2001		0				

PHYSICAL DATA

Levees	Floodgates	Drainage Structures
Loop levee approximately 40 miles in length along both banks of Bayou Lafourche; enlargement of three miles of levees at Golden Meadow; eight miles of low interior levee to regulate intercepted drainage.	2	Eight multi-barreled culverts

JUSTIFICATION: The project area is of great economic importance to the State of Louisiana, and includes lands and improvements having an aggregate value of approximately $203,904,000 (1995 prices). The population of the area was 20,000 in 1980 and has increased steadily. While oil and gas production, commercial fisheries, and related service industries dominate the economy of the area, there is a wide spectrum of economic activity.

Situated within a region of high hurricane incidence (on the average, two hurricanes threaten the Louisiana coast every three years), the project area is highly vulnerable to overflow from the tidal surges which accompany hurricanes. The highest flood stage during the hurricane of 1915 was 5.5 feet at Golden Meadow, taken from a high-water mark. Should a hurricane similar to that of 1915 move through the area, damages of approximately $10,962,000 (1995 prices) could be expected. Hurricane Juan (1985) was accompanied by flooding of 6.6 feet, as recorded on the Leeville gauge. Damages sustained during Hurricane Juan were

1 Reflects $285,000 reduction assigned as savings and slippage.

$35,000,000 and at current prices (1995), $44,866,000. The flood duration was from two days to one week. Damages began at 3 feet, with significant damages at 4.5 feet. Should a major hurricane approaching the standard project hurricane in intensity move through the area, the entire project area would be submerged in the tidal surge, and monetary damages would likely amount to $86,811,000 (1995 prices). This damage would include minor crop losses, but the bulk of the damage would consist of physical damage to residential, commercial, and industrial establishments. Residential and commercial facilities are valued at $52,000,000 (1971 prices), excluding contents, plus $3,500,000 (1971 prices), or $207,713,000 (1995 price levels). Average annual damages with the project are negligible (zero), while without the project they are $14,947,000 (1995 price levels). Flood damages prevented on future developments were determined by projecting future damages at rates equal to the projected population growth and bringing them back to present value by applying a discount rate of 3-1/4 percent. Present values were then amortized for the life of the project to obtain average annual benefits on future damages prevented. The relationship between depth of flooding and percent damage of structures and contents was derived from detailed studies of flood damages in the coastal area of Louisiana for four hurricanes, Carla (1961), Hilda (1964), Betsy (1965) and Camille (1969). These in-depth studies were made for flood insurance rate studies conducted by the U.S. Army Corps of Engineers for the Federal Insurance Administration.

Lafourche Parish has been determined to be an area of "substantial and persistent" unemployment.

The project will provide protection against flooding from hurricanes having a frequency of occurrence of once in 100 years. The average annual benefits are as follows:

Annual Benefits	Amount
Flood Control	$ 3,559,000
Area Redevelopment	24,000
Total	$ 3,583,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Lands and Damages	$ 3,000
Complete Section D - South, 3rd Lift	472,000
Complete Section D-North, 2nd Lift	431,000
Surveys and Layouts	60,000
Planning, Engineering and Design	200,000
Supervision and Administration	248,000
Total	$ 1,414,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Flood Control Act of 1965, the Non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation and Replacement Costs
Provide lands, easements, and rights-of-way, including borrow and dredged material disposal areas (as applicable).	$ 4,973,000	$
Accomplish alterations to roads, pipelines, cables, wharves, oil wells, and any other facilities necessary for construction of the project.	$ 7,966,000	
Pay 30 percent of the total project cost, to include the items listed above and a cash contribution or equivalent work specifically undertaken as an integral part of the project after authorization and in accordance with construction schedules as required by the Chief of Engineers.	$21,061,000	
Bear all cost of operation and maintenance including replacements.		219,000
Total Non-Federal Cost	$34,000,000	$ 219,000

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

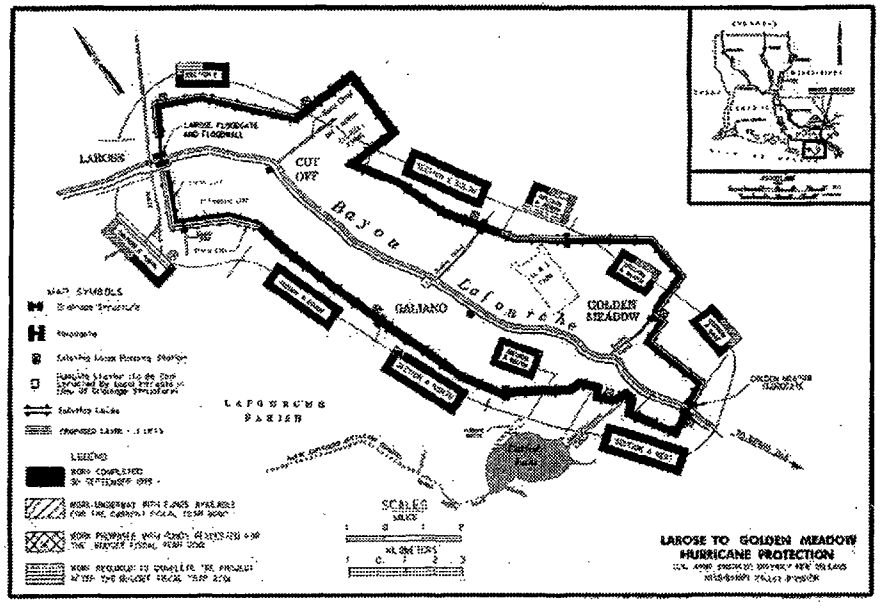
505

STATUS OF LOCAL COOPERATION: Assurances covering all requirements of local cooperation were received from the South Lafourche Levee District and accepted on behalf of the United States on 29 August 1973. The South Lafourche Levee District has requested and received funds from the State of Louisiana for rights-of-way acquisition and relocations required to support construction work. In addition to lands and damages and relocations, the South Lafourche Levee District has accomplished levee construction, pumping station and lateral levee construction, and administrative/operating work.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $80,000,000 is the same as the last estimate presented to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Final Environmental Impact Statement was filed with the Council on Environmental Quality on 13 May 1974. A draft supplement to the Environmental Impact Statement covering the revised levee alignments, previously unidentified wetland impacts, and necessary mitigation, was filed with the Environmental Protection Agency on 20 July 1984, and the final supplement was filed with the Environmental Protection Agency on 1 March 1985. An Environmental Assessment covering the revised levee alignment for Section D-North was distributed for review on 3 December 1990, and a Finding of No Significant Impact for the revised alignment was signed on 8 March 1991.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in Fiscal Year 1967, and funds to initiate construction were appropriated in Fiscal Year 1972. The scheduled completion date is being determined.


LAROSE
CUT OFF
Bayou
Lafourche
GALIANO
GOLDEN MEADOW
LAFOURCHE PARISH
LAROSE TO GOLDEN MEADOW HURRICANE PROTECTION

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: New Orleans to Venice, Louisiana (Hurricane Protection)(Continuing)

LOCATION: The project is located in Plaquemines Parish, along the east bank of the Mississippi River from Phoenix, Louisiana, approximately 28 miles southeast of New Orleans, Louisiana to Bohemia, Louisiana and from St. Jude, Louisiana, on the west bank approximately 39 miles southeast of New Orleans, Louisiana to Venice, Louisiana.

DESCRIPTION: The recommended plan on the west side of the Mississippi River consists of enlarging approximately 3 miles of existing back levee between St. Jude and City Price, Louisiana; enlarging approximately 13 miles of existing back levee between City Price and Tropical Bend, Louisiana (Reach "A") and installing two 54-inch flap-gated corrugated metal culverts; enlarging approximately 12 miles of existing back levee between Tropical Bend and Fort Jackson, Louisiana (Reach "B-1") and constructing a floodgate at Empire, Louisiana; enlarging approximately 9 miles of existing back levee between Fort Jackson and Venice, Louisiana (Reach "B-2"); and enlarging approximately 34 miles of existing Mississippi River levee from Mile 10 to Mile 44 above Head of Passes (West Bank River Levee). On the east side of the Mississippi River, the recommended plan consists of enlarging approximately 16 miles of existing back levee between Phoenix, and Bohemia, Louisiana (Reach "C") and installing ten flap-gated culverts. All work is programmed.

AUTHORIZATION: Flood Control Act of 1962.

REMAINING BENEFIT-REMAINING COST RATIO: 4.2 to 1 at 2-7/8 percent.

TOTAL BENEFIT-COST RATIO: 2.4 to 1 at 2-7/8 percent.

INITIAL BENEFIT-COST RATIO: 2.4 to 1 at 2-7/8 percent (FY 1964).

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluation approved in February 1972 at 1971 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST
Estimated Federal Cost		$173,000,000	
Estimated Non-Federal Cost		74,000,000[1]	
Cash Contribution	$26,378,000		
Other	47,622,000		
Total Estimated Project Cost		$247,000,000[1]	
Allocations to 30 September 1999		143,078,000	
Conference Allowance for Fiscal Year 2000		2,000,000	
Allocation for Fiscal Year 2000		2,000,000[1]	
Allocation through Fiscal Year 2000		145,078,000	84
Allocation Requested for Fiscal Year 2001		1,800,000	85
Programmed Balance to Complete After Fiscal Year 2001		$ 26,122,000	
Unprogrammed Balance to Complete After Fiscal Year 2001		$ 0	

STATUS: (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
St. Jude to City Price	60	Being determined
Reach "A" - City Price to Tropical Bend	96	Being determined
Reach "B-1" - Tropical Bend to Fort Jackson	92	Being determined
Reach "B-2" - Fort Jackson to Venice	99	Being determined
Reach "C"-Phoenix to Bohemia	90	Being determined
West Bank River Levee	60	Being determined
Entire Project	79	Being determined

Each reach, when complete, will provide interim protection from flooding.

[1] Cost does not include $505,000 Non-Federal work authorized by the Post Authorization Change Report for St. Jude to City Price Levee Enlargement, approved on 6 March 1992.

[2] Reflects $285,000 reduction assigned as savings and slippage and $285,000 reprogramming to the project.

PHYSICAL DATA

Reach	Levees and Floodwalls	Drainage Structure
St. Jude to City Price	Enlarge approximately 3 miles	None
"A" - City Price to Tropical Bend	Enlarge approximately 13 miles	Two 54" flap-gated corrugated metal culverts.
"B-1" - Tropical Bend to Fort Jackson	Enlarge approximately 12 miles	Floodgate at Empire
"B-2" - Fort Jackson to Venice	Enlarge approximately 9 miles	None
"C" - Phoenix to Bohemia	Enlarge approximately 16 miles	Ten flap-gated culverts
West Bank River Levee	Enlarge approximately 34 miles of levee on the Mississippi River west bank from Mile 10 to Mile 44 above Head of Passes.	None

JUSTIFICATION: The project will provide protection from hurricane tidal overflow to a major part of the developed and inhabited area along the Mississippi River delta. Approximately seventy-five percent of the population and seventy percent of the improved lands within the delta are contained in the project area. Hurricanes in the past have caused overtopping of the existing protective works, resulting in extensive damage to structures, industries, other urban and rural developments, crops, and livestock. Evacuation of inhabitants has been required frequently. The most recent storm causing extensive damages, Hurricane Camille, occurred on 17 August 1969. Severe damages were sustained in Reaches B-1 and B-2 (Empire to Venice), and somewhat lesser damages were sustained in Reach A (Port Sulphur to Empire). Estimated flood damages sustained in the project area due to hurricanes are as follows:

Year of Hurricane	Actual Damages Sustained	Damages at Present Value and Conditions of Development
September 1915	$ 2,325,000	$154,922,000
September 1956 (Flossy)	1,709,000	15,089,000
September 1957 (Esther)	1,180,000	10,536,000
September 1965 (Betsy)	45,500,000	298,008,000
August 1969 (Camille)	62,500,000	291,894,000
October 1985 (Juan)	46,000,000	66,078,000

The present value and type of property subject to flood damages are as follows:

	Flood of Record	Protection by Authorized Works Against Design Flood
Number of Acres:		
Agriculture or undeveloped	11,800	11,800
Residential	2,500	2,500
Commercial	600	600
Marshland	0	0
Total	14,900	14,900
Value of Lands and Improvements:		
Lands	$216,300,000	$216,300,000
Improvements	$426,200,000	$426,200,000
Total	$642,500,000	$642,500,000

The back levees are designed for protection against hurricane-generated stages of 100-year frequency. The maximum flood of record on the east side of the Mississippi River occurred in September 1965 (Betsy). On the west side, the maximum flood occurred in August 1969 (Camille). The damages from Hurricane Betsy were $45,500,000 in 1965 ($298,008,000 present). The damages from Hurricane Camille were $62,500,000 in 1969 ($291,894,000 present).

The duration of flooding within the project area lasted from about three days to several weeks. The most recent flood event was Hurricane Juan in October 1985.

Benefits from the project consist of reduction of flood damage from hurricane tidal overflow caused by overtopping of the existing back levees and land intensification. The average annual benefits are as follows:

Annual Benefits	Amount
Flood Control	$ 14,986,000
Mitigation	13,000
Total	$ 14,999,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Reach A	
Planning, Engineering and Design	$ 59,000
Subtotal	$ 59,000
Reach B-1	
Lands and Damages	$ 8,000
Planning, Engineering and Design	203,000
Subtotal	$ 211,000
Reach B-2	
Lands and Damages	$ 3,000
Planning, Engineering and Design	267,000
Subtotal	$ 270,000
West Bank River Levees	
Lands and Damages	$ 15,000
Initiate Station 1313+77 - 1793+08, 2nd Enlargement	804,000
Surveys and Layouts	25,000
Planning, Engineering and Design	194,000
Supervision and Administration	222,000
Subtotal	$1,260,000
Total	$1,800,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Flood Control Act of 1962, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation and Replacement Cost
Provide lands, easements, and rights-of-way including borrow and dredge material disposal areas.	$ 9,342,000	$
Accomplish alterations to roads, pipelines, cables, wharves, oil wells, and any other facilities necessary for construction of the project.	6,213,000	
Pay 30 percent of the total project cost, to include the items listed above and a cash contribution or equivalent work specifically undertaken as an integral part of the project after authorization and in accordance with construction schedules as required by the Chief of Engineers.	58,445,000	
Bear all costs of operation, maintenance, repair, rehabilitation, and replacement.		830,900
Subtotal Non-Federal Costs	$74,000,000	$ 830,900
Bear all of the costs of the construction of the St. Jude to City Price, LA levee enlargement in excess of the cost of the Federal Plan.	505,000	
Total Non-Federal Costs	$74,505,000	$ 830,900

The Non-Federal sponsor has agreed to make all required payments concurrently with project construction.

In addition, prior to project authorization, local interests expended in excess of $3,761,000 between 1 April 1926 and 31 December 1959, in the Mississippi River delta area below New Orleans for levees and interior drainage facilities to provide protection against inundation from storm tides.

STATUS OF LOCAL COOPERATION: Assurances of local cooperation for Reaches A, B-1, B-2, and C furnished by the Plaquemines Parish Commission Council were accepted on behalf of the United States on 14 April 1965. Supplemental assurances covering provisions of the Uniform Relocations Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, furnished by the Plaquemines Parish Commission Council were accepted on behalf of the United States on 20 June 1973. The local sponsor, on 29 December 1987, provided the supplemental assurances of local cooperation for the West Bank River Levee. These assurances were accepted on 28 January 1988. Supplemental assurances of local cooperation for the St. Jude to City Price, Louisiana, levee enlargement were furnished by the Plaquemines Parish Government on 21 December 1992 and were accepted on 18 February 1993.

Local interests have constructed the first and second lifts of Reach C. Based on more detailed planning of construction, a third and fourth lift are required to raise the existing levee to project grade. Credit for equivalent work in lieu of a cash contribution is given upon evaluation of the construction. Local interests have been providing their required cash contributions on schedule to maintain their proportionate share of the project costs.

COMPARISON OF FEDERAL COST ESTIMATE: The current Federal cost estimate of $173,000,000 is an increase of $2,000,000 from the latest estimate of $171,000,000 presented to Congress for the FY 2000 budget. This change includes the following item:

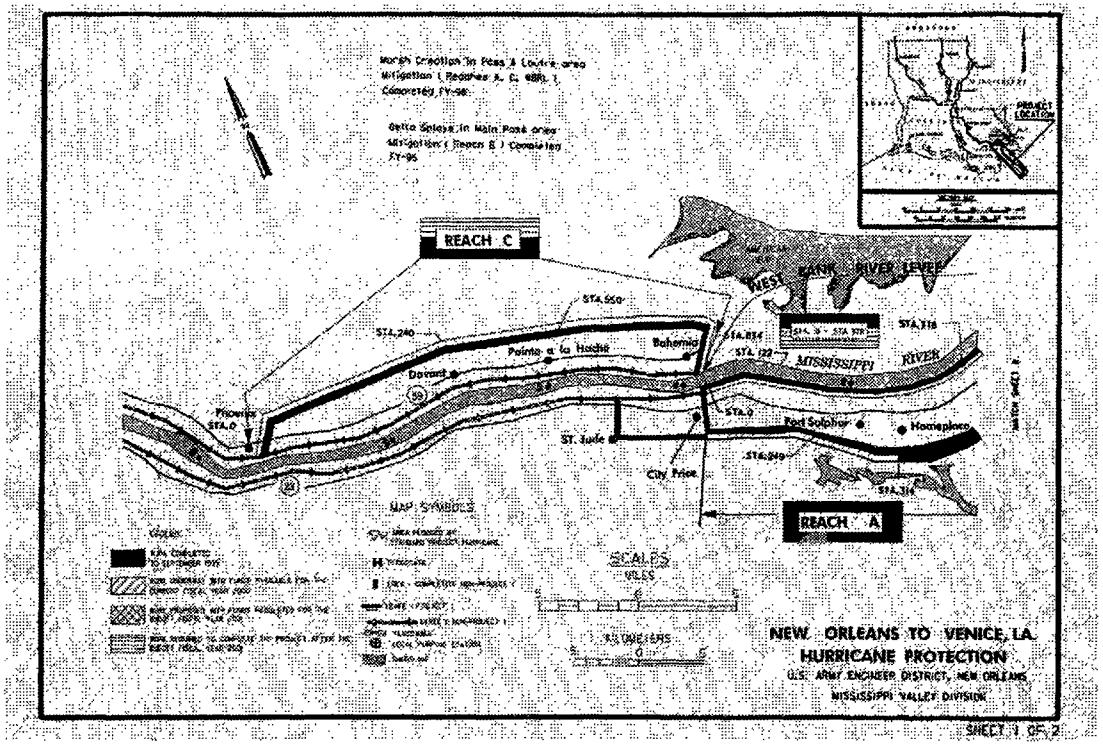
Item	Amount
Price Escalation on Construction Features	$2,000,000
Total	$2,000,000

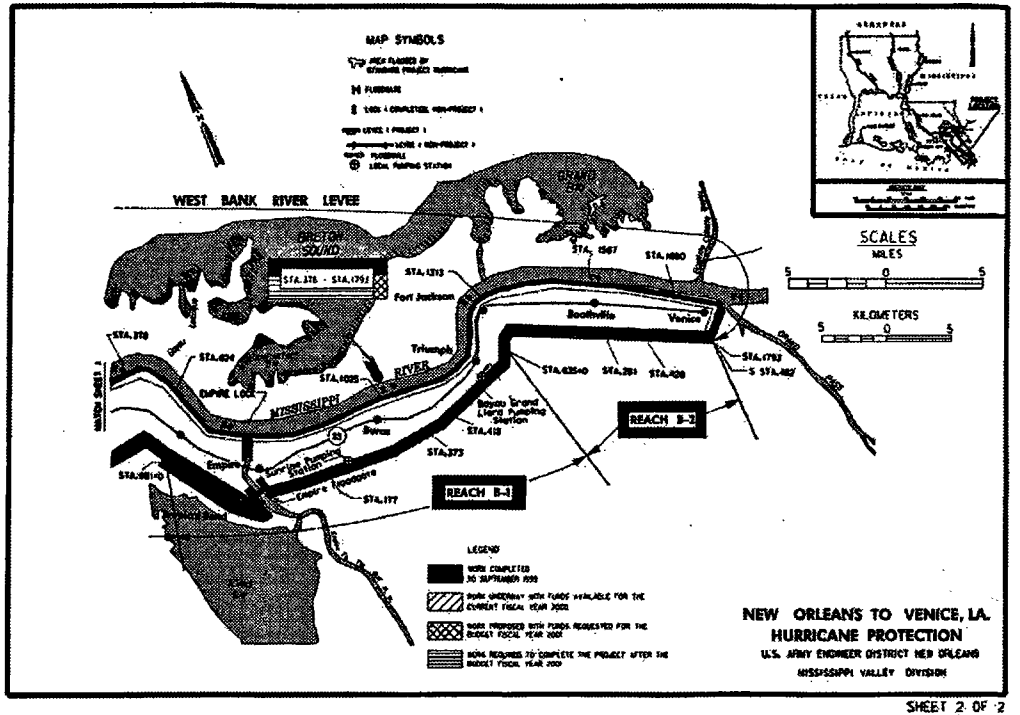
STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed with the Council on Environmental Quality on 24 January 1975; however, during subsequent review, it became apparent that the final Environmental Impact Statement was deficient. A draft Environmental Impact Statement supplement was submitted to the Environmental Protection Agency on 23 March 1984, and the final Environmental Impact Statement supplement with a Section 404 evaluation was filed with the Environmental Protection Agency on 12 April 1985. A draft Supplemental Environmental Impact Statement (Supplement II) for work on the West Bank River Levee was submitted to the Environmental Protection Agency on 5 August 1987, and the final was submitted on 4 December 1987.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in Fiscal Year 1963 and funds to initiate construction were appropriated in Fiscal Year 1964.

The project will impact approximately 3,000 acres of habitat (not including shallow open water). Of the 3,000 acres, 1,103 acres will be mitigated. A mitigation plan has been developed for Reach B that will produce new marsh in the Delta National Wildlife Refuge using delta-splays. Five crevasses in the bank at Main Pass are required for Reach B and have been constructed. A Supplemental Mitigation Plan has been developed to readdress impacts on Reach A and also determine mitigation requirements for Reach C and the West Bank River Levee. Approval of this Supplemental Mitigation Report was received in 1996. This supplemental plan, consisting of creating and preserving marsh, was constructed in 1997.

At the request of Plaquemines Parish, a Post Authorization Change report was prepared to incorporate the area from St. Jude to City Price (an additional 3.3 miles of levee protection) into the project. This area is adjacent to the upstream end of Reach A. Costs for this work are 100 percent non-Federal. Plaquemines Parish wants to include this reach so that flood insurance can be obtained by residents and industry in the area. The lateral levee at City Price, which is currently the upstream terminus of Reach A, will not be constructed. The savings achieved by not constructing the lateral levee and its related relocations will be creditable to the local sponsor. The Post Authorization Change report was submitted to Lower Mississippi Valley Division on 5 February 1992, and was approved 6 March 1992. Proposed supplemental assurances were approved on 10 July 1992. Plaquemines Parish Government executed the supplemental assurances on 21 December 1992 and they were accepted on 18 February 1993.


REACH C
REACH A
WEST BANK HURRICANE PROTECTION LEVEE
MISSISSIPPI RIVER
Pilottown
Venice
Boothville
Port Sulphur
Homeplace
Empire
Buras
Triumph
Belle Chasse
Gretna
Algiers
New Orleans
Chalmette
Arabi
Meraux
Poydras
Violet
Caernarvon
Reserve
Lafitte
Barataria
Crown Point
Westwego
Harvey
Marrero
Estelle
Terrytown
Avondale
Waggaman
Kenner
Metairie
Bridge City
Gretna
Belle Chasse
Point a la Hache
Davant
Phoenix
St. Jude
City Price
Bohemia
STA. 0
STA. 240
STA. 950
STA. 834
STA. 122
STA. 0
STA. 849
STA. 316
STA. 314
MAP SYMBOLS
SCALES
MILES
KILOMETERS
PROJECT LOCATION
NEW ORLEANS TO VENICE, LA.
HURRICANE PROTECTION
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
MISSISSIPPI VALLEY DIVISION
SHEET 1 OF 2


MAP SYMBOLS
WEST BANK RIVER LEVEE
GULF OF MEXICO
CHEF MENTEUR PASS
CHEF MENTEUR
CHEF MENTEUR PASS
CHEF OF SOUND
STA. 376 - STA. 1751
STA. 1312
Fort Jackson
STA. 1567
STA. 1880
Boothville
Venice
SCALES
MILES
5 0 5
KILOMETERS
5 0 5
STA. 370
Dam
STA. 824
STA. 1025
EMPIRE LOCK
MISSISSIPPI
RIVER
Triumph
STA. 1635+0
STA. 281
STA. 928
STA. 1752
STA. 1827
Empire
Bayou Grand Liard Pumping Station
Davis Pond Diversion
STA. 418
STA. 373
STA. 177
REACH B-2
REACH B-1
LEGEND
NEW ORLEANS TO VENICE, LA.
HURRICANE PROTECTION
U.S. ARMY ENGINEER DISTRICT NEW ORLEANS
MISSISSIPPI VALLEY DIVISION

SHEET 2 OF 2

APPROPRIATION TITLE: Construction, General - Local Protection (Urban Flood Control)

PROJECT: *Southeast Louisiana, Louisiana (Continuing)*

LOCATION: The project is located in the urban areas of Jefferson, Orleans and St. Tammany parishes in southeast Louisiana. These areas make up the three major urban centers of the New Orleans Metropolitan Statistical Area.

DESCRIPTION: Programmed work includes canal improvements, removal of canal obstructions, and increased pumping capacities in Jefferson and Orleans Parishes. Channel improvement on Mile Branch near Covington, Louisiana, in St. Tammany Parish is unprogrammed.

AUTHORIZATION: Energy and Water Development Appropriations Act, Fiscal Year 1996 (Section 108), and the Water Resources Development Act of 1996 and 1999 (Section 533).

REMAINING BENEFIT - REMAINING COST RATIO: 2.8 to 1 at 7 5/8 percent.

TOTAL BENEFIT - COST RATIO: 2.5 to 1 at 8 percent.

INITIAL BENEFIT - COST RATIO: 2.5 to 1 at 8 percent (FY 1996).

BASIS OF BENEFIT - COST RATIO: Benefits are based on the Jefferson and Orleans Parishes, Louisiana, Urban Flood Control and Water Quality Management reconnaissance study dated July 1992 at October 1991 price levels and the Tangipahoa, Tchefuncte, and Tickfaw Rivers reconnaissance study dated June 1991 at October 1990 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$399,000,000		Jefferson Parish	20	Being determined
Estimated Non-Federal Cost		138,000,000		Orleans Parish	5	Being determined
Cash Contribution	58,373,000			St. Tammany Parish		Indefinite
Other	79,627,000					
Total Estimated Project Cost		$537,000,000		PHYSICAL DATA		
Allocations to 30 September 1999		127,980,000		Channel Improvement: 7 miles		
Conference Allowance for FY 2000		47,066,000		Pumping Stations Modifications: 6		
Allocation for FY 2000		40,363,000 [1]		New Pump Stations: 2		
Allocations through FY 2000		168,343,000	42			
Allocation Requested for FY 2001		47,260,000	54			
Programmed Balance to Complete After FY 2001		135,194,000				
Unprogrammed Balance to Complete After FY 2001		$ 48,203,000				

JUSTIFICATION: Jefferson, Orleans, and St. Tammany parishes are located in southeast Louisiana. They make up the three major urban centers of the New Orleans Metropolitan Statistical Area. Jefferson Parish has a population of 450,000 (1990). Orleans Parish and the City of New Orleans have coincident boundaries and a population of 500,000 (1990). Jefferson and Orleans Parishes are located in the deltaic plain of the Mississippi River, within the coastal zone of Louisiana. St. Tammany Parish, on the north shore of Lake Pontchartrain, is developing rapidly with a population of 143,000 in 1990, a 30-percent increase since 1980.

Jefferson and Orleans Parishes are bisected by the Mississippi River, creating an east and a west bank area. Generally, the areas near the Mississippi River are above sea level. However, ground elevations decrease with distance from the river and some areas within the levee systems have elevations of as much as nine feet below sea level. Most of the developed areas are protected by levee systems from river and hurricane flooding and drained by pumps which discharge primarily into estuarine water bodies such as Lake Pontchartrain, Barataria Bay, and Lake Borgne.

The leveed areas in Jefferson Parish are divided into three hydrologically distinct basins (East Bank, West Bank - East of Harvey Canal, and West Bank - West of Harvey Canal) that are further subdivided into many sub-basins by natural and man-made barriers. These basins are webbed with canals that terminate at pumping stations. The east bank includes the cities of Kenner and Harahan and unincorporated Metairie. The west bank includes the cities of Westwego and Gretna and the unincorporated communities of Avondale, Bridge City, Marrero, Harvey, Terrytown, and Lafitte.

Orleans Parish is divided into many sub-basins by natural and man-made barriers. These basins are also webbed with canals that terminate at pumping stations. The City of New Orleans makes up an east bank and a west bank basin. The west bank community is commonly referred to as Algiers.

[1] Reflects $6,703,000 reduction assigned savings and slippage.

St. Tammany Parish includes the cities of Covington, Slidell, Mandeville, Madisonville, Lacombe, Abita Springs, and other smaller communities. The parish is characterized by gently rolling hills which become flatter in the south near Lake Pontchartrain. A narrow bank of deltaic plain extends along the shore of the lake. Elevations range from 200 feet in the north to near sea level at the lake. The parish is drained by numerous watersheds of varying size. The Pearl River drains an area along the east side of the parish, and backwater flooding from the river occurs in the southeast near Slidell. The remainder of the parish is drained by the Tchefuncte River, Bayou Lacombe, Bayou Bonfouca, and numerous smaller watersheds. Rapid growth, primarily in the southern portion of the parish, has increased rainfall runoff and flooding. The area along the north shore of the lake, including portions of Slidell, Mandeville, Madisonville, and Lacombe, are also subject to flooding from hurricane surges.

Approximately 30 percent of the state's population and 40 percent of the state's economy reside in the three affected parishes which have suffered great flooding losses. Local interests have made substantial improvement to the existing flood control system but are unable to address the major flooding events that continue to plague the Southeast Louisiana area. Flood damages since 1979 are in the billions of dollars. In the extreme rainfall event that occurred in May 1995, more than 24 inches of rain fell into the basin in less than 24 hours. Damages from this one event were approximately $1.5 billion. The Federal expenditures for this damage recovery are expected to exceed $500 million. The average annual benefits, all flood control, are $7,312,000.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Jefferson Parish	
Lands and Damages	$ 50,000
Continue:	
Swift Canal & Canal A	4,050,000
Whitney Barataria Pumping Station	6,156,000
Suburban Canal P.S. #2	7,439,000
Elmwood P.S. #3	8,000,000
Complete Whitney Canal	463,000
Surveys and Layouts	30,000
Planning, Engineering and Design	563,000
Supervision and Administration	700,000
Subtotal	$27,451,000
Orleans Parish	
Lands and Damages	$ 24,000
Continue:	
Napoleon Ave. Canal	6,886,000
Claiborne Ave., Nashville Ave. to Jena Street	5,641,000
Claiborne Ave., Jena Street to Louisiana Ave.	4,364,000
Broad Street Pumping Station #1	1,400,000
Surveys and Layouts	25,000
Planning, Engineering and Design	969,000
Supervision and Administration	500,000
Subtotal	$19,809,000
Total	$47,260,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation and Replacement Costs
Provide lands, easements, and rights-of-way, including borrow and dredged material disposal areas.	$ 11,804,000	$
Accomplish alterations to roads, pipelines, cables, wharves, oil wells, and any other facilities necessary for construction of the project.	$ 23,783,000	
Bear 25 percent of the total project cost, to include the items listed above and a cash contribution or equivalent work specifically undertaken as an integral part of the project subsequent to the reports cited in the authorizing language.	$102,413,000	
Bear all costs of operation, maintenance, repair, rehabilitation and replacements of all features of the project		1,546,000
Total Non-Federal Cost	$138,000,000	$1,546,000

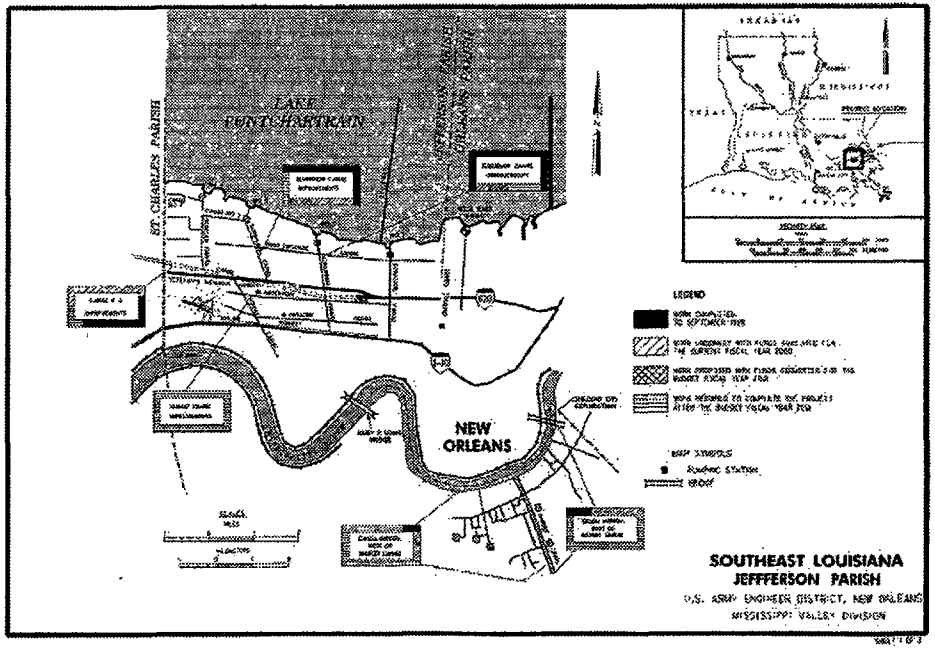
STATUS OF LOCAL COOPERATION: The Project Cooperation Agreements between the Federal Government and Jefferson and Orleans Parishes were executed on January 16, 1997, and January 23, 1997, respectively. The Project Cooperation Agreement for the authorized work in St. Tammany Parish is currently unscheduled. Local interests have accomplished significant work compatible and integral to the project. Actual credit for equivalent work in lieu of cash contributions will be given subject to technical evaluations and audit.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $399,000,000 is an increase of $25,000,000 from the latest estimate of $374,000,000 presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	$-28,534,000
Design Changes	53,534,000
Total	$ 25,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: All environmental documentation associated with the work planned in Jefferson and Orleans Parishes has been completed. The environmental documentation for work in St. Tammany Parish will be completed prior to initiation of construction.

OTHER INFORMATION: Funds to initiate engineering, design and construction were appropriated in Fiscal Year 1996. The total estimated cost for the work described in the reports cited in the authorizing language is $537,000,000. Construction funds for St. Tammany Parish are not programmed for lack of an approved Technical Report. The City of Slidell recently indicated its intent to act as local sponsor for a project within the city limits. A schedule for preparation of a Technical Report is being prepared.


LAKE
PONTCHARTRAIN
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NEW
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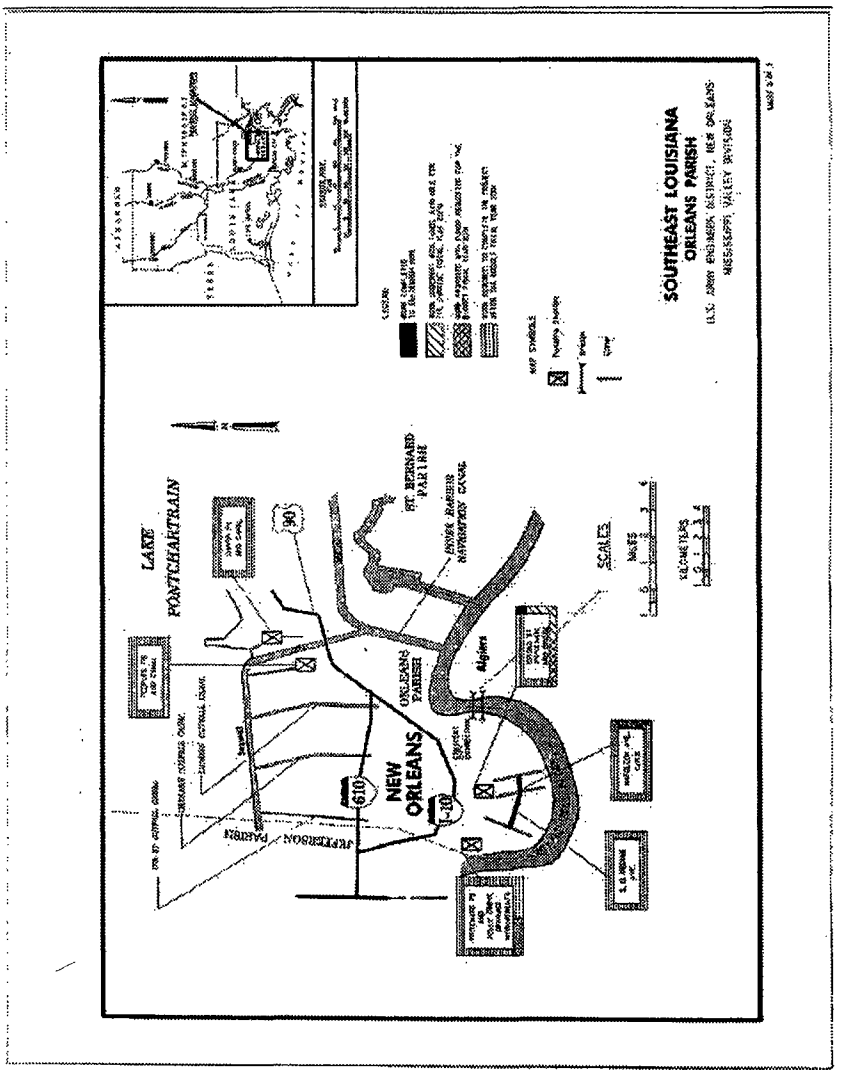
LEGEND
SOUTHEAST LOUISIANA
JEFFERSON PARISH
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
MISSISSIPPI VALLEY DIVISION

523


SOUTHEAST LOUISIANA
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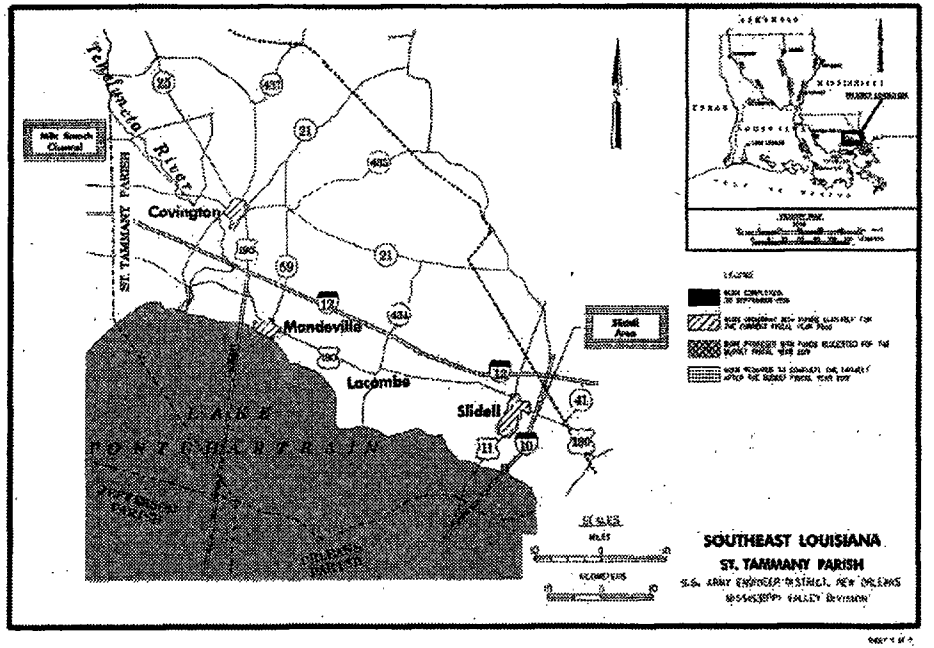
ST. BERNARD PARISH
SCALES
MILES
KILOMETERS


Tchefuncte River
Mile Branch Channel
ST. TAMMANY PARISH
Covington
Mandeville
Lacombe
Slidell
Slidell Area
LAKE
PONTCHARTRAIN
SOUTHEAST LOUISIANA
ST. TAMMANY PARISH

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: West Bank Vicinity, of New Orleans, LA (Hurricane Protection) (Continuing)

LOCATION: The project is located along the west bank of the Mississippi River in the Vicinity of New Orleans in Jefferson, Orleans and Plaquemines Parishes.

DESCRIPTION: The recommended plan consists of new and enlarged levees along the permitted alignment which generally extends from the St. Charles/Jefferson Parish boundary line east along the existing Lake Cataouatche Levee to the Westwego/Bayou Segnette area, from the Westwego area along the existing V-levee alignment to the vicinity of the old Estelle Pumping Station and along the existing Harvey Canal-Bayou Barataria Levee tieing into the floodwall at the Cousins Pump Station, then from the pump station to the navigable sector floodgate complex which is to be constructed in the Harvey Canal near the Cousins Pumping Station. Floodwalls will be used along the levee alignment mentioned above when tieing into pumping stations and when land constraints dictate. The plan also provides for the construction of a navigable floodgate in the Harvey Canal just south of Lapalco Boulevard, and the construction of floodwalls along the east bank of the Harvey Canal generally along Peters Road south of Lapalco Boulevard. The existing levees adjacent to Algiers and Hero Canals will be raised, and the levee along the north bank of the Hero Canal will include a wave berm. Mitigation of significant environmental losses to bottomland hardwood and cypress swamp will be accomplished by acquisition of 1,312 acres of high quality wooded lands including wetlands and implementation of measures designed to primarily improve habitat quality. Deferred construction to address future changes in flood stages due to regional subsidence and sea level rise is unprogrammed.

AUTHORIZATION: Water Resources Development Acts of 1986 and 1996.

REMAINING BENEFIT-REMAINING COST RATIO: 3.8 to 1 at 7 1/8 percent.

TOTAL BENEFIT-COST RATIO: 3.8 to 1 at 7 1/8 percent.

INITIAL BENEFIT-COST RATIO: 3.8 to 1 at 7 1/8 percent.

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available economic analysis provided in the West Bank - East of Harvey Canal Feasibility Report approved in September 1994, updated to October 1998 price levels.

SUMMARIZED FINANCIAL DATA				ACCUM PCT OF EST FED COST
Estimated Federal Cost			$199,000,000	
Programmed Construction		$190,114,000		
Unprogrammed Construction		8,886,000		
Estimated Non-Federal Cost			107,000,000	
Programmed Construction		$102,215,000		
Cash Contribution	$16,782,000			
Other	85,433,000			
Estimated Non-Federal Cost				
Unprogrammed Construction		$ 4,785,000		
Cash Contribution	$ 3,015,000			
Other	1,770,000			
Total Estimated Programmed Construction Cost			292,329,000	
Total Estimated Unprogrammed Construction Cost			13,671,000	
Total Estimated Project Cost			306,000,000	
Allocations to 30 September 1999			44,079,000	
Conference Allowance for FY 2000			15,070,000	
Allocations for FY 2000			12,139,000[2]	
Allocations through FY 2000			56,218,000	28
Allocation Requested for FY 2001			8,065,000	32
Programmed Balance to Complete After FY 2001			$125,831,000	
Unprogrammed Balance to Complete After FY 2001			$ 8,886,000	

STATUS (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Westwego to Harvey	63	Being determined
West of Algiers Canal	0	Being determined
East of Algiers Canal	0	Being determined
Lake Cataouatche	0	Being determined
Entire Project	22	Being determined[1]

PHYSICAL DATA

Westwego to Harvey Canal Area

Construct approximately 22 miles of levee and 2 miles of floodwall.

West of Algiers Canal Area

Construct approximately 11 miles of levee and 5 miles of Floodwalls
Construct a sector floodgate in the Harvey Canal
Increase capacity of the Cousins Pumping Station and the discharge channel by 1000 cfs.

East of Algiers Canal Area

Construct approximately 14 miles of levee and about ½ mile of floodwall.

Lake Cataouatche Area

Construct approximately 10 miles of levee and 2.5 miles of floodwall.

[1] Deferred construction to address future changes in flood stages due to regional subsidence and sea level rise is assumed to occur in 2021.
[2] Reflects $2,146,000 reduction assigned as savings and slippage and $785,000 reprogrammed from the project.

JUSTIFICATION: The project area is generally bounded by the St. Charles/Jefferson Parish line to the west, the Mississippi River to north and east, and Barataria Bay and Lake Salvador to the south. Tidal waters can be carried into the project area through Lakes Cataouatche, Salvador and Barataria Bay which connect to the Gulf of Mexico through Barataria Bay, and into Bayou Segnette, Harvey Canal and Algiers Canal. Fresh water comes into the area from the Mississippi River via the Harvey and Algiers Locks, direct rainfall, and pumpage from leveed areas.

Several hurricanes and tropical storms have passed through or near the project area, including the following major storms: the 1915 hurricane, the 1947 hurricane, and Hurricanes Flossy (1956), Hilda (1964), Betsy (1965), Carmen (1974), Babe (1977), Bob (1979), Danny (1985), Juan (1985), Andrew (1992), and Frances (1998). Hurricane Flossy brought torrential rains and tidal flooding to the project area, with nearby areas recording 16.7 inches of rain in a 24-hour period. Hurricane Hilda raised water levels at Barataria and Lafitte to 3.6 and 4.04 feet National Geodetic Vertical Datum, respectively. Hurricanes Betsy and Carmen also caused flooding to some parts of the project area. Hurricane Juan, generally characteristic of a storm event of approximately 25 years, broke high water records throughout the area, with stages in the Harvey Canal estimated to be the equivalent of a 60-year event. On the west bank, three local levees were breached and several subdivisions were flooded by tidal inundation and the long duration of the high stages. Extensive flooding occurred west of the Harvey Canal. The total precipitation from Hurricane Juan ranged from 8 to 12 inches over the project area. This storm clearly illustrated that the present local levee system is unable to provide protection against a tidal surge. The quick action and massive flood fighting efforts by the West Jefferson Levee District, the Parish of Jefferson, the National Guard, and thousands of volunteers prevented flooding of potentially catastrophic proportions. The project will provide Standard Project Hurricane (SPH) (about a 500-year event) protection to approximately 77,908 acres of mostly urban land with a population of 201,000 (1990 census). The average annual benefits, all flood control, are $71,199,000.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Westwego to Harvey Canal Area	
Initiate:	
Reach 3 Structures (Mt Kerr/Ames/Oak Cove F/W)	$ 561,000
Surveys and Layout	50,000
Lands and Damages	10,000
Planning, Engineering and Design	100,000
Supervision and Administration	400,000
Subtotal	$1,121,000
West of Algiers Canal Area	
Initiate:	
Sector Gate Harvey Canal #1	$4,211,000
Lands and Damages	20,000
Planning, Engineering and Design	673,000
Supervision and Administration	200,000
Subtotal	$5,104,000

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East of Algiers Canal Area	
Continue:	
Hero Canal Levee (1st Lift)	$1,105,000
Lands and Damages	10,000
Planning, Engineering and Design	50,000
Supervision and Administration	20,000
Subtotal	$1,185,000
Lake Cataouatche Area	
Complete:	
Segnette State Park Floodwall	$ 468,000
Land and Damages	10,000
Planning, Engineering and Design	10,000
Supervision and Administration	167,000
Subtotal	$ 655,000
Total	$8,065,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986 (PL 99-662), the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, and Replacement Costs
Provide lands, easements, and rights-of-way, and borrow and excavated material disposal areas.	$ 25,409,000	$
Accomplish all alterations and relocations to utilities and facilities (other than railroad bridges) necessary for construction of the project.	$ 11,902,000	
Pay 35 percent of the cost allocated to hurricane protection. Funds provided by non-Federal interests for the interim hurricane protection may be considered beneficial expenditures and may be credited as a part of the non-Federal contribution of the project pursuant to the Water Resources Development Act of 1986.	$ 69,689,000	
Bear all costs of operation, maintenance, repair, rehabilitation, and replacement of all features of hurricane protection facilities.		320,200
Total Non-Federal Costs	$107,000,000	$ 320,000

STATUS OF LOCAL COOPERATION: A Project Cooperation Agreement between the West Jefferson Levee District, previous local sponsor for the project, and the Federal Government was executed on 18 December 1990. Subsequent Memorandum of Agreement between the Louisiana Department of Transportation and Development (LADOTD) and the Federal Government, dated 16 May 1995, designated LADOTD as the project local sponsor. An amended Project Cooperation Agreement between LADOTD and the Federal Government was required for the east and west of the Algiers Canal and Lake Cataouatche area. The amended Project Cooperation Agreement (PCA) was executed 26 April 1999.

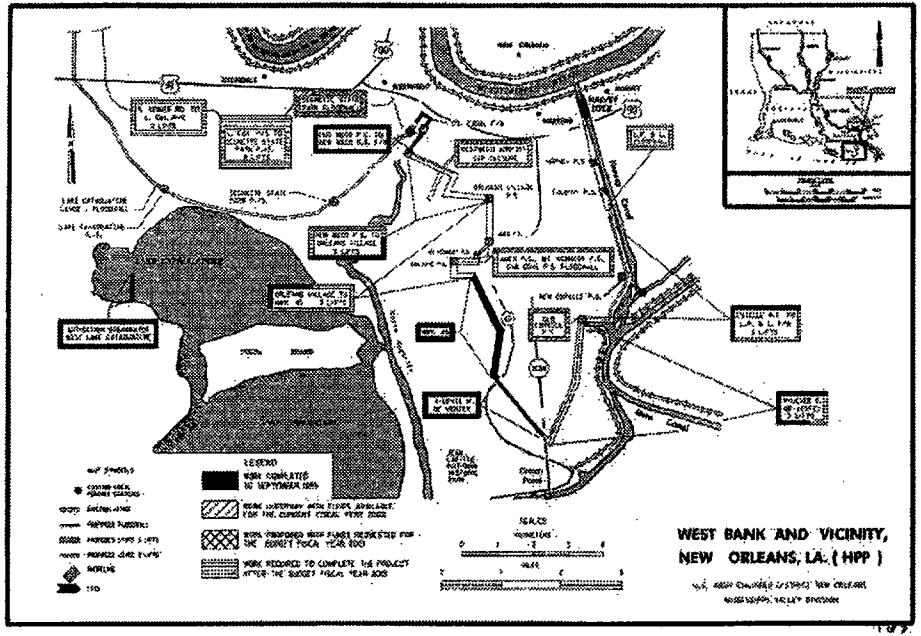
Local interests have accomplished engineering and design work and constructed numerous reaches of levee. Specifically, about $21,400,000 has been recommended in tentative credit to local interests for work accomplished or to be accomplished, subsequent to project authorization. Actual credit for equivalent work in lieu of cash contribution is given upon verification of engineering and design work and evaluation of the construction.

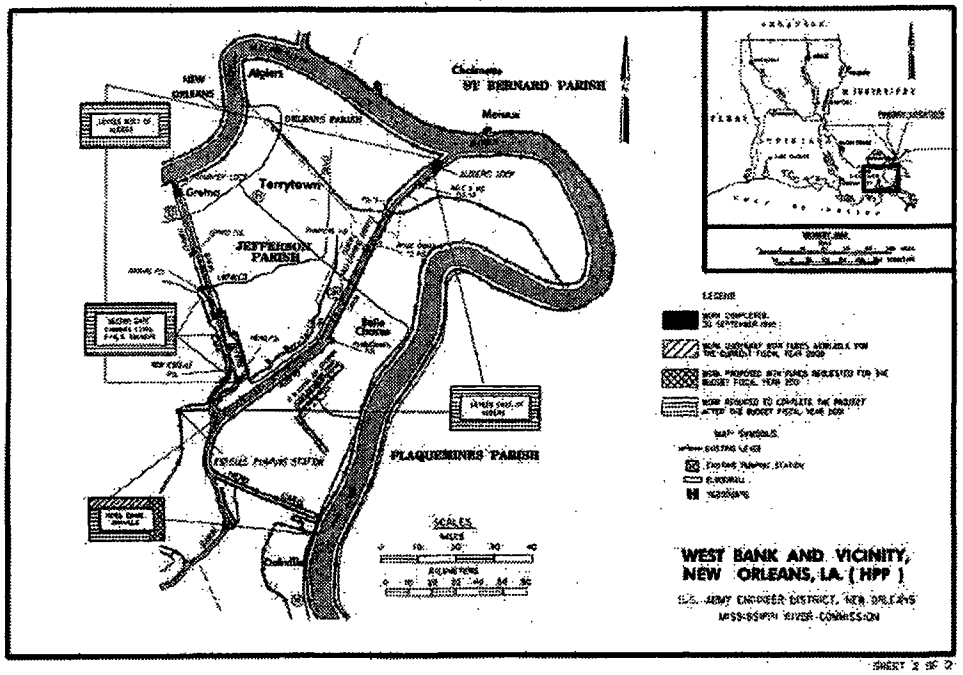
COMPARISON OF FEDERAL COST ESTIMATE: The current Federal cost estimate of $199,000,000 is an increase of $7,000,000 from the latest estimate of ($192,000,000) presented to Congress (FY 2000). This change includes the following item:

Item	Amount
Price Escalation on Construction Features	$ 7,000,000
Total	$ 7,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement Westwego Area was filed with the Environmental Protection Agency on 23 October 1987. The Record of Decision (ROD) was signed 28 March 1989. Environmental Assessments to address refinements in project design were prepared on 23 February 1990, June 1991, March 1992 and August 1993. A Finding of No Significant Impact (FONSI) was signed by the District Commander in each assessment. The final Environmental Impact Statement for the east and west of the Algiers Canal area was filed with Environmental Protection Agency on 30 September 1994. The ROD for East and West of Algiers Canal and Lake Cataouatche were signed on 28 September 1998.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design for the east and west of the Algiers Canal area were appropriated in Fiscal Year 1995, and funds to initiate construction were appropriated in Fiscal Year 1997. Funds to initiate preconstruction engineering and design for the Westwego Area were appropriated in Fiscal Year 1988 and funds to initiate construction were appropriated in Fiscal Year 1990. Construction was initiated in March 1991. A post authorization change report to expand the scope of this project to include the Lake Cataouatche area was approved in December 1996 and funds to initiate construction were appropriated in FY 1999.


WEST BANK AND VICINITY,
NEW ORLEANS, LA. (HPP)


NEW ORLEANS
Algiers
ORLEANS PARISH
Chalmette
ST BERNARD PARISH
Meraux
Terrytown
Gretna
JEFFERSON PARISH
Belle Chasse
PLAQUEMINES PARISH
SCALES
MILES
KILOMETERS
LEGEND
WEST BANK AND VICINITY, NEW ORLEANS, LA. (HPP)
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
MISSISSIPPI RIVER COMMISSION

APPROPRIATION TITLE: Construction, General – Local Protection (Flood Control)

PROJECT: Marshall, Minnesota (Continuing)

LOCATION: Marshall, Minnesota is located in Lyon County in southwestern Minnesota on the Redwood River, a tributary of the Mississippi River.

DESCRIPTION: The authorized plan for flood control at Marshall, Minnesota, eliminates the problems of the existing federally constructed flood control project by allowing the upstream and downstream channels to convey the design flow to and from the diversion channel without damaging overbank effects. The authorized plan consists of a total of 4.7 miles of additional levees, 3.8 miles of bank protection, 0.3 miles of new high-flow diversion channel, an interbasin overflow structure, modifications to the existing diversion and drop structures, and a recreation plan. The recreation plan consists of 2.5 miles of biking/walking trail, five miles of cross-country skiing/hiking trail, and related picnic and rest area facilities. All work is programmed.

AUTHORIZATION: Water Resources Development Act of 1986 (Public Law 99-662) and Water Resources Development Act of 1988 (Public Law 100-676).

REMAINING BENEFIT-REMAINING COST RATIO: 7.0 to 1 at 8 percent.

TOTAL BENEFIT-COST RATIO: 1.04 to 1 at 8 percent.

BASIS OF BENEFIT-COST RATIO: Benefits are from the Limited Reevaluation Report dated April 1993 at October 1992 price levels.

SUMMARIZED FINANCIAL DATA	
Estimated Federal Cost	$ 8,010,000
Estimated Non-Federal Cost	2,890,000
Cash Contribution	$ 1,374,000
Other	1,516,000
Total Estimated Project Cost	$10,900,000

	STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Entire Project		83	Sep 2001

PHYSICAL DATA

Levees	4.7 miles	Recreation Facilities	2.5 miles/hiking biking trails; 5 miles cross country skiing/hiking trails
Road Raises	2		
Bank Protection	3.8 miles		
Ponding Area	7.6 Acres		
High-Flow Diversion Channel	0.3 mile		
Interbasin Overflow Structure	Three 10-foot by 9-foot conduits		
Diversion Structure Modification	3 slide gates and headwall height added		

SUMMARIZED FINANCIAL DATA (Continued)		ACCUM PCT OF EST FED COST
Allocations to 30 September 1999	$ 4,747,000	
Conference Allowance for FY 2000	2,275,000	
Allocation for FY 2000	1,951,000[1]	
Allocations through FY 2000	6,698,000	84
Allocation Requested for FY 2001	1,312,000	100
Programmed Balance to Complete	$ 0	
Unprogrammed Balance to Complete after FY 2001	$ 0	

JUSTIFICATION: A federally constructed flood control project was completed at Marshall in 1963. It does not function as intended. It protects much of Marshall during the frequent smaller floods. However, the upstream and downstream channels lack adequate capacity to convey the design flow to and from the diversion channel without damaging overbank effects. During major floods, upstream overflows overtop a county highway, bypass the diversion control structure, and flood the intercity area. An emergency barrier was constructed along the county highway to avert major damages during the 1969 flood. Legal claims resulting from floodwater retention and induced diversion of flow to the Cottonwood River resulted in payments by the City of $204,000 to affected property owners. A recurrence of the 1969 flood without emergency measures would cause damages of about $18,580,000 and flood about 1,137 residential, commercial and public buildings. The recommended plan would reduce average annual existing flood damages at Marshall by about 90 percent by the most economical means. Along with a need for increased flood protection, the City expressed a high priority need for a city-wide recreational trail system and associated facilities. The average annual benefits are as follows:

Annual Benefits	Amount (1 October 1999)
Flood Control	$ 799,100
Recreation	176,300
Total	$ 975,400

FISCAL YEAR 2001: The requested amount of $1,312,000 will be applied as follows:

Complete Stage 2 Construction	$ 994,000
Planning, Engineering and Design	145,000
Supervision and Administration	173,000
Total	$1,312,000

[1] Reflects $ 324,000 reduction assigned as savings and slippage.

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsors must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, and rights-of-way, and borrow and excavated or dredged material disposal areas.	$1,323,000	$
Modify or relocate building, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	$ 193,000	
Pay one-half of the separable costs allocated to recreation, and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of recreation facilities	322,000	3,200
Pay 9.7 percent of the costs allocated to flood control to bring the total non-Federal share to 25 percent, and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of flood control facilities.	1,052,000	8,800
Total Non-Federal Costs	$2,890,000	$12,000

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

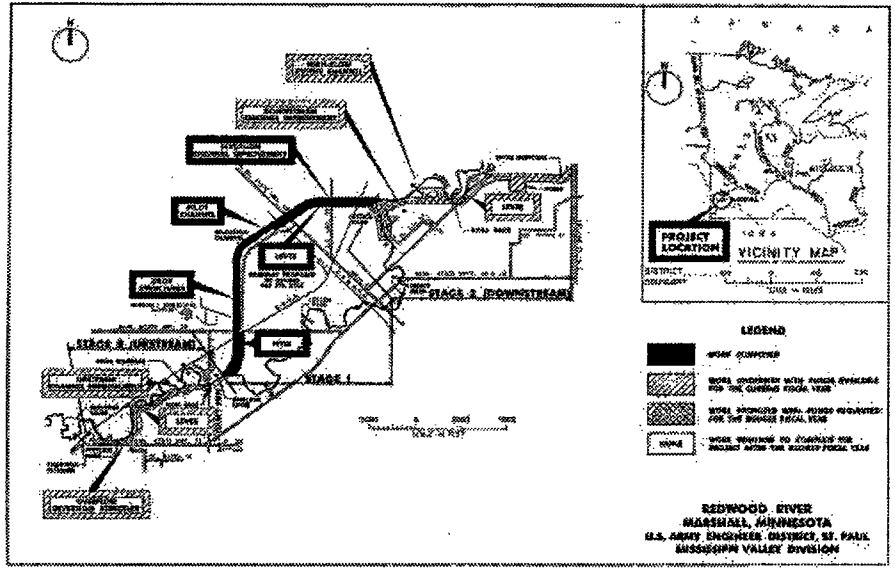
STATUS OF LOCAL COOPERATION: The Project Cooperation Agreement was executed on 9 September 1996.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $8,010,000 is an increase of $160,000 over the latest estimate of $7,850,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	$ 24,000
Post Contract Award and Other Estimating Adjustments (Including contingency adjustments)	136,000
Total	$160,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed with Environmental Protection Agency on 18 May 1981.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1984. The project was reauthorized in the 1988 Water Resources Development Act. Funds to initiate construction were appropriated in FY 1996. The final construction contract was awarded on April 16, 1999.


PROJECT LOCATION
VICINITY MAP
LEGEND
REDWOOD RIVER
MARSHALL, MINNESOTA
U.S. ARMY ENGINEER DISTRICT, ST. PAUL
MISSISSIPPI VALLEY DIVISION

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APPROPRIATION TITLE: Construction, General – Local Protection (Flood Control)

PROJECT: Cape Girardeau – Jackson, Missouri (Continuing)

LOCATION: The project is located in Cape Girardeau County, Missouri, along the right bank of the Mississippi River between river miles 50 and 55 above the Ohio River.

DESCRIPTION: The project includes a 157 acre dry detention reservoir; approximately 1 mile of channel improvements on Cape La Croix Creek and 2 miles of channel improvements on Walker Branch, 8 bridge replacements; recreational trails and facilities and a sewer line replacing authorized sewage lagoon levee. Unprogrammed work consists of the non-structural flood control features, which are not economically justified.

AUTHORIZATION: Water Resources Development Act of 1986 modified by Title III, Section 301 of the Water Resources Development Act of 1996.

REMAINING BENEFIT-REMAINING COST RATIO: 1.0 to 1 at 8 5/8 percent.

TOTAL BENEFIT-COST RATIO: 1.6 to 1 at 8 5/8 percent.

INITIAL BENEFIT-COST RATIO: 1.6 to 1 at 8 5/8 percent (FY 1990).

BASIS OF BENEFIT-COST RATIO: The document which provides basis for benefits is the Cape Girardeau-Jackson Metropolitan Area, Missouri – Post Authorization Change – Supportive Economic Analysis – March 1994 at 1993 price levels.

SUMMARIZED FINANCIAL DATA					STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost			$36,694,000				
Programmed Construction		$ 34,036,000					
Unprogrammed Construction		2,658,000			Entire Project	83	Being determined [1]
Estimated Non-Federal Cost			13,746,000			PHYSICAL DATA	
Programmed Construction		12,836,000			Channels:	3 miles	
Cash Contributions	$2,905,000				Dams:	1 Dry Detention Reservoir	
Other Costs	9,931,000				Bridges:	8	
					Levees:	Sewer line replaces authorized lagoon levee	
Unprogrammed Construction		910,000					
Cash Contributions	0				Recreation:	Trails, camping area, ballfields, sanitary Facilities, miscellaneous.	
Other Costs	$ 910,000						
Total Estimated Programmed Construction Cost			$46,872,000	ACCUM PCT OF EST FED COST			
Total Estimated Unprogrammed Construction Cost			3,568,000				
Total Estimated Project Cost			$50,440,000				
Allocations to 30 September 1999			$28,873,000				
Conference Allowance for FY 2000			1,900,000				
Allocation for FY 2000			1,629,000 [2]				
Allocations through FY 2000			30,502,000	83			
Allocation Requested for FY 2001			2,350,000	90			
Programmed Balance to Complete After FY 2001			1,184,000				
Unprogrammed Balance to Complete After FY 2001			$ 2,658,000				

[1] For programmed work only; remaining work is unprogrammed pending a decision to construct these features.
[2] Reflects $271,000 reduction assigned as savings and slippage.

JUSTIFICATION: The Cape Girardeau – Jackson project area, population 42,000 contains approximately 210 square miles of rural, urban, and developing lands, including 22 square miles previously under study in the Cape La Croix Creek watershed and 5 square miles previously under study in the Little River Diversion Channel study. Gently rolling hill land divided into small watersheds characterizes the study area. It also includes significant flood plain area bordering the Mississippi River and the Little River Diversion Channel. The principal flooding problem within this watershed is flash flooding along Cape La Croix Creek and its tributaries. The type of property subject to flooding encompasses a full range of industrial, commercial and residential usage, as well as some agricultural usage.

In May 1986, the flood of record occurred when approximately 10 to 13 inches of rain fell over the basin causing an estimated $50,000,000 flood damage loss. Several floods have occurred previously, most notably in May 1973 and March 1977. These floods were caused by recorded rainfall of approximately 9 and 7 inches, respectively. Average annual benefits are as follows:

Annual Benefits	Amount
Flood Control	$3,714,000
Recreation	236,000
Total	$3,950,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate and Complete: Sewer Line Replacement Sewage Lagoon Levee	$ 212,000
Continue: Detention Reservoir	1,918,000
Complete: Lands and Damages	10,000
Planning, Engineering and Design	60,000
Supervision and Administration	150,000
Total	$2,350,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction And Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands easements, rights-of-way, and borrow and excavated or dredged material disposal areas.	$ 5,903,000	$
Modify or relocate utilities, roads, bridges (except railroad bridges) and other facilities where necessary for the construction of the project.	3,907,000	
Pay one half of the separable costs allocated to recreation (except recreational navigation) and bear all costs of operation, maintenance, repair, rehabilitation and replacement of recreation facilities.	1,031,000	20,000
Pay 5 percent of the costs allocated to flood control and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	2,905,000	127,000
Total Non-Federal Costs	$13,746,000	$ 147,000

STATUS OF LOCAL COOPERATION: The Project Cooperation Agreement with the City of Cape Girardeau, Missouri was executed on 31 May 1990. The current non-federal cost estimate is $13,746,000, which includes a cash contribution of $2,905,000. The specific non-federal cost estimate is not noted in the Local Cooperation Agreement dated 25 May 1990 or in the Modification Agreement dated 27 October 1992. The modification agreement indicates a cash contribution of $2,168,000. The non-federal sponsor continues to be financially capable and willing to contribute their share of the project, including increased non-federal amounts. The non-federal sponsor has met all previous financial obligations on this project and is regarded to have a reasonable and implementable plan for meeting future financial commitments.

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COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $36,694,000 is an increase of $401,000 from the latest estimate ($36,293,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	$531,000
Post Contract Award and Other Estimating Adjustments (including contingency adjustments)	(130,000)
Total	$401,000

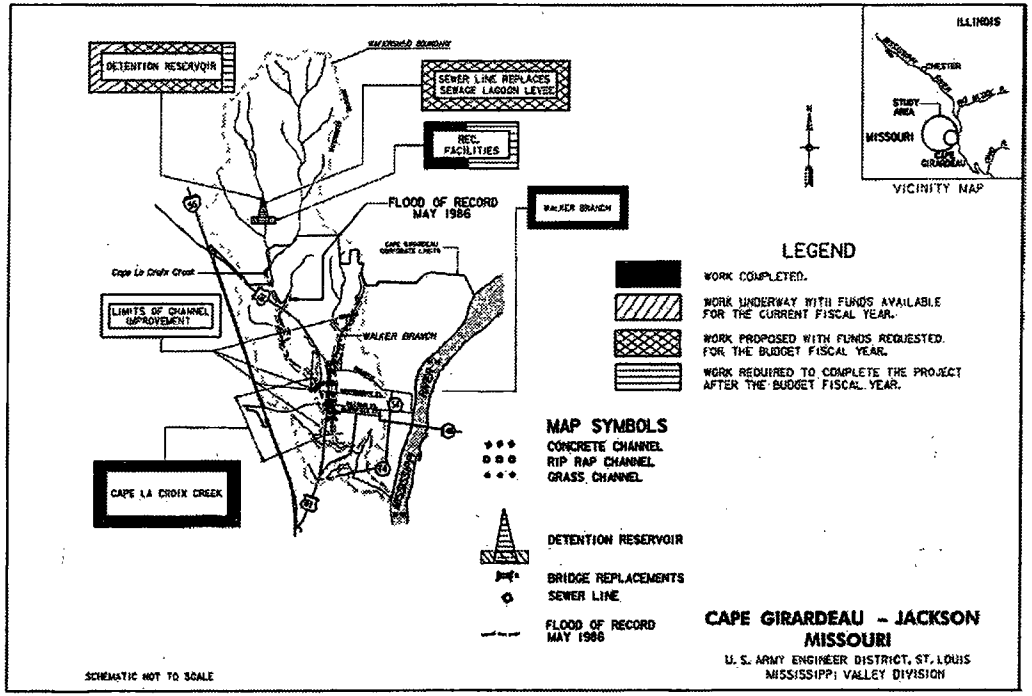
STATUS OF ENVIRONMENTAL IMPACT STATEMENT AND COMPLIANCE WITH CLEAN WATER ACT: The Survey Report dated December 1983 contained an Environmental Assessment and Finding of No Significant Impact signed by the St. Louis District Commander. During preparation of the General Design Memorandum, the recommended plan was again examined and the conclusion that the project will have no significant adverse environmental impact was upheld. The survey report also contained an evaluation under Section 404 (b) (1) of the Clean Water Act. Full compliance with the requirements of Sections 401 and 404 of the Clean Water Act was accomplished on 4 May 1990.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in Fiscal Year 1987 and funds to initiate construction were appropriated in Fiscal Year 1990.

The project was modified by the Water Resources Development Act of 1996, which authorized the Secretary to exceed the maximum cost limits established by Section 902 of the Water Resources Development Act of 1996. Award of the Detention Reservoir would have exceeded the 902 limit.

The Missouri Eastern District Court of Appeals has ruled that the City of Cape Girardeau, local sponsor of the project, does have the legal right to condemn property needed for the dry detention reservoir construction, which is outside the City limits. Remaining tracts needed for the dry detention reservoir have been acquired using Federal condemnation procedures.

The project requires no mitigation.


DETENTION RESERVOIR
SEWER LINE REPLACES SEWAGE LAGOON LEVEE
REC. FACILITIES
FLOOD OF RECORD MAY 1986
WALKER BRANCH
Cape La Croix Creek
LIMITS OF CHANNEL IMPROVEMENT
WALKER BRANCH
CAPE LA CROIX CREEK
ILLINOIS
CHESTER
STUDY AREA
MISSOURI
CAPE GIRARDEAU
VICINITY MAP
LEGEND
WORK COMPLETED.
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR.
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR.
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR.
MAP SYMBOLS
CONCRETE CHANNEL
RIP RAP CHANNEL
GRASS CHANNEL
DETENTION RESERVOIR
BRIDGE REPLACEMENTS
SEWER LINE
FLOOD OF RECORD MAY 1986
CAPE GIRARDEAU - JACKSON MISSOURI
U. S. ARMY ENGINEER DISTRICT, ST. LOUIS
MISSISSIPPI VALLEY DIVISION
SCHEMATIC NOT TO SCALE

544

APPROPRIATION TITLE: Construction, General – Local Protection (Flood Control)

PROJECT: Meramec River Basin, Valley Park Levee, Missouri (Continuing)

LOCATION: The project is located in St. Louis County, Missouri, adjacent to the left bank of the Meramec River between miles 20.7 and 22.1 above the confluence with the Mississippi River.

DESCRIPTION: The project provides for construction of 3.2 miles of levee with 3 feet of freeboard above the 100-year flood profile. Six gravity drains and three closure structures will be constructed. Interior drainage facilities consist of four ponding areas. Thirty-three relief wells will be required for underseepage control. Recreational features consist of 2 softball fields, 1 football/soccer field, 1 multi-use court, 15 picnic tables, 2 playgrounds, 1 comfort station, parking facilities, and 2.3 miles of trails. All work is programmed.

AUTHORIZATION: Public Law 97-128, Section 2(h) and the Water Resources Development Acts of 1986 and 1999.

REMAINING BENEFIT-REMAINING COST RATIO: 1.8 to 1 at 8 7/8 percent.

TOTAL BENEFIT-COST RATIO: .9 to 1 at 8 7/8 percent.

INITIAL BENEFIT-COST RATIO: 1.1 to 1 at 8 7/8 percent (FY 1991).

BASIS OF BENEFIT-COST RATIO: Benefits are based on a Post-Authorization Change Report dated 6 August 1999 at October 1999 price levels.

SUMMARIZED FINANCIAL DATA		
Estimated Federal Cost		$29,232,000
Estimated Non-Federal Cost		9,849,000
Cash Contribution	$3,417,000	
Other Costs	6,432,000	
Total Estimated Project Cost		$39,081,000

STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Entire Project	40	Being determined
PHYSICAL DATA		
Levee:		3.2 miles
Gravity Drains:		6
Closure Structures:		3
Ponding Areas:		4
Relief Wells:		33
Recreational Features:		Various

SUMMARIZED FINANCIAL DATA (Continued)		ACCUM PCT OF EST FED COST
Allocations to 30 September 1999	$14,346,000	
Conference Allowance for FY 2000	3,200,000	
Allocation for FY 2000	2,744,000[1]	
Allocations through FY 2000	17,090,000	58
Allocation Requested for FY 2001	3,000,000	69
Programmed Balance to Complete After FY 2001	$9,142,000	
Unprogrammed Balance to Complete After FY 2001	0	

[1] Reflects $456,000 reduction assigned as savings and slippage.

JUSTIFICATION: The city of Valley Park, Missouri, has experienced severe flooding from the Meramec River nine times since the early 1900's and sustains average annual damages estimated at $1,496,000 (excluding the effects of 2 flood events during 1993 and 1 event in 1994). The total value of structures susceptible to flood damages is estimated at $33,900,000. The flood of record occurred in December 1982 and caused an estimated $21,624,000 in damages to 108 residential structures and 142 business establishments. This flood had a recurrence interval of approximately once in 70 years. The recommended project will provide 100-year protection to 499 residences and 168 non-residential structures. In order to finance the non-Federal portion of project costs, city officials have instituted a number of innovative techniques including solicitation for the donation of right-of-way required for construction and establishment of a Tax Increment Financing (TIF) District. City residents strongly support the project as demonstrated by attendance at rallies, signs posted in yards and at businesses, and participation in letter-writing campaigns. There are no significant adverse environmental impacts associated with the project. Average annual benefits are as follows:

Annual Benefits	Amount
Flood Damage Reduction	$2,163,900
Recreation	279,600
Total	$2,443,500

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate: Levee Item IVB	$1,300,000
Complete: Closure Structure Item IVA	150,000
BNSF Work at Item IVA	100,000
Levee Item IIIB	900,000
Planning, Engineering, and Design	300,000
Supervision and Administration	250,000
Total	$3,000,000

NON-FEDERAL COST: In accordance with the cost-sharing and financing concepts contained in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction And Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, and rights-of-way.	$4,065,000	$
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities where necessary for the construction of the project.	2,367,000	
Pay one-half of the separable costs allocated to recreation and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of recreation facilities.	157,000	
Pay 8 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of the project.	3,260,000	60,000
Total Non-Federal Costs	$9,849,000	$60,000

STATUS OF LOCAL COOPERATION: A Local Cooperation Agreement (LCA) was executed by the City of Valley Park and the Corps of Engineers on 12 August 1992, and an amendment was executed on 23 September 1997 to incorporate administrative language since the initial LCA. Valley Park is funding their lands, relocations, and cash contributions with Tax Increment Financing revenues and general city tax revenues as needed. Operation and maintenance costs will be funded by the city's sales tax, including a ¼ cent tax for stormwater, a ½ cent tax for capital improvements, and, if needed, a 1 cent tax for general purposes.

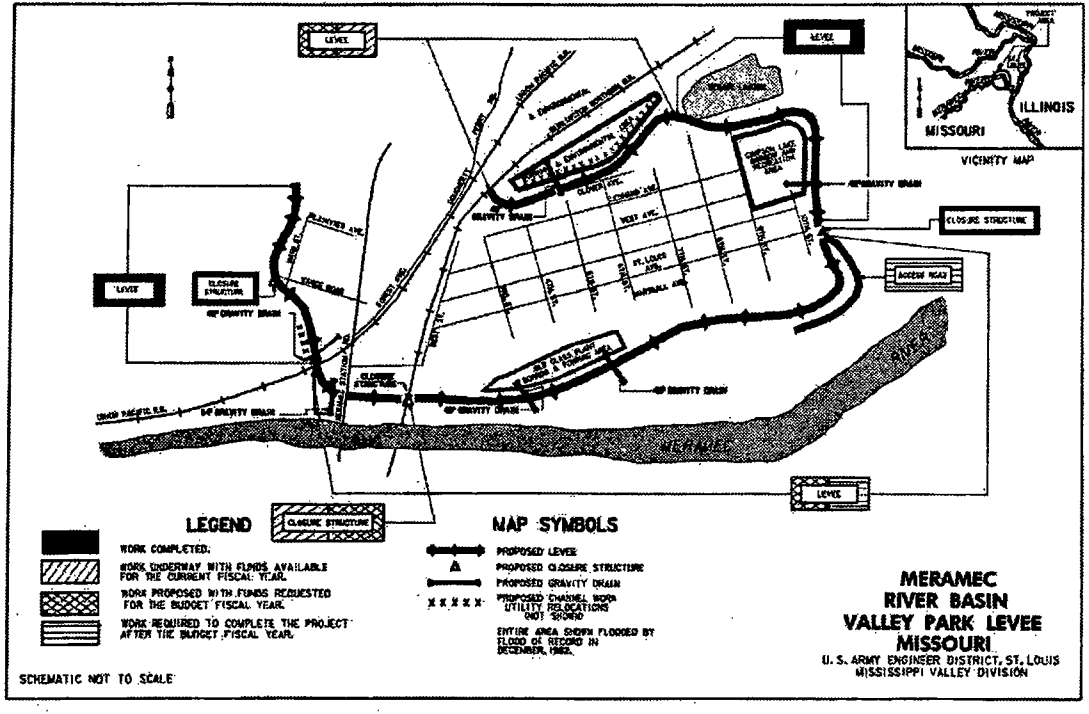
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $29,232,000 is an increase of $1,202,000 from the latest estimate ($28,030,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	$429,000
Design Changes	40,000
Post Contract Award and Other Estimating Adjustments (including contingency adjustments)	733,000
Total	$1,202,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: During preparation of the Plan Formulation Report and General Design Memorandum, Main Report, and Environmental Assessment, it was determined that implementation of the recommended plan would not have significant adverse effects on the quality of the human environment. A Finding of No Significant Impact was signed by the District Commander on 9 March 1987.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1983, and funds to initiate construction were appropriated in FY 1991. The project was modified by the Water Resources Development Act of 1999, which authorizes the Secretary to construct the project at maximum Federal expenditure of $35,000,000, if the secretary determines that the project as modified is technically sound, environmentally acceptable, and economically justified.

The project requires no mitigation.


LEVEE
CLOSURE STRUCTURE
ACCESS ROAD
MISSOURI
ILLINOIS
VICINITY MAP
LEGEND
WORK COMPLETED.
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR.
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR.
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR.
MAP SYMBOLS
PROPOSED LEVEE
PROPOSED CLOSURE STRUCTURE
PROPOSED GRAVITY DRAIN
PROPOSED CHANNEL WORK
UTILITY RELOCATIONS NOT SHOWN
ENTIRE AREA SHOWN FLOODED BY FLOOD OF RECORD IN DECEMBER, 1982.
SCHEMATIC NOT TO SCALE
MERAMEC RIVER BASIN
VALLEY PARK LEVEE
MISSOURI
U. S. ARMY ENGINEER DISTRICT, ST. LOUIS
MISSISSIPPI VALLEY DIVISION

APPROPRIATION TITLE: Construction, General – Local Protection (Flood Control)

PROJECT: Ste. Genevieve, Missouri (Continuing)

LOCATION: The project is located in Ste. Genevieve County, Missouri, adjacent to the west bank of the Mississippi River between miles 121 and 125 above the confluence of the Ohio River.

DESCRIPTION: The project includes four parts. The programmed portion of the project, Part 1, consists of a 3.5 mile long levee that will provide Urban Design Flood protection from Mississippi River flooding; a gravity drain pump facility with a 575 cubic feet per second electric-powered pump; a 505 acre ponding area; interior drainage ditching and grading; two closure structures, road, railroad and utility relocations; 20 relief wells; tree screens; an environmental mitigation area; and other features. Unprogrammed work consists of three parts. Part 2 is channel widening and one small levee along North Gabouri Creek; Part 3 is channel widening and one small levee along South Gabouri Creek; and Part 4 is recreation facilities such as picnic areas and trails on flood control lands along the tributary improvements and the levee.

AUTHORIZATION: The Water Resources Development Act of 1986 (Public Law 99-662).

REMAINING BENEFIT-REMAINING COST RATIO: 1.0 to 1 at 8-1/4 percent.

TOTAL BENEFIT-COST RATIO: 1.0 to 1 at 8-1/4 percent.

INITIAL BENEFIT-COST RATIO: 1.0 to 1 at 8-1/4 percent (FY 1995).

BASIS OF BENEFIT-COST RATIO: Benefits are based on the authorizing language, which states "...Congress finds that, in view of the historic preservation benefits resulting from the project, the overall benefits of the project exceed the costs of the project."

SUMMARIZED FINANCIAL DATA				ACCUM PCT OF EST FED COST
Estimated Federal Cost			$34,532,000	
Programmed Construction		$30,376,000		
Unprogrammed Construction		4,156,000		
Estimated Non-Federal Cost			13,121,000	
Programmed Construction		10,126,000		
Cash Contributions	$4,672,000			
Other Costs	5,454,000			
Estimated Non-Federal Cost				
Unprogrammed Construction		2,995,000		
Cash Contributions	$ 317,000 [2]			
Other Costs	2,678,000			
Total Estimated Programmed Construction Cost			$40,502,000	
Total Estimated Unprogrammed Construction Cost			7,151,000	
Total Estimated Project Cost			$47,653,000	
Allocations to 30 September 1999			14,334,000	
Conference Allowance for FY 2000			7,000,000	
Allocation for FY 2000			6,003,000 [3]	
Allocations through FY 2000			20,337,000	59
Allocation Requested for FY 2001			6,000,000	76
Programmed Balance to Complete After FY 2001			$ 4,039,000	
Unprogrammed Balance to Complete After FY 2001			$ 4,156,000	

STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Part 1	40	Being determined
Part 2-4	0	Indefinite [1]
Entire project	38	Indefinite [1]

PHYSICAL DATA	
Part 1	
Road Relocations:	2 locations
Railroad Relocations:	2 locations
Utility Relocations:	4 locations
Levee:	3.5 miles
Gravity Drain:	1
Closure Structures:	2
Pump Station:	575 cfs
Ponding Area:	505 acres
Relief Wells:	20
Part 2 (North Gabouri Creek)	
Channel Widening:	0.62 miles
Bridge Relocations:	2
Part 3 (South Gabouri Creek)	
Channel Widening:	1.23 miles
Bridge Removal:	1
Low Water Crossing	1
New Bridges	2
Small Levee:	0.28 miles
Part 4 (Recreation)	
Hiking/Biking Trails:	5.05 miles
Exercise Trail:	1 mile
Picnic Tables:	18
Softball Fields:	2

[1] For programmed work only; remaining work is unprogrammed pending a decision to construct these features.
[2] Includes $144,000 Part 2 cash contribution less $136,000 Part 2 Federal payment, $204,000 Part 3 cash contribution and $105,000 non-Federal payment for recreation.
[3] Reflects $997,000 reduction assigned as Savings and Slippage.

JUSTIFICATION: Ste. Genevieve was founded on the west bank of the Mississippi River by French colonists. The earliest firm documentation of the settlement is a census taken in 1752, although some estimates place the founding as early as 1723. Over a period of years after the flood of 1785, the town was gradually moved from its original location to higher ground at its present location. In 1960 the Secretary of Interior designated a major part of the city and the agricultural fields between the town and the river a national Historic Landmark District. Ste. Genevieve was in the first group of six landmark districts so designated, a group that included Williamsburg, Virginia; Charleston, South Carolina; and Old Deerfield, Massachusetts. Ste. Genevieve is significant and unique because it has been occupied continuously since it was settled and because many of its earliest French colonial buildings were not destroyed during the intervening years. One fourth of all of North America's French colonial buildings are located in Ste. Genevieve. Ste. Genevieve contains the only collection of French colonial houses anywhere on the continent. Its many old residences, its archives and traditions, and its historical continuity make it a living memorial to the settlement and development of America. Most of the National Historic Landmark District is subject to flooding. The town has no Federally constructed flood protection, although agricultural areas directly across the Mississippi River and up and downstream from Ste. Genevieve are protected by Federally constructed levees. The community has suffered major Mississippi River floods in 1973, 1979, 1982,1983, 1986, 1990, 1993 and 1995. The 1973 flood caused an estimated $3,000,000 in damages in Ste. Genevieve. Damages from the 1982 flood were estimated by local officials to be $2,400,000. The 1993 flood reached a stage equal to the theoretical 500-year flood in Ste. Genevieve, more than 22 feet above flood stage. Most of the historic buildings were saved by a monumental flood fight effort. According to community officials, bills received from the flood fight totaled $2,000,000; not including donated materials and volunteer time. Volunteers came from all over the United States to fight the flood. This figure does not include flood damages or post-flood recovery. The 1995 flood was the second highest flood on record in Ste. Genevieve. Other Mississippi River floods occur in Ste. Genevieve more frequently than the major floods and the community frequently prepares for flood fights. The town is also damaged by flooding along North and South Gabouri Creeks due to local rainfall, but the number of buildings flooded by the creeks is small compared to those flooded by the Mississippi River. As stated in the authorizing language, average annual benefits are equal to average annual costs due to historic preservation benefits.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate and Complete: Relief Wells	$ 552,000
Continue: Levee/Ditching/Grading	4,000,000
Complete: Pump Station/Gravity Drain	600,000
Planning, Engineering, and Design	348,000
Supervision and Administration	500,000
Total	$6,000,000

NON-FEDERAL COST: In accordance with the cost-sharing and financing concepts contained in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operations, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, and rights-of-way.	$ 3,261,000	$
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities where necessary for the construction of the project	4,871,000	
Pay one-half of the separable costs allocated to recreation and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of recreation facilities.	105,000	2,000
Pay 10.2 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	4,884,000	129,000
Total Non-Federal Costs	$ 13,121,000	$ 131,000

STATUS OF LOCAL COOPERATION: The project sponsor is the Ste. Genevieve Joint Levee Commission, which is composed of members from the City of Ste. Genevieve, Ste. Genevieve County Levee District Number 2, and Ste. Genevieve County Levee District Number 3. The City assembled the financing to cover the first cost of Part 1 of the project, and possibly Parts 2, 3 and 4 depending on how they may be redesigned in the future. This financing consists of a city sales tax passed in November 1994 that generates about $240,000 per year and does not expire until the project is completed, a grant of $5,500,000 from the National Park Service through the National Trust for Historic Preservation, and a $5,050,000 Community Development Block Grant from the State of Missouri. The commission will purchase the lands required for the project through the powers of Levee Districts 2 and 3, will use the Federal Power of eminent domain, and will operate and maintain the project by using Levee District 3's power to impose property taxes for operating and maintaining flood protection works. The Project Cooperation Agreement was executed on 8 August 1995.

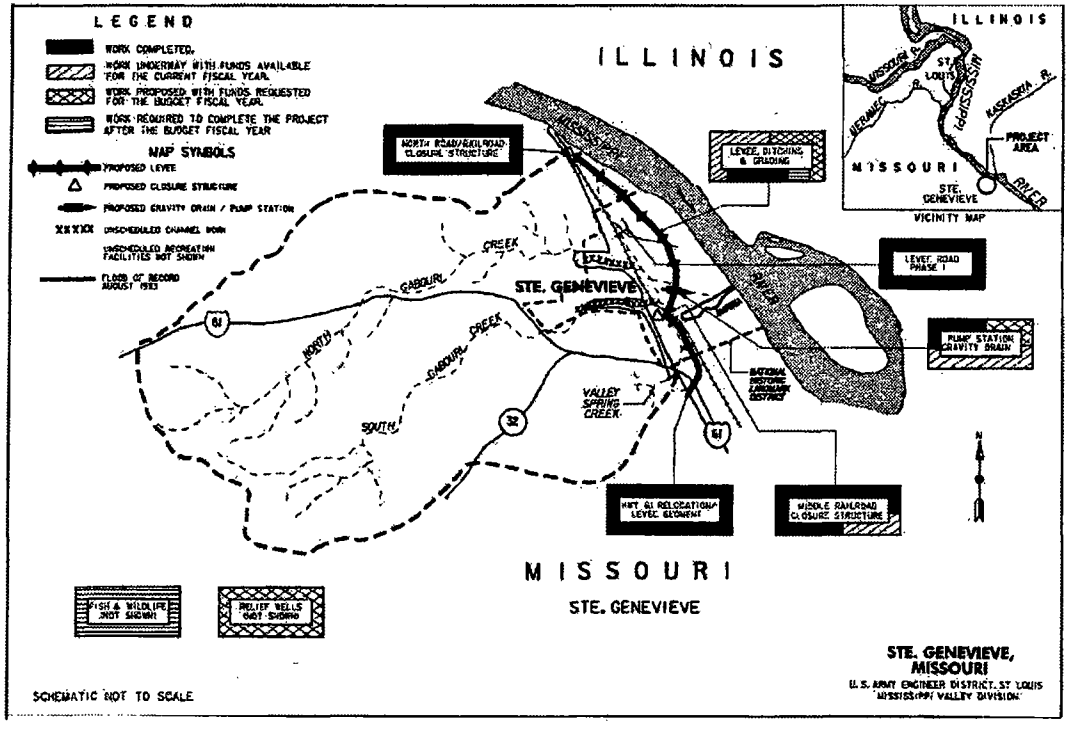
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $34,532,000 is a decrease of $1,568,000 from the latest estimate ($36,100,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	$-1,568,000
Total	$-1,568,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An Environmental Impact Statement was completed as part of the Feasibility Report in June 1984. An Environmental Assessment with a Finding of No Significant Impact was signed by the District commander on 30 January 1995.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in Fiscal Year 1990 and funds to initiate construction were appropriated in Fiscal Year 1995. A portion of a levee access road was constructed in Fiscal Year 1995.

The Phase 1 levee project requires environmental mitigation due to adverse impacts on 11.2 acres classified as "waters of the United States." A 28.4 acre wetland mitigation area is included in Part 1 of the project. Estimated fish and wildlife mitigation costs are $146,000.


LEGEND
WORK COMPLETED.
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR.
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR.
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR
MAP SYMBOLS
PROPOSED LEVEE
PROPOSED CLOSURE STRUCTURE
PROPOSED GRAVITY DRAIN / PUMP STATION
UNSCHEDULED CHANNEL WORK
UNSCHEDULED RECREATION FACILITIES NOT SHOWN
FLOOD OF RECORD AUGUST 1993
ILLINOIS
MISSOURI
STE. GENEVIEVE
NORTH ROAD/RAILROAD CLOSURE STRUCTURE
LEVEE, DITCHING & GRADING
LEVEE ROAD PHASE I
PUMP STATION GRAVITY DRAIN
HWY 61 RELOCATION & LEVEE ELEMENT
MIDDLE RAILROAD CLOSURE STRUCTURE
FISH & WILDLIFE NOT SHOWN
RELIEF WELLS NOT SHOWN
GABOURI CREEK
NORTH GABOURI CREEK
SOUTH GABOURI CREEK
VALLEY SPRING CREEK
MISSISSIPPI RIVER
MISSOURI RIVER
ILLINOIS
ST. LOUIS
MISSISSIPPI R.
MISSOURI R.
KASKASKIA R.
JEFFERSON
PROJECT AREA
MISSOURI
STE. GENEVIEVE
RIVER
VICINITY MAP
SCHEMATIC NOT TO SCALE
STE. GENEVIEVE, MISSOURI
U.S. ARMY ENGINEER DISTRICT, ST. LOUIS
MISSISSIPPI VALLEY DIVISION

APPROPRIATION TITLE: Construction, General – Local Protection (Flood Control)

PROJECT: Devils Lake Emergency Outlet, North Dakota (Continuing)

LOCATION: Devils Lake is located in Ramsey and Benson counties in northeastern North Dakota. Communities located on the lake include the city of Devils Lake (1990 population 7,782), the Spirit Lake Nation Indian Reservation, and the city of Minnewaukan. Camp Grafton, a National Guard training facility, is also located on the lakeshore.

DESCRIPTION: Devils Lake does not have a natural outlet at its present level. The lake would have to rise an additional 13 feet to overflow into the Sheyenne River. The project under consideration would involve pumping lake water from western Devils Lake into a 17 mile long pipeline over the drainage divide and into the Sheyenne River.

AUTHORIZATION: The 2000 Energy and Water Development Appropriations Act, Public Law 106-60, provides authority to initiate construction subject to certain provisions of this Act and the provisions of the 1999 and 1998 Energy and Water Development Appropriations Acts, Public Laws 105-245 and 105-62, respectively. The 1997 Emergency Supplemental Appropriations Act (Public Law 105-18) provided $5,000,000 in Flood Control and Coastal Emergencies (FC&CE) funding to conduct preconstruction engineering and design and prepare the associated Environmental Impact Statement for an emergency outlet from Devils Lake to the Sheyenne River.

REMAINING BENEFIT-REMAINING COST RATIO: No detailed economic analysis has been performed on this project.

TOTAL BENEFIT-COST RATIO: No detailed economic analysis has been performed on this project.

INITIAL BENEFIT-COST RATIO: No detailed economic analysis has been performed on this project.

BASIS OF BENEFIT-COST RATIO: No detailed economic analysis has been performed on this project.

SUMMARIZED FINANCIAL DATA		ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost	$ 76,600,000		Entire Project	0	May 2003
Estimated Non-Federal Cost	41,200,000				
Cash Contribution	$35,200,000				
Other	6,000,000		PHYSICAL DATA		
Total Estimated Project Cost	$117,800,000				
			1 mile of gravity flow channel		
Allocations to 30 September 1999	4,500,000[1]		1 pumping station		
Conference Allowance for FY 2000	0		17 miles of pipeline		
Allocation for FY 2000	7,100,000[2]				
Allocations through FY 2000	11,600,000	15			
Allocation Requested for FY 2001	24,000,000	47			
Programmed Balance to Complete after FY 2001	41,000,000				
Unprogrammed Balance to Complete after FY 2001	0				

JUSTIFICATION: Devils Lake is a closed basin with no natural outlet at the present lake level. Over the past seven years, Devils Lake has risen almost 25 feet, flooding homes, roads, farmlands, utilities, railways, and threatening several communities. During this period, the lake has expanded from 70 square miles to 195 square miles. The shoreline has expanded landward 1 to 10 miles. Devils Lake is now higher than at any time since the 1830's. In response to this situation, more than $300 million in Federal emergency response funding has been spent relocating people, raising roads, and building levees to combat the flooding. Devils Lake is currently at an elevation of about 1447 feet above mean sea level (msl). If the lake levels continue to rise above elevation 1,447 msl, water will flow into Stump Lake, a smaller lake located just to the east and flood a National Wildlife Refuge. Additionally, if Devils Lake rises to elevation 1,459 msl, areas downstream of Devils Lake will be threatened as well, including the Sheyenne River and the Red River of the North, which flows into Canada. Overflows into these rivers would exceed water quality standards because Devils Lake contains high concentrations of solids including chlorides and sulfates. Substantial additional damages would occur around Devils Lake if lake levels continue to rise. The greatest impact would be to the City of Devils Lake and to four major highways in the area.

[1] Funds received under Flood Control and Coastal Emergencies appropriation.

[2] Reflects $500,000 remaining from the FY 1997 Flood Control and Coastal Emergencies appropriation and $6,600,000 from proposed emergency supplemental appropriations as requested in the FY 2001 Budget.

FISCAL YEAR 2001: The requested amount of $24,000,000 will be applied as follows:

Initiate Gravity Pipeline Construction Contract	$ 7,800,000
Initiate Pressure Flow Pipeline Construction Contract	6,000,000
Initiate Pump Station Construction Contract	6,000,000
Planning, Engineering and Design	3,000,000
Supervision and Administration	1,200,000
Total	$24,000,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1996, the non-Federal sponsors must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, and rights-of-way, and borrow and excavated or dredged material disposal areas.	$ 1,000,000	$
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	$ 5,000,000	
Pay 29.9 percent of the costs allocated to flood control to bring the total non-Federal share to 35 percent, and bear all costs of operation, maintenance repair, rehabilitation, and replacement of flood control facilities.	35,200,000	1,900,000
Total Non-Federal Costs.	$41,200,000	$1,900,000

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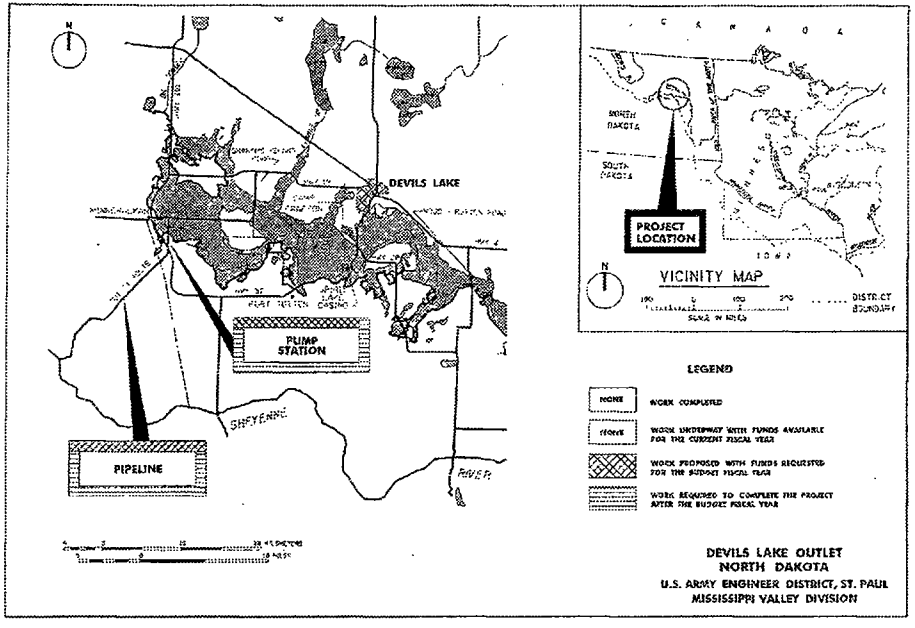
STATUS OF LOCAL COOPERATION: The state of North Dakota is expected to take a leadership role in identifying a non-Federal sponsor. Non-Federal sponsorship will most likely be a joint partnership to be determined between a variety of beneficiaries. A Project Cooperation Agreement will be required prior to initiation of construction.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $76,600,000 is an increase of $47,600,000 over the latest estimate ($29,000,000) presented to Congress (FY 2000). This increase is due to increasing the design discharge of the pumps and pipeline from 300 cfs to 480 cfs. Also, the current plan is based on an outlet alignment through Peterson Coulee, which is longer than an earlier proposed route but for the most part avoids crossing reservation lands owned by the Spirit Lake Nation.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: In accordance with the Administration's plan of 29 October 1999, all Federal agencies are expected to cooperate with the Corps of Engineers so that the emergency response can be completed on an expedited basis. Preparation of the EIS will require using an expedited National Environmental Protection Agency (NEPA) process to be done concurrently with preparation of plans and specifications.

OTHER INFORMATION: The emergency outlet project is one component of a multi-agency response to the Devils Lake flood situation. Other components include a levee raise at the city of Devils Lake, Federal Emergency Management Agency Task Force, flood insurance, upper basin storage, road raises, Ramsey County sewer protection, evacuation of Churchs Ferry, and Corps of Engineers emergency actions. An emergency implementation schedule would require conducting the Environmental Impact Statement using an expedited NEPA compliance process. This time line will require extraordinary coordination and cooperation between Devils Lake interests, downstream interests, environmental agencies and special interest groups, States of North Dakota and Minnesota agencies, Federal agencies, and the Canadian and Manitoban Governments.


DEVILS LAKE
PUMP STATION
PIPELINE
SHEYENNE
RIVER
C A N A D A
NORTH DAKOTA
SOUTH DAKOTA
PROJECT LOCATION
VICINITY MAP
DISTRICT BOUNDARY
LEGEND
NONE
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR
DEVILS LAKE OUTLET
NORTH DAKOTA
U.S. ARMY ENGINEER DISTRICT, ST. PAUL
MISSISSIPPI VALLEY DIVISION

561

APPROPRIATION TITLE: Construction, General – Local Protection (Flood Control)

PROJECT: Grand Forks, North Dakota – East Grand Forks, Minnesota (Continuing)

LOCATION: Grand Forks is located in Grand Forks County in eastern North Dakota along the Red River of the North about 70 miles south of the Canadian border. East Grand Forks is located in Polk County in northwestern Minnesota across the river from Grand Forks.

DESCRIPTION: The National Economic Development and Locally Preferred Plan is a set-back flood barrier project with a level of protection for the 0.47 percent exceedence frequency event. This level of protection is equivalent to the 1997 flood. The project will consist of 30.0 miles of levees, floodwalls, and road raises. Approximately 260 residential structures will need to be acquired for project construction. All work is programmed.

AUTHORIZATION: Omnibus Consolidated and Emergency Supplemental Appropriations Act 1999, Section 137 (Public Law 105-277).

REMAINING BENEFIT-REMAINING COST RATIO: 1.3 to 1 at 7 1/8 percent.

TOTAL BENEFIT-COST RATIO: 1.12 to 1 at 7 1/8 percent.

INITIAL BENEFIT-COST RATIO: 1.12 to 1 at 7 1/8 percent (FY 2000).

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluation approved in December 1998 at December 1997 price levels.

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SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Total Appropriation Requirement		$160,948,000				
Future Federal Reimbursement		19,952,000				
Estimated Federal Cost (Ultimate)		180,900,000		Entire Project	0	Being determined
Estimated Non-Federal Cost		179,300,000				
Cash Contribution	$ 23,504,000					
Other	175,748,000					
Reimbursement : Flood Control	-19,952,000					
Total Estimated Project Cost		$360,200,000				
Allocations to 30 September 1999		6,442,000				
Conference Amount for FY 2000		10,000,000				
Allocation for FY 2000		8,576,000[1]				
Allocations through FY 2000		15,018,000	8			
Allocation Requested for FY 2001		13,044,000	16			
Programmed Balance to Complete after FY 2001		152,838,000				
Unprogrammed Balance to Complete after FY 2001		0				

PHYSICAL DATA

Permanent Levees	26.6 miles	Pumping Stations	16
Tieback Levees	3.3 miles	Major Gatewells	2
Road Raises	9	English Coulee Diversion Channel	4.5 miles
Hartsville Coulee Diversion Channel	1.2 miles		

[1] Reflects $1,424,000 reduction assigned as savings and slippage.

JUSTIFICATION: Since 1950, twelve floods have threatened the Grand Forks-East Grand Forks area. Until 1997, a permanent levee in one short reach of Grand Forks, plus flood fight efforts in other areas of the two cities have prevented significant damages. The catastrophic flood of 1997 was the largest ever experienced in the area. Despite major emergency flood fight efforts, both cities were inundated. Estimates indicate that over $1.5 billion in damages were sustained in the two cities as a result of the 1997 flood. The threat of future flooding has led to a sense of urgency for an expedited permanent solution. The recommended plan would provide certifiable and reliable flood control for residents of Grand Forks and East Grand Forks. Average annual benefits are as follows:

Annual Benefits	Amount (1 October 1999)
Flood Control	$30,498,600
Recreation	2,138,400
Total	$32,637,000

FISCAL YEAR 2001: The requested amount of $13,044,000 will be applied as follows:

Continue Bank Stabilization (Stage 4) Construction	$ 3,173,000
Initiate English Coulee (Stage 2) Construction	2,633,000
Real Estate Activities	209,000
Planning, Engineering and Design	6,409,000
Supervision and Administration	620,000
Total	$13,044,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsors must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, and rights-of-way, and borrow and excavated or dredged material disposal areas.	$124,958,000	$
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	50,790,000	
Pay 5 percent of the costs allocated to flood control, and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of flood control facilities.	17,315,000	1,012,250
Pay one-half of the separable and joint costs allocated to recreation and bear all costs of operation, maintenance, repair, rehabilitation and replacement of recreation facilities.	6,189,000	346,750
Federal reimbursement to non-Federal sponsor for costs incurred in excess of 50 percent of the costs allocated to flood control.	-19,952,000	
Total Non-Federal Costs	$179,300,000	$1,359,000

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The non-Federal sponsors are the cities of Grand Forks, North Dakota and East Grand Forks, Minnesota. A Project Cooperation Agreement is scheduled to be executed in February 2000. The non-Federal funding requirements will be met using reallocation of existing taxes, implementation of a new use tax, a city-wide assessment, and state bond funds. The District Commander approved the sponsors financing plans on 21 October 1999.

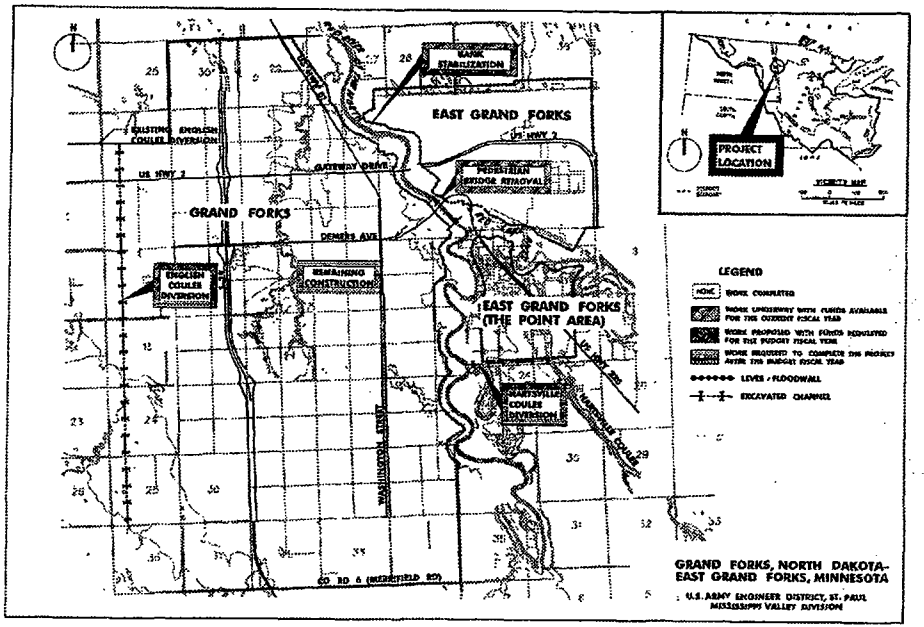
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $180,900,000 is an increase of $5,000,000 from the latest estimate ($175,900,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	$4,257,000
Post Contract Award and Other Estimating Adjustments (including contingency adjustments)	743,000
Total	$5,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An Environmental Impact Statement was prepared in conjunction with the General Reevaluation Report which was completed in December 1998. The Record of Decision was signed 17 February 1999.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1997. Funds to initiate construction were appropriated in FY 2000. A General Design Memorandum for the East Grand Forks project, authorized by Flood Control Acts of 1948, 1950 and 1970, was completed in December 1986. The report recommended a flood control project that would reduce flood damages and provide some recreation benefits. The structural portion of the project consisted of a flood barrier around the part of the city north of the Red Lake River. Components included levees, floodwalls, closure structures, and interior drainage facilities with one pumping station and eight outlets to the river. Nonstructural measures north of the Red Lake River included evacuation of residences and businesses that are riverward of the flood barrier. In July 1988, the city withdrew its support citing high local costs and evacuation of residential and commercial structures and because the project would only protect two-thirds of the city. The April 1997 flood that devastated the East Grand Forks area resulted in renewed interest for a permanent flood control solution for the city. The original East Grand Forks authorization was used as the basis to request funds to resume Preconstruction Engineering and Design in FY 1997.

A General Reevaluation Report and Environmental Impact Statement was completed in December 1998. The Report contained the plan formulation process used to identify a setback flood barrier project that would provide protection equal to the 1997 flood event, including the evaluation of risk and uncertainty. Both communities support the setback flood barrier plan, which is the National Economic Development Plan. Conditional project authorization (subject to a Chief's Report) was contained in the Omnibus Consolidated and Emergency Supplemental Appropriations Act of 1999 (Public Law 105-277). The Chief's Report was completed in December 1998.


EAST GRAND FORKS
GRAND FORKS
US HWY 2
GATEWAY DRIVE
DEMERS AVE
BELMONT ROAD
COUNTY RD 26
COUNTY RD 6 (MERRIFIELD RD)
BANK STABILIZATION
PEDESTRIAN BRIDGE REMOVAL
REMAINING CONSTRUCTION
ENGLISH COULEE DIVERSION
EXISTING ENGLISH COULEE DIVERSION
MARTINSVILLE COULEE DIVERSION
EAST GRAND FORKS (THE POINT AREA)
PROJECT LOCATION
LEGEND
WORK COMPLETED
WORK PROPOSED WITH FUNDS REQUESTED FOR THE PRESENT FISCAL YEAR
LEVEE / FLOODWALL
EXCAVATED CHANNEL
GRAND FORKS, NORTH DAKOTA-
EAST GRAND FORKS, MINNESOTA
U.S. ARMY ENGINEER DISTRICT, ST. PAUL
MISSISSIPPI VALLEY DIVISION

APPROPRIATION TITLE: Construction, General-Local Protection (Flood Control)

PROJECT: Sheyenne River, Baldhill Dam Pool Raise, North Dakota (Continuing)

LOCATION: The project is located in southeastern North Dakota along the Sheyenne River, from near Baldhill Dam downstream to the confluence with the Red River of the North at Fargo. Parts of Griggs, Steele, Barnes, Ransom, Richland and Cass Counties are included in the project area.

DESCRIPTION: The project, as authorized, consists of (1) 12.7 miles of levees and a 6.8-mile flood diversion channel at West Fargo, (2) 14.8 miles of levees and a 7.4 mile flood diversion channel and from Horace to West Fargo, (3) a 5-foot raise of the Baldhill Dam flood control pool, and (4) a dam and reservoir with approximately 35,000 acre-feet of storage for flood control on the Maple River. The plan, excluding the Maple River dam, would remove about 2,000 residences and farmsteads from the 100-year floodplain and reduce flood damages on more than 50,000 acres of agricultural land. Estimated damages caused by a one percent chance flood are $109 million. On an average annual basis, over $28 million in flood damages are estimated in the basin. Most of these damages occur in the West Fargo urban area.

Construction includes the West Fargo Unit ($14,880,000 Federal and $7,220,000 Non-Federal), the Horace to West Fargo Unit ($8,710,000 Federal and $2,840,000 Non-Federal), and the Baldhill Dam Unit ($7,300,000 Federal and $2,430,000 Non-Federal).

The Maple River Reservoir Unit was deleted from the project due to lack of economic justification.

AUTHORIZATION: Water Resources Development Act of 1986 (Public Law 99-662).

REMAINING BENEFIT-REMAINING COST RATIO: 1.4 to 1 at 7 1/8 percent.

TOTAL BENEFIT-COST RATIO: 1.1 to 1 at 7 1/8 percent.

INITIAL BENEFIT-COST RATIO: 1.1 to 1 at 7 1/8 percent (FY 2000).

BASIS OF BENEFIT-COST RATIO: Benefits for the remaining unit, the Baldhill Pool Raise, are from the latest available evaluation (Design Memorandum) dated November 1998, revised June 1999, at October 1997 price levels.

SUMMARIZED FINANCIAL DATA

Estimated Federal Cost		$30,890,000
Estimated Non-Federal Cost		12,490,000
Cash Contributions	$2,580,000	
Other Costs	9,910,000	
Total Estimated Project Cost		$43,380,000[1]

[1] Excludes all costs associated with the Maple River Unit. The Maple River Unit has been deleted from the project due to lack of economic justification.

SUMMARIZED FINANCIAL DATA (Continued)

		ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Allocations to 30 September 1999	$25,505,000[1]		West Fargo Unit	100	Dec 1994
Conference Allowance for FY 2000	1,000,000		Horace to West		
Allocation for FY 2000	608,000[2]		Fargo Unit	100	Nov 1992
Allocations through FY 2000	$26,113,000	85	Baldhill Dam Unit	0	Being
Allocation Requested for FY 2001	$2,600,000	93			determined
Programmed Balance to Complete after FY 2001	2,177,000		Total Project	85	Being
Unprogrammed Balance to Complete after FY 2001	$0				determined

PHYSICAL DATA

WEST FARGO UNIT:

Earthen Levee	12.7 miles
Flood Diversion Channel	6.8 miles

HORACE TO WEST FARGO UNIT:

Trapezoidal Excavated Channel	7.4 miles
Earthen Levees	14.8 miles

BALDHILL DAM UNIT:
Flood Control Pool Raise 5-foot raise
(by modifications to gates - not embankment)

JUSTIFICATION: The Sheyenne River, located in the southeastern portion of North Dakota, drains 7,140 square miles into the Red River of the North which flows northward to Lake Winnipeg in Manitoba, Canada. Recurrent flooding causes serious damage at the communities of Valley City, Lisbon, and West Fargo, and along the Sheyenne River. High Sheyenne River flows also aggravate downstream flooding along the Red River of the North. The maximum flood of record in 1882 inundated much of Valley City and Kindred. Over 100,000 acres of cropland in the basin were flooded by the Red River of the North and the Sheyenne, Wild Rice, and Maple Rivers. On 5 July 1975, the flood in the Sheyenne River basin crested at Kindred within 0.3 foot of the record flood, and the crest at West Fargo set a new record. Actual flood damages for this flood were $96,762,000 of which $2,132,000 were urban and $94,630,000 were rural. Urban flood damages of $14,159,000 were prevented due to emergency levee protection. The rural damages include cross-country (sheet flow) as well as overbank flooding. In 1979, the Sheyenne River at West Fargo reached a flow of 3,500 cubic feet per second and a stage .03 foot less than the 1975 summer flood. Damages including the cost of successful flood fights were $7,388,000, of which $1,903,000 were urban, $4,676,000 agricultural, and $809,000 transportation. In July and August 1993, intense rainstorms over the Sheyenne, Maple and Rush River watersheds caused flood damages in many areas. In Valley City, an estimated $3 million in flood

[1] Excludes $475,000 sunk cost for the Maple River Unit and $1,150,000 for Kindred Dam.

[2] Reflects $142,000 reduction assigned as savings and slippage, and $250,000 reprogrammed from the project.

damages were incurred. In the Harwood area, just downstream from the West Fargo levees and diversion project, widespread agricultural and rural residential damages were sustained. Both the Horace and the West Fargo levees and diversion projects prevented substantial damages ($8 million and $36 million respectively) in their first year of operation. The average annual flood damages for the Sheyenne River basin from overbank flooding over an assumed 100-year period at October 1994 price levels are estimated at $39,905,061, of which $37,506,749 are urban, $2,053,546 agricultural and $344,766 transportation. The recommended improvements will protect about 2,000 residences and farmsteads in the 100-year floodplain and reduce flood damages on over 50,000 acres of agricultural land. The average annual flood control benefits are $22,374,600.

FISCAL YEAR 2001: The requested amount of $2,600,000 will be applied as follows:

BALDHILL DAM UNIT (Pool Raise):

Continue construction of gate replacement	$1,780,000
Initiate construction of Wesley Acres protection	260,000
Initiate construction of riprap protection	150,000
Initiate construction of mitigation area	70,000
Planning, Engineering & Design	150,000
Supervision and Administration	190,000
Total	$2,600,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
WEST FARGO UNIT:		
Provide lands, easements, rights-of-way, and dredged material disposal areas.	$1,280,000	$
Modify or relocate utilities, roads, bridges, (except railroad bridges), and other facilities, where necessary for the construction of the project.	4,850,000	
Pay 7.3 percent of the costs allocated to flood control to bring the total non-Federal share of Flood Control costs to 25 percent as determined under Section 103(m) of the Water Resources Development Act of 1986 and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of flood control facilities.	1,090,000	38,000
Subtotal	$7,220,000	$ 38,000

	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
HORACE UNIT:		
Provide lands, easements, rights-of-way, and dredged material disposal areas.	$ 540,000	$
Modify or relocate utilities, roads, bridges, (except railroad bridges), and other facilities, where necessary for the construction of the project.	1,730,000	
Pay 5.9 percent of the costs allocated to flood control to bring the total non-Federal share of Flood Control costs to 25 percent as determined under Section 103(m) of the Water Resources Development Act of 1986 and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of flood control facilities.	570,000	32,800
Subtotal	$2,840,000	$ 32,800
BALDHILL DAM POOL RAISE:		
Provide lands, easements, rights-of-way, and dredged material disposal areas.	$ 1,490,000	$
Modify or relocate utilities, roads, bridges, (except railroad bridges), and other facilities, where necessary for the construction of the project.	20,000	
Pay 9.5 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, as determined under Section 103 (m) of the Water Resources Development Act of 1986 and bear all costs of operation, maintenance, repair, rehabilitation and replacement of Flood Control Facilities.	920,000	3,200
Subtotal	$ 2,430,000	$ 3,200
Total Non-Federal Cost	$12,490,000	$ 74,000

The non-Federal sponsors have also agreed to make all required payments concurrently with project construction.

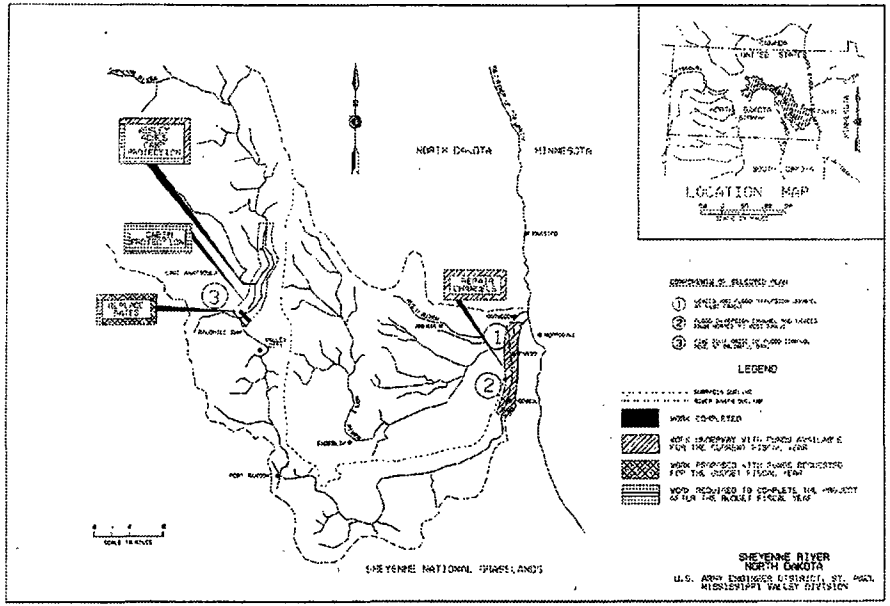
STATUS OF LOCAL COOPERATION: The Southeast Cass Water Resource District is the local sponsor for the West Fargo Unit and the Horace to West Fargo Unit. The Local Cooperation Agreement (LCA) for the West Fargo Unit was executed on 25 July 1988. The LCA for the Horace Unit was executed on 6 March 1990. Both of these units are scheduled to be turned over to Southeast Cass Water Resource District in 2000. In April 1994, the Sheyenne River Joint Water Resource District (WRD) was formed to act as the non-Federal sponsor for the flood control pool raise at the Baldhill Dam. The Joint WRD consists of seven member water resource districts, including both upstream and downstream representatives. On 24 May 1999 the Joint WRD indicated their intent to sponsor the flood pool raise. The Project Cooperation Agreement for the Baldhill Pool Raise is scheduled to be executed in March 2000.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $30,890,000 is an increase of $1,240,000 from the latest estimate ($29,650,000) presented to Congress (FY 1999). This change includes the following items:

Item	Amount
Price Escalation	$330,000
Post Contract Award and Other Estimating Adjustments	910,000
Total	$1,240,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Draft Environmental Impact Statement was filed with the Environmental Protection Agency (EPA) on 28 May 1982. The final statement was filed with the EPA on 13 April 1984. The Record of Decision was signed on 6 June 1987. The Finding of No Significant Impact for modifications to the Baldhill Dam Unit was signed on 19 October 1998.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1976 and funds to initiate construction were appropriated in FY 1990. No State or Federal agency expressed opposition to the project. However, a significant amount of opposition to the raise of the Baldhi Dam flood control pool was expressed in 1984 by property owners around the lake, especially at the upper end of the lake. The formation of the Sheyenne Rive Joint Water Resource District in 1994 to act as the non-Federal sponsor of the flood control pool raise is helping to improve communications between the downstream benefiting interests and the upstream interests who perceive themselves as adversely affected. The Joint WRD has indicated their intent to sponsor the flood pool raise. Floods occurred in 1994, 1995, 1996, and 1997, during which the Horace and West Fargo units performed excellently, meeting all expectations. Some erosion damage was experienced on the project and it is being repaired prior to turnover to the sponsor. Funds to initiate construction of the Baldhill Dam Pool Raise were appropriated in FY 2000.


NORTH DAKOTA
MINNESOTA
SHEYENNE NATIONAL GRASSLANDS
LOCATION MAP
LEGEND
SHEYENNE RIVER
NORTH DAKOTA

574

APPROPRIATION TITLE: Construction, General - Reservoirs (Dam Safety Assurance)

PROJECT: Homme Dam, South Branch Park River, North Dakota (Continuing)

LOCATION: Homme Dam is located in Walsh County in northeastern North Dakota, about two miles west of the city of Park River. The dam is on the South Branch of the Park River, at river mile 62.1 above the main stem's confluence with the Red River of the North. The drainage area above Homme Dam is 226 square miles.

DESCRIPTION: One of the principle features of the dam is a reinforced concrete flat-crested spillway and stilling basin located on the right abutment of the reservoir. The recommended plan increases the existing spillway capacity from 44 percent of the probable maximum flood to 100 percent of the probable maximum flood. This was originally planned to be accomplished with a supplemental spillway within the dam embankment, but further investigation found the existing spillway to be unreliable. A new spillway with a capacity of 100 percent of the probable maximum flood is being proposed. All work is programmed.

AUTHORIZATION: Flood Control Act of 1944.

REMAINING BENEFIT-REMAINING COST RATIO: No detailed economic analysis has been performed on this project.

TOTAL BENEFIT-COST RATIO: No detailed economic analysis has been performed on this project.

INITIAL BENEFIT-COST RATIO: No detailed economic analysis has been performed on this project.

BASIS OF BENEFIT-COST RATIO: No detailed economic analysis has been performed on this project.

SUMMARIZED FINANCIAL DATA		ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost	$15,900,000		Entire Project	0	Being determined
Estimated Non-Federal Cost	109,000				
Total Estimated Project Cost	$16,009,000				
Allocations to 30 September 1999	1,782,000				
Conference Amount for FY 2000	2,800,000				
Allocation for FY 2000	2,401,000[1]				
Allocations through FY 2000	4,183,000	26			

[1] Reflects $399,000 reduction assigned as savings and slippage.

SUMMARIZED FINANCIAL DATA (Continued)

		ACCUM PCT OF EST FED COST
Allocation Requested for FY 2001	8,000,000	76
Programmed Balance to Complete after FY 2001	3,717,000	
Unprogrammed Balance to Complete after FY 2001	0	

JUSTIFICATION: This site has been identified as having inadequate spillway capacity that would result in the dam embankment being overtopped by about 2.3 feet during the probable maximum flood (PMF). An abrupt increase in loss of life at about 44 percent of the PMF suggests that the dam is no longer capable of safely passing events greater than this value with adequate free board and that a failure resulting from a breach of the main embankment is possible. The potential for loss of life associated with the PMF required dam modification.

FISCAL YEAR 2001: The requested amount of $8,000,000 will be applied as follows:

Continue Construction	$7,261,000
Planning, Engineering and Design	170,000
Supervision and Administration	569,000
Total	$8,000,000

NON-FEDERAL COST: In accordance with the cost-sharing and financing concepts reflected in the Water Resources Development Act of 1986, as amended, the non-Federal sponsors must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Pay 15 percent of the cost of the dam safety modifications assigned to project purposes in the same manner as costs were allocated for the original project (0.68 percent of total project costs).	$ 109,000	$ 0
Total non-Federal Costs	$ 109,000	$ 0

The non-Federal sponsors have agreed to make required payments concurrently with project construction.

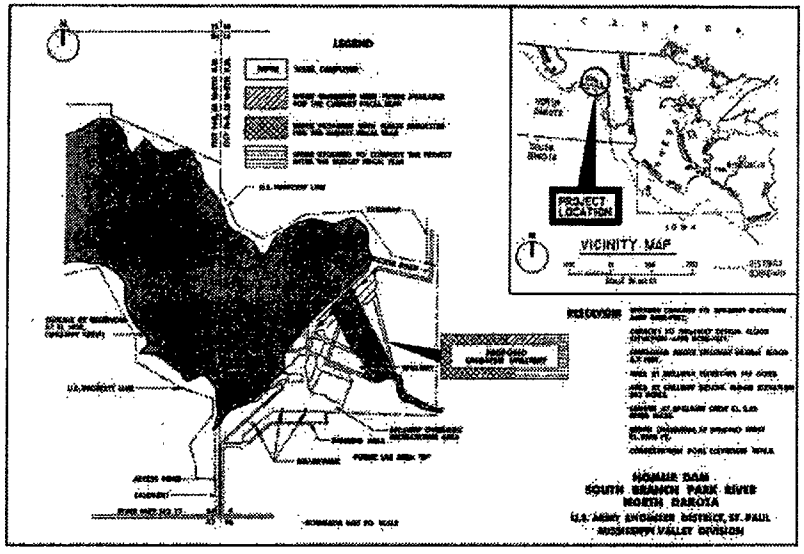
STATUS OF LOCAL COOPERATION: The Project Cooperation Agreement is expected to be executed in March 2000. The local sponsors for the original project were Park River and Grafton, North Dakota and they will be the sponsors for this project. Coordination has taken place with those two cities as well as the North Dakota Water Commission, Walsh County and the Red River Board. The state of North Dakota has expressed support for the project and has indicated it will participate in the local financial responsibilities. The local sponsors are heading an effort to coordinate local responsibilities.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $15,900,000 is a decrease of $100,000 from the latest estimate ($16,000,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	$1,441,000
Post Contract Award and Other Estimating Adjustments	-1,541,000
Total	$ -100,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The required National Environmental Protection Agency environmental documentation has been completed, and the Finding of No Significant Impact was signed on 20 February 1997. Final design is being completed on mitigation plans.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were provided in FY 1993 under the Operations and Maintenance appropriation. The Homme Lake Dam Safety reconnaissance report was approved 25 August 1994 by the Assistant Secretary of the Army (ASA). Funds were initially appropriated under the Construction, General appropriation in FY 1995.


LEGEND
PROJECT LOCATION
VICINITY MAP
HOMME DAM
SOUTH BRANCH PARK RIVER
NORTH DAKOTA

APPROPRIATION TITLE: Construction, General – Environmental Mitigation, Restoration, and Protection

PROJECT: Upper Mississippi River System Environmental Management Program, Illinois, Iowa, Minnesota, Missouri, and Wisconsin (Continuing)

LOCATION: The Program is authorized for those river reaches having commercial navigation channels on the Upper Mississippi River, Illinois River, Minnesota River, St. Croix River, and Kaskaskia River in the states of Illinois, Iowa, Minnesota, Missouri, and Wisconsin. The following counties are included: (Illinois) Jo Daviess, Carroll, Whiteside, Rock Island, Mercer, Henderson, Hancock, Adams, Pike, Calhoun, Jersey, Madison, St. Clair, Monroe, Randolph, Jackson, Union, Alexander, Pulaski, Brown, Cass, Schuyler, Fulton, Mason, Peoria, Tazewell, Woodford, Marshall, Putnam, Bureau, LaSalle, Grundy, Will; (Iowa) Allamakee, Clayton, Dubuque, Jackson, Clinton, Scott, Muscatine, Louisa, Des Moines, Lee; (Wisconsin) St. Croix, Pierce, Pepin, Buffalo, Trempealeau, La Cross, Vernon, Crawford, Grant; (Minnesota) Anoka, Hennepin, Scott, Dakota, Ramsey, Washington, Goodhue, Wabasha, Winona, Houston; (Missouri) Clark, Lewis, Marion, Ralls, Pike, Lincoln, St. Charles, St. Louis, Jefferson, Ste. Genevieve, Perry, Cape Girardeau, Scott, Mississippi.

DESCRIPTION: The purpose of the Upper Mississippi River System Environmental Management Program (UMRS-EMP) is to ensure the coordinated development and enhancement of the Upper Mississippi River System, recognizing its several purposes. Habitat rehabilitation and enhancement projects are designed to counteract the effects of backwater sedimentation. Long-Term Resource Monitoring provides scientific information for more informed management of the UMRS. Ninety-seven percent of authorized UMRS-EMP appropriations have been used to design and construct habitat rehabilitation and enhancement projects and for Long-Term Resource Monitoring. Recreation development is an authorized program element. All work is programmed.

AUTHORIZATION: FY 1985 Supplemental Appropriations Act, P.L. 99-88; Water Resources Development Act of 1986, PL 99-662, Section 1103; Water Resources Development Act of 1990, P.L. 101-640, Section 405; and the Water Resources Development Act of 1992, P.L. 102-580, Section 107, and the Water Resources Development Act of 1999, P.L. 106-53, Section 509..

REMAINING BENEFIT-REMAINING COST: The remaining benefit-remaining cost ratio for the entire project is not applicable because monetary benefits are not quantified.

TOTAL BENEFIT-COST RATIO: The total benefit-cost ratio for the entire project is not applicable because monetary benefits are not quantified. Projects within the UMRS-EMP Program are selected for design and construction based on continued assessment of habitat restoration and enhancement opportunities as determined by the involved Federal and non-Federal partners.

INITIAL BENEFIT-COST RATIO: The initial benefit-cost ratio for the entire project is not applicable because monetary benefits are not quantified.

BASIS OF BENEFIT-COST RATIO: The basis for the benefit-cost ratio for the entire project is not applicable because monetary benefits are not quantified.

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST
Estimated Federal Cost		$ 532,740,000	
Estimated Non-Federal Cost		5,692,000	
Cash Contribution	$5,692,000		
Other Costs	0		
Total Estimated Project Cost		$ 538,432,000	
Allocations to 30 September 1999		181,619,000	
Conference Allowance for FY 2000		18,955,000	
Allocation for FY 2000		16,256,000 1/	
Allocations through FY 2000		197,875,000	37
Allocation for FY 2001		18,000,000	40
Programmed Balance to Complete After FY 2001		316,865,000	
Unprogrammed Balance to Complete After FY 2001		$ 0	

1/ Reflects $2,699,000 reduction assigned as savings and slippage.

STATUS: (1 January 2000)		PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE [1]
Long Term Resource Monitoring		85	Being determined
Economic Impacts of Recreation Study		100	(SEP 92)
Traffic Monitoring		100	(SEP 90)
Habitat Rehabilitation and Enhancement Projects (Construction)			
Angle Blackburn, MO	ST. LOUIS DISTRICT	0	Being determined [2]
Batchtown Mgt. Area, IL	ST. LOUIS DISTRICT	50	Being determined [2]
Calhoun Point, IL	ST. LOUIS DISTRICT	32	Being determined [2]
Clarksville Refuge, MO	ST. LOUIS DISTRICT	100	(APR 90)
Cuivre Island, MO	ST. LOUIS DISTRICT	100	JUL 99
Dresser Island, MO	ST. LOUIS DISTRICT	100	(SEP 91)
Least Tern, MO	ST. LOUIS DISTRICT	22	Being determined
Norton Woods, MO	ST. LOUIS DISTRICT	0	Being determined [2]
Pharrs Island, Phase I, MO	ST. LOUIS DISTRICT	100	(JUN 92)
Pools 25 and 26, MO	ST. LOUIS DISTRICT	0	Being determined
Stag & Keaton Is., MO	ST. LOUIS DISTRICT	100	SEP 98
Stump Lake, IL	ST. LOUIS DISTRICT	100	NOV 98
Schenimann, MO	ST. LOUIS DISTRICT	5	Being determined
Stone Dike Alteration, IL/MO	ST. LOUIS DISTRICT	3	Being determined
Swan Lake, IL	ST. LOUIS DISTRICT	85	Being determined [2]
Andalusia Refuge, IL	ROCK ISLAND DISTRICT	100	(DEC 94)
Banner Marsh, IL	ROCK ISLAND DISTRICT	25	Being determined
Bay Island, MO	ROCK ISLAND DISTRICT	100	(NOV 94)
Bertom Lake, WI	ROCK ISLAND DISTRICT	100	(JUN 92)
Big Timber, IA	ROCK ISLAND DISTRICT	100	(JUN 95)
Brown's Lake, IA	OCK ISLAND DISTRICT	100	(SEP 94)
Chautauqua Refuge, IL	ROCK ISLAND DISTRICT	100	DEC 99
Cottonwood Island, MO	ROCK ISLAND DISTRICT	100	DEC 99
Gardner Div., IL	ROCK ISLAND DISTRICT	20	Being determined
Huron Island, IA	ROCK ISLAND DISTRICT	0	Being determined [2]
Lake Odessa, IA	ROCK ISLAND DISTRICT	0	Being determined [2]
Pool 11 Islands, WI/IA	ROCK ISLAND DISTRICT	20	Being determined
Pleasant Creek, IA	ROCK ISLAND DISTRICT	20	Being determined

STATUS: (1 January 2000) (Continued)

		PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE [1]
Molo Slough, IA	ROCK ISLAND DISTRICT	0	DEFERRED
Monkey Chute, MO	ROCK ISLAND DISTRICT	100	(AUG 89)
Peoria Lake, IL	ROCK ISLAND DISTRICT	100	(SEP 97)
Potters Marsh, IL	ROCK ISLAND DISTRICT	100	(JUN 96)
Princeton, IA	ROCK ISLAND DISTRICT	95	SEP 99
Rice Lake, IL	ROCK ISLAND DISTRICT	0	Being determined [2]
Spring Lake, IL	ROCK ISLAND DISTRICT	95	SEP 99
Ambrough Slough, WI	ST. PAUL DISTRICT	10	Being determined
Blackbird Slough, MN	ST. PAUL DISTRICT	0	DEFERRED
Blackhawk Park, WI	ST. PAUL DISTRICT	100	(NOV 90)
Bussey Lake, IA	ST. PAUL DISTRICT	100	(JUN 96)
Capoli Slough, WI	ST. PAUL DISTRICT	5	Being determined [2]
Cold Springs, WI	ST. PAUL DISTRICT	100	(JUN 94)
Conway Lake, IA	ST. PAUL DISTRICT	0	Being determined [2]
East Channel, WI, MN	ST. PAUL DISTRICT	100	(JUN 97)
Finger Lakes, MN	ST. PAUL DISTRICT	100	(JUL 94)
Guttenberg Fish Ponds, IA	ST. PAUL DISTRICT	100	(NOV 89)
Harpers Slough, WI	ST. PAUL DISTRICT	10	Being determined
Indian Slough, WI	ST. PAUL DISTRICT	100	(JUN 93)
Island 42, MN	ST. PAUL DISTRICT	100	(MAY 87)
Lake Onalaska, WI	ST. PAUL DISTRICT	100	(OCT 89)
Lansing Big Lake, IA	ST. PAUL DISTRICT	100	(NOV 94)
Long Lake, WI	ST. PAUL DISTRICT	90	Being determined
Long Meadow Lake, MN	ST. PAUL DISTRICT	5	Being determined [2]

STATUS: (1 January 2000) (Continued)		PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE 1/
Miss. Rvr Bank Stabilization, MN/WI	ST. PAUL DISTRICT	100	(SEP 99)
Peterson Lake, MN	ST. PAUL DISTRICT	100	(JUN 96)
Polander Lake, MN	ST. PAUL DISTRICT	60	Being determined
Pool 8 Isl, Phase I, WI	ST. PAUL DISTRICT	100	(JUN 93)
Pool 8 Isl, Phase II, WI	ST. PAUL DISTRICT	100	SEP 99
Pool 9 Isl Protection, WI	ST. PAUL DISTRICT	100	(JUN 95)
Pool 8 Isl, Phase III, WI	ST. PAUL DISTRICT	0	Being determined 2/
Pool Slough, IA, MN	ST. PAUL DISTRICT	7	Being determined
Rice Lake, MN	ST. PAUL DISTRICT	100	(NOV 98)
Small Scale Drawdown, WI	ST. PAUL DISTRICT	100	(SEP 97)
Spring Lake, WI	ST. PAUL DISTRICT	100	(NOV 94)
Spring Lake Isl, WI	ST. PAUL DISTRICT	5	Being determined
Trempealeau NWR, WI	ST. PAUL DISTRICT	100	SEP 99
Whitewater River, MN	ST. PAUL DISTRICT	2	DEFERRED
Lake Winneshiek, WI	ST. PAUL DISTRICT	0	Being determined 2/
Other Habitat Projects		0	Being determined 2/
Recreation		0	UNSCHEDULED
Entire Project, Except Recreation		75	Being determined 2/

1/ Parenthesis indicate actual date.
2/ Project completion dependent on availability of funds.

JUSTIFICATION: Implementation of the Upper Mississippi River System Environmental Management Program is essential to the continued viability of the Upper Mississippi River System and important to the long-term public acceptance and support of Upper Mississippi River System (UMRS) navigation. Habitat Rehabilitation and Enhancement projects help counteract the negative effects of natural and human-induced factors on the system's backwaters and side channels. Projects are selected for design and construction based on continued assessment of habitat restoration and enhancement opportunities as determined by the involved Federal and non-Federal partners. Long-Term Resource Monitoring provides data to indicate trends in key environmental parameters, analyzing sedimentation and other UMRS resource problems, and producing a spatial information database. An Economic Impacts of Recreation Study has been conducted to enable Federal and non-Federal management decisions to better consider impacts on recreation and the consequent changes in recreation-related expenditures in the local and regional economies.

FISCAL YEAR 2001: The requested amount of $18,000,000 will be applied as follows:

PROJECT	DISTRICT		STATUS
Dike Alterations	ST. LOUIS DISTRICT	$ 236,000	Continue Design
Calhoun Point, IL	ST. LOUIS DISTRICT	950,000	Continue Construction
Pools 25 & 26, MO	ST. LOUIS DISTRICT	300,000	Continue Construction
Batchtown Mgmt Area, IL	ST. LOUIS DISTRICT	1,300,000	Continue Construction
Schenimann Chute, MO	ST. LOUIS DISTRICT	300,000	Continue Construction
Banner Marsh, IL	ROCK ISLAND DISTRICT	1,000,000	Complete Construction
Gardner Division, IL	ROCK ISLAND DISTRICT	2,300,000	Continue Construction
Pool 11 Islands, WI	ROCK ISLAND DISTRICT	638,000	Continue Construction
Pleasant Creek, IA	ROCK ISLAND DISTRICT	800,000	Complete Construction
Polander Lake, MN	ST. PAUL DISTRICT	36,000	Complete Construction
Conway Lake, IA	ST. PAUL DISTRICT	60,000	Continue Design
Pool 8 Phase III, WI	ST. PAUL DISTRICT	100,000	Continue Design
Lake Winneshiek, WI	ST. PAUL DISTRICT	60,000	Continue Design
Ambrough Slough, WI	ST. PAUL DISTRICT	1,342,000	Initiate Construction
Capoli Slough, WI	ST. PAUL DISTRICT	60,000	Complete Design
Harpers Slough, WI	ST. PAUL DISTRICT	1,000,000	Initiate Construction
Pool Slough, IA	ST. PAUL DISTRICT	741,000	Complete Construction
Spring Lake Islands, WI	ST. PAUL DISTRICT	921,000	Initiate Construction
Long Term Resource Monitoring		5,546,000	Continue
Program Management		310,000	Continue
TOTAL		$18,000,000	

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986 and amended by Section 107(b) of the Water Resources Development Act of 1992, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation and Replacement Costs
Pay 25 percent of the first costs allocated to fish and wildlife enhancement for the following projects:		
Banner Marsh, IL	$ 1,228,000	$
Blackhawk Park, WI	77,000	
Bussey Lake, IA	162,000	
Cuivre Island, MO	433,000	
Peoria Lake, IL	1,082,000	
Pool Slough, IA, MN	115,000	
Princeton, IA	26,000	
Rice Lake, IL	1,997,000	
Schenimann Chute, Mo	310,000	
Swan Lake, IL	262,000	
Subtotal	$ 5,692,000	$ 0
Pay 50 percent of the first costs allocated to recreation projects.	0 [1]	
Total Non-Federal Construction Costs	$ 5,692,000	$ 0

The non-Federal sponsors have agreed to make all required payments concurrently with project costruction.

STATUS OF LOCAL COOPERATION: A Project Cooperation Agreement is required only for Program projects that are not located on lands managed as a national wildlife refuge.

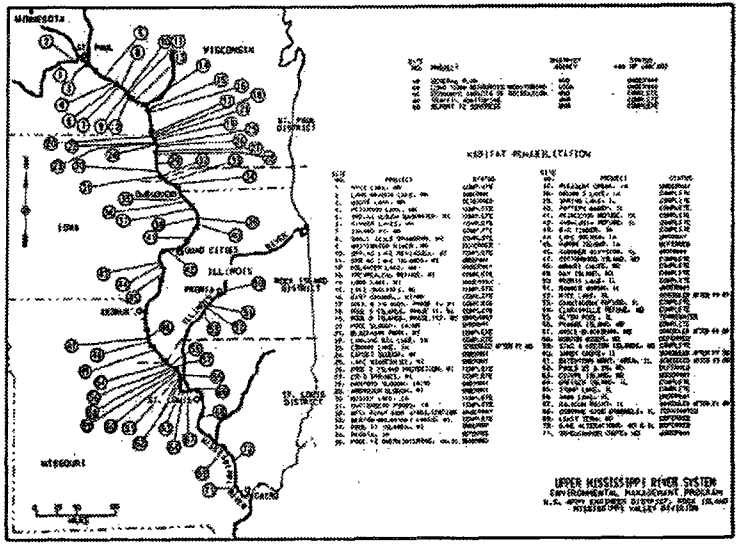
[1] No recreation projects scheduled.

COMPARISON OF FEDERAL COST ESTIMATE: The current Federal cost estimate of $532,700,000 is an increase of $289,838,000 from the latest estimate ($242,862,000) presented to Congress (FY 2000). The increase includes the following items:

Item	Amount
Authorized Modification: Reflects additional funding authorized by Section 509 of WRDA 99	$264,813,000
Sundry - reflects the incorporation of additional habitat projects in the estimate and more detailed planning of construction.	25,025,000
Total	$289,838,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: National Environmental Policy Act compliance is accomplished prior to implementation of each individual project within the Program.

OTHER INFORMATION: Funds to initiate construction were first appropriated in FY 1985. The Water Resources Development Act of 1999, P.L. 106-53, amends the previous authority to increase annual appropriation limits available to the program; require submission of a report to Congress on a 6 year cycle beginning in December 2004 that evaluates programs, accomplishments, systemic habitat needs, and identifies any needed changes to the program authorization; authorizean independent technical advisory committee.


MINNESOTA
WISCONSIN
IOWA
ILLINOIS
MISSOURI
UPPER MISSISSIPPI RIVER SYSTEM

APPROPRIATION TITLE: Construction, General - Major Rehabilitation - Locks and Dams (Navigation)

PROJECT: Lock and Dam 12, Mississippi River, Iowa (Major Rehabilitation) (Continuing)

LOCATION: The project is located at Mississippi River Mile 556.7, near the City of Bellevue, in Jackson County, Iowa. The facility is a unit of the Inland Waterway Navigation System of the Upper Mississippi River Basin and is one of twenty-nine such facilities between Minneapolis, Minnesota, and St. Louis, Missouri.

DESCRIPTION: The lock chamber is 600 feet long by 110 feet wide and has a maximum lift of 9 feet. An auxiliary lock is located adjacent to the Iowa side of the channel. The dam is 8,369-feet long and consists of a 849-foot gated section. The remaining 7,520 is an earth and rock dike section. Significant features of the work include miter gate electrical systems replacement, miter gate and tainter valve machinery replacement, miter gate anchorage bar replacement, culvert valve rehabilitation, dam tainter gate chain replacement, and additional scour projection above and below the dam. All work is programmed.

AUTHORIZATION: River and Harbor Act of 1930, Water Resources Development Acts of 1986 and 1992.

REMAINING BENEFIT-REMAINING COST RATIO: 5.5 to 1 at 7-1/8 percent.

INITIAL BENEFIT-COST RATIO: 4.5 to 1 at 7-1/8 percent.

TOTAL BENEFIT-COST RATIO: 4.4 to 1 at 7-1/8 percent.

BASIS OF BENEFIT-COST RATIO: The Mississippi River, Bellevue, Iowa, Lock and Dam No. 12 Rehabilitation Evaluation Report, dated March 1998 (March 1998 price levels) and approved by HQUSACE on 30 June 1998.

SUMMARIZED FINANCIAL DATA	
Estimated Federal Cost	$ 15,500, 000[1]
General Appropriations	7,750,000
Inland Waterways Trust Fund	7,750,000
Estimated Non-Federal Cost	0
Total Estimated Project Cost	$15,500,000

STATUS: (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project	15	Being determined

PHYSICAL DATA

Scour Protection – place rock downstream of dam (125 ft) and upstream (65 feet).
Lock Rehabilitation – 600 feet long x 110 Feet wide.
Dam Rehabilitation – 849 feet gated section And 7,520 feet rock and earthen section.

	GENERAL APPROPRIATIONS	INLAND WATERWAYS TRUST FUND	ACCUM PCT OF EST FED COST
Allocations to 30 September 1999	$ 0	$ 0	
Conference Allowance for FY 2000	1,150,000	1,150,000	
Allocation for FY 2000	986,000[2]	986,000[2]	
Allocations through FY 2000	986,000	986,000	13
Allocation Requested for FY 2001	2,630,000	2,630,000	47
Programmed Balance to Complete after FY 2001	4,134,000	4,134,000	
Unprogrammed Balance to Complete after FY 2001	0	0	

[1] Based on Rehabilitation Evaluation Report dated March 1998 in the amount of $13,562,000 (Major Rehabilitation only). The estimate was updated to October 1998 price levels and an estimated inflation allowance through the construction period was applied.

[2] Reflects $328,000 reduction assigned as Savings and Slippage, ($164,000 Construction, General and $164,000 Inland Waterways Trust Fund).

JUSTIFICATION: The Upper Mississippi River is a vital segment of the United States Inland Waterway Navigation System, serving as an economical transportation link from the Upper Midwest to the lower Mississippi River and the Gulf of Mexico. The Upper Mississippi River is essential to several of the most important economic sectors in the nation; namely agriculture, construction, and energy. The continued operation and maintenance of the locks and dams on the Upper Mississippi River in a safe and reliable mode is of sound economic importance.

Lock and Dam No. 12 was placed into operation in 1939, and has performed very well in the intervening 59 years of service. However, reliability and operational problems are occurring that have significant impacts to the navigation users of the Upper Mississippi River. These impacts, in the form of service disruptions leading to stalls and delays in traffic, result in increased transportation costs for grain, coal, petroleum products, and other bulk commodities. As stewards of inland navigation, the U.S. Army Corps of Engineers is addressing these reliability problems to ensure the lock and dam system continues satisfactory operations for current levels of traffic on the Upper Mississippi River.

The existing lock mechanical and electrical systems are original equipment installed in the 1930's. Most of the electrical components are not in compliance with the National Electric Code, and operation of the equipment is becoming a safety concern. Operation and maintenance costs will be increasing with a continued decrease in the reliability.

The lock mechanical systems are the most critical components in keeping the lock operational. Loss of function of these systems could reduce the efficiency of the lock by 60 percent. Spare parts for these machinery systems are also becoming increasingly difficult to obtain. The miter gate anchorages are original components that have experienced fatigue failures at other lock sites. Failure of these anchorages could shut down the lock for an extended period. The culvert valves control entry and exit of water for the lock. Failure of this component could reduce the efficiency or in some cases shut down the lock for an extended period. The dam tainter gate chains have experienced corrosion that has caused them to become stiff and difficult to pass over the chain sprockets. These chains have failed at other dam sites resulting in uncontrolled flow through the gate opening. Changes in design and operating criteria require the placement of additional scour protection above and below the dam. The additional protection will provide more reliable service for various water control scenarios.

Additional rehabilitation work will be accomplished utilizing the Operation and Maintenance, General, Major Maintenance Program. These components could not be justified, based on current criteria, under the Construction, General-Major Rehabilitation Program. These items include the miter gates, auxiliary miter gates, electical distribution system, lock concrete, dam roller and tainter gates, dam roller chains, dam concrete, dam service bridge, and lock bubbler systems. Lock tonnage figures for the last ten years are as follows:

Year	Tonnage	Year	Tonnage	Year	Tonnage	Year	Tonnage
1999	24,426,919	1996	22,141,000	1993	14,340,000	1990	24,703,000
1998	21,596,000	1995	21,213,000	1992	24,301,000	1989	21,087,000
1997	20,226,000	1994	17,120,000	1991	22,050,000		

The average annual benefits, all navigation, are $6,499,500.

FISCAL YEAR 2001: The requested amount of $5,260,000 will be applied as follows:

Continue Stage I, Scour Protection	$ 1,360,000
Continue Stage II, Lock Rehabiliation	3,150,000
Planning, Engineering, and Design	420,000
Supervision and Administration	330,000
Total	$ 5,260,000

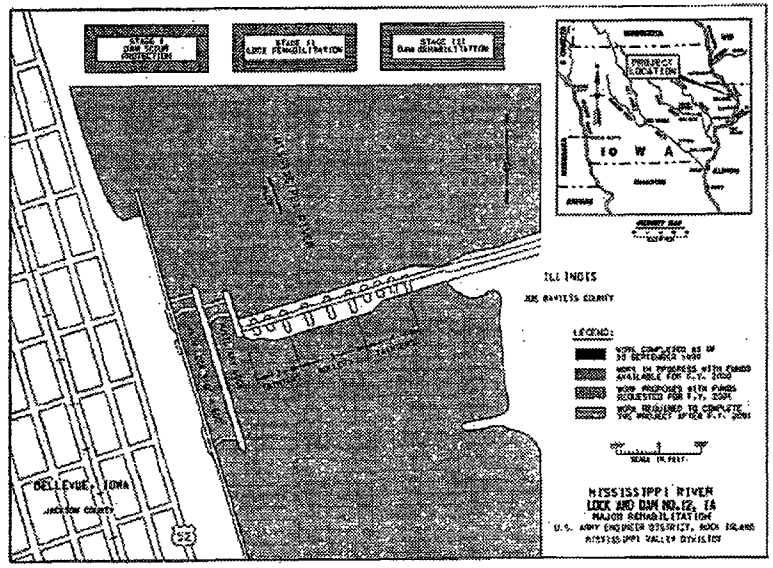
NON-FEDERAL COST: In accordance with the cost-sharing and financing concepts reflected in the Water Resources Development Act of 1986, 50 percent of the total cost of construction will be derived from the Inland Waterways Trust Fund.

STATUS OF LOCAL COOPERATION: None required.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $15,500,000 is the same as the last estimate presented to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An environmental assessment was distributed for public review in April 1997. A Finding of No Significant Impact was signed in August 1997.

OTHER INFORMATION: Operations and Maintenance, General, funds were allocated to initiate and complete the Rehabilitation Evaluation Report. Funds to initiate construction were appropriated in FY 2000. The first contract, Stage I, Scour Protection, was awarded in November 1999. The second contract, Stage II, Lock Rehabilitation is scheduled to be awarded in August 2000. The last contract, Stage III, Dam Rehabilitation is scheduled to be awarded in December 2002.


STAGE I
MAIN SCOUR PROTECTION
STAGE II
LOCK REHABILITATION
STAGE III
Dam REHABILITATION
PROJECT LOCATION
I O W A
ILLINOIS
JOE DAVIESS COUNTY
LEGEND:
WORK COMPLETED AS OF 30 SEPTEMBER 1999
WORK IN PROGRESS WITH FUNDS AVAILABLE FOR F.Y. 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR F.Y. 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER F.Y. 2001
SCALE IN FEET
BELLEVUE, IOWA
JACKSON COUNTY
52
MISSISSIPPI RIVER
LOCK AND DAM NO. 12, IA
MAJOR REHABILITATION
U.S. ARMY ENGINEER DISTRICT, ROCK ISLAND
MISSISSIPPI VALLEY DIVISION

APPROPRIATION TITLE: Construction, General – Major Rehabilitation – Locks and Dams (Navigation)

PROJECT: Lock and Dam 24, Mississippi River, Illinois and Missouri (Major Rehabilitation) (Continuing)

LOCATION: Lock and Dam 24, is located in Calhoun County, Illinois, and Pike County, Missouri, at approximately Mile 273.5 above the mouth of the Ohio River in the vicinity of Clarksville, Missouri.

DESCRIPTION: The project plan provides for the rehabilitation of portions of the structure. The work will include replecement of miter gates, auxiliary lock closure structure, power distribution system, lock motors and controllers, control system, and miter gate machinery; addition of a protection cell, bendway weirs, and debris openings in the dam guard wall; repairs to several dam bridge columns; and rehabilitation of the lock landwall, intermediate wall, upstream and downstream guidewalls, dam tainter gates and anchorages, and the Illinois abutment. All work is programmed.

AUTHORIZATION: River and Harbor Act of 1935, Water Resources Development Acts of 1986 and 1992.

REMAINING BENEFIT-REMAINING COST RATIO: 2.9 to 1 at 8 percent (Rehabilitation Report, Part 1, June 1993); 1.0 to 1 at 7 1/8 percent (Rehabilitation Report, Part 2, September 1997).

TOTAL BENEFIT-COST RATIO: 2.3 to 1 at 8 percent (Rehabilitation Report, Part 1, June 1993); 1.4 to 1 at 7 1/8 percent (Rehabilitation Report, Part 2, September 1997).

INITIAL BENEFIT-COST RATIO: 2.3 to 1 at 8 percent (FY 1996, Rehabilitation Report, Part 1, June 1993); 1.4 to 1 at 7 1/8 percent (FY 2000, Rehabilitation Report, Part 2, September 1997).

BASIS OF BENEFIT-COST RATIO: Based on two Major Rehabilitation Reports, Lock and Dam No. 24, Mississippi River, approved in June 1993 (Part 1, October 1992 price levels) and September 1997 (Part 2, October 1996 price levels). Benefit-cost ratio is a composite of all items analyzed for major rehabilitation.

SUMMARIZED FINANCIAL DATA			STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$69,994,000	Entire Project	23	Being determined
General Appropriation	$34,997,000				
Inland Waterways Trust Fund	34,997,000				
Estimated Non-Federal Cost		0			
Total Estimated Project Cost		$69,994,000			

SUMMARIZED FINANCIAL DATA (Continued)	GENERAL APPNS	INLAND WATERWAYS TRUST FUND	ACCUM PCT OF EST FED COST
Allocations to 30 September 1999	$8,160,000	$8,160,000	
Conference Allowance for FY 2000	2,522,000	2,522,000	
Allocation for FY 2000	2,038,000 [1]	2,038,000 [1]	
Allocations through FY 2000	10,198,000	10,198,000	29
Allocation Requested for FY 2001	2,875,000	2,875,000	37
Programmed Balance to Complete After FY 2001	21,924,000	21,924,000	
Unprogrammed Balance to Complete After FY 2000	0	0	

PHYSICAL DATA

Lock: Major rehabilitation of the existing lock will include replacement of miter gates, power distribution system, motors, controllers, and machinery; construction of a protection cell, bendway weirs, and debris openings in the guard wall; and rehabilitation of existing lock landwall, intermediate wall, and downstream guidewalls.

Dam: Major rehabilitation of the existing dam lock will include replacement of power distribution and control systems and auxiliary lock closure structure and rehabilitation of bridge columns and Illinois abutment.

JUSTIFICATION: Lock and Dam 24 has been operating for over 50 years. While ordinary maintenance has been performed to keep the facility operating, the wear and tear on some items is beyond ordinary maintenance. To provide an acceptable level of reliability, major rehabilitation of various structural, electrical, and mechanical components of the facility must be undertaken. The average annual benefits, all navigation, are $4,735,000 (Rehabilitation Report, Part 1, June 1993) and $5,384,000 (Rehabilitation Report, Part 2, September 1997).

[1]Reflects $718,000 reduction assigned as savings and slippage and $250,000 reprogrammed from the project. (50/50 Construction, General, and Inland Waterways Trust Fund.)

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate: Upstream Outdraft Cell	$ 664,000
Lock Concrete Rehabilitation	1,539,000
O&M Manuals	109,000
Complete: Illinois Abutment	586,000
Outdraft Wall Openings	784,000
Miter Gate	68,000
Planning, Engineering, and Design	1,600,000
Supervision and Administration	400,000
Total	$5,750,000

NON-FEDERAL COST: In accordance with the cost-sharing and financing concepts reflected in the Water Resources Development Act of 1986, 50 percent of the total cost of construction will be derived from the Inland Waterways Trust Fund.

STATUS OF LOCAL COOPERATION: None required.

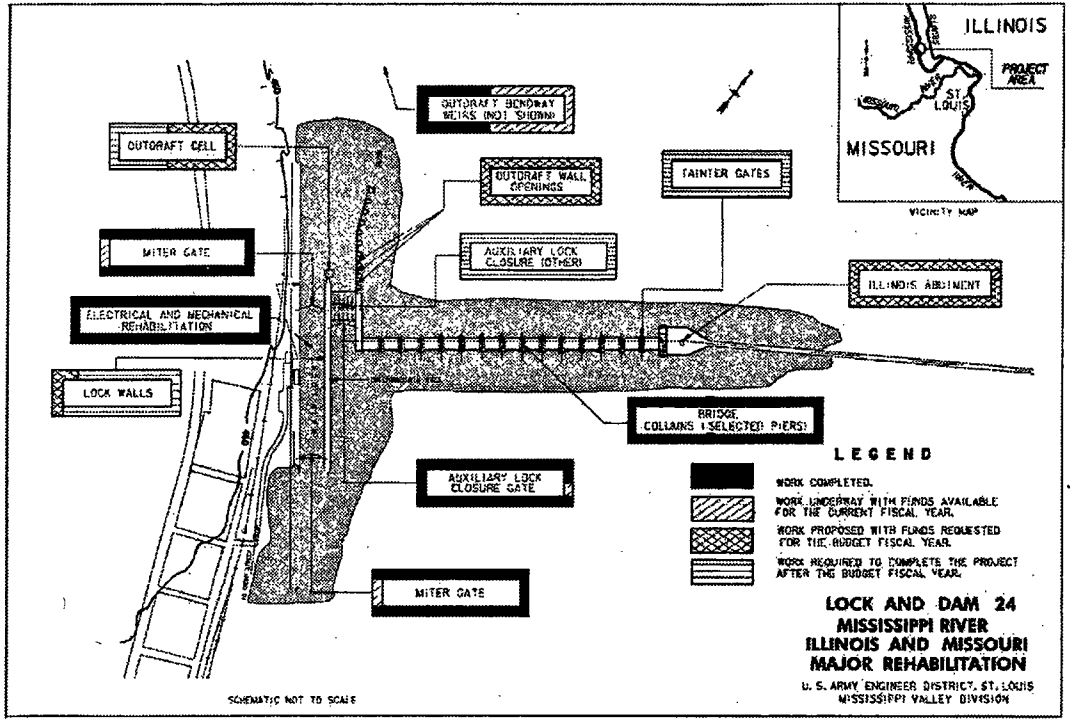
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $69,994,000 is an increase of $6,594,000 from the latest estimates ($25,000,000 for Part 1 and $38,400,000 for Part 2) submitted to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	$5,468,000
Design Changes	1,232,000
Post Contract Award and Other Estimating Adjustments (including contingency adjustments)	-106,000
Total	$6,594,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: Two environmental assessments were conducted. Each one resulted in a Finding of No Significant Impact; the first one was signed 1 February 1993 and the second, 5 March 1997. The rehabilitation reports were coordinated with the U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency, and the Missouri and Illinois Departments of Conservation. The U.S. Fish and Wildlife Service concurred with the biological assessments contained in the environmental assessments.

OTHER INFORMATION: Funds to initiate construction were appropriated in Fiscal Year 1996.

The project requires no mitigation.


ILLINOIS
PROJECT AREA
ST. LOUIS
MISSOURI
VICINITY MAP
OUTDRAFT BENDWAY WEIRS (NOT SHOWN)
OUTDRAFT CELL
OUTDRAFT WALL OPENINGS
TAINTER GATES
MITER GATE
AUXILIARY LOCK CLOSURE (OTHER)
ILLINOIS ABUTMENT
ELECTRICAL AND MECHANICAL REHABILITATION
LOCK WALLS
BRIDGE COLUMNS (SELECTED PIERS)
AUXILIARY LOCK CLOSURE GATE
MITER GATE
LEGEND
WORK COMPLETED.
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR.
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR.
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR.
LOCK AND DAM 24
MISSISSIPPI RIVER
ILLINOIS AND MISSOURI
MAJOR REHABILITATION
U. S. ARMY ENGINEER DISTRICT, ST. LOUIS
MISSISSIPPI VALLEY DIVISION
SCHEMATIC NOT TO SCALE

597

APPROPRIATION TITLE: Construction, General - Major Rehabilitation - Locks and Dams (Navigation)

PROJECT: Lock and Dam No. 3, Mississippi River, Minnesota (Major Rehabilitation) (Continuing)

LOCATION: Lock and Dam 3 is located on the Mississippi River 56 miles downstream of Minneapolis, Minnesota, and 6 miles upstream of Red Wing, Minnesota, in Goodhue County.

DESCRIPTION: The embankments at Lock and Dam 3 consist of the main embankment and an extensive system of spot dikes on both the Minnesota and Wisconsin sides of the river. The main embankment is subject to overtopping and severe damage during major flood events. The system of spot dikes on the Wisconsin side, which maintains the pool, were designed for overtopping and to provide flood flow discharge capacity. These spot dikes are deteriorating at an accelerating rate because of deterioration of associated downstream private dikes. Periodic maintenance on the spot dikes has prevented failure of the system to date. Seepage paths through the structure have developed and deteriorating grouted riprap is crumbling leaving the structures subject to erosion during major flood flows. If high water erodes the dikes, loss of pool 3 could result. This would not only curtail navigation, but would cause severe environmental and economic problems and damage. Repair of the entire dike system is vital to navigation and environmental interests and a nuclear power plant that rely on maintenance of pool 3. All work is programmed.

AUTHORIZATION: River and Harbor Act of 1930, Water Resources Development Acts of 1986 and 1992.

REMAINING BENEFIT-REMAINING COST RATIO: 2.4 to 1 at 7 5/8 percent

INITIAL BENEFIT-COST RATIO: 1.6 to 1 at 7 5/8 percent.

TOTAL BENEFIT-COST RATIO: 1.7 to 1 at 7 5/8 percent

BASIS OF BENEFIT-COST RATIO: Major Rehabilitation Evaluation Report for Lock and Dam 3 Embankments on the Mississippi River near Red Wing, Minnesota, dated 3 February 1994, October 1993 price levels.

SUMMARIZED FINANCIAL DATA		STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost	$16,200,000	Entire Project	11	Being determined
General Appropriations	$ 8,100,000			
Inland Waterways Trust Fund	8,100,000		PHYSICAL DATA	
Estimated Non-Federal Cost	0			
		Embankments 6,900 ft		
Total Estimated Project Cost	$16,200,000			

SUMMARIZED FINANCIAL DATA (Continued)

	CONSTRUCTION, GENERAL APPROPRIATIONS	INLAND WATERWAYS TRUST FUND	ACCUM PCT OF EST FED COST
Allocations to 30 September 1999	$ 920,000	$ 920,000	
Conference Allowance for FY 2000	1,600,000	1,600,000	
Allocation for FY 2000	372,000[1]	372,000[1]	
Allocations through FY 2000	1,292,000	1,292,000	16
Allocation Requested for FY 2001	2,500,000	2,500,000	47
Programmed Balance to Complete after FY 2001	4,308,000	4,308,000	
Unprogrammed Balance to Complete after FY 2001	0	0	

JUSTIFICATION: The standard project flood is used as the design discharge for major rehabilitation projects because failure of these dams would result in severe economic loss for the Upper Midwest. Under the standard project flood conditions the peak discharge is 305,000 cfs. Dam 3 is capable of discharging a maximum of 93,000 cfs, leaving the peak discharge of 212,000 cfs or 78,000 over the design parameters used to design the lock and dam 3 structure. This condition creates the potential for overtopping of the dike system by 5.3 feet. Because the dikes were not designed for this degree of exposure, modifications are required to protect the dike and prevent the probable failure of the embankment system if left unprotected. Annual navigation benefits total $1,902,000. This project addresses the spot dike problems on the Wisconsin side of the river only.

FISCAL YEAR 2001: The requested total amount of $5,000,000 will be applied as follows:

Continue Construction	$4,644,000
Planning, Engineering and Design	236,000
Supervision and Adminstration	120,000
Total	$5,000,000

NON-FEDERAL COST: Not applicable.

STATUS OF LOCAL COOPERATION: In accordance with the cost-sharing and financing concepts reflected in the Water Resources Development Act of 1986, 50 percent of the cost of construction will be derived from the Inland Waterways Trust Fund.

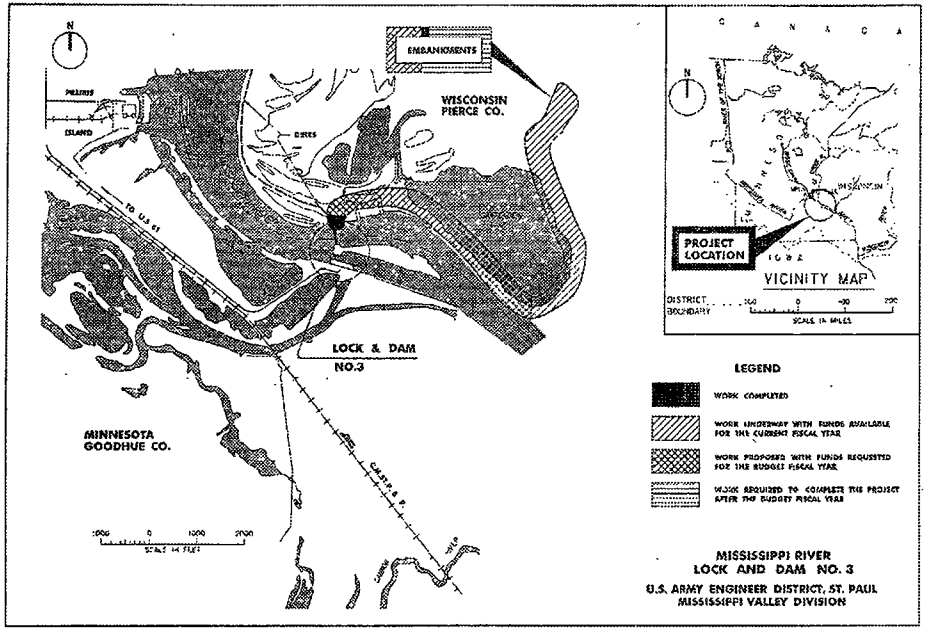
[1] Reflects $458,000 reduction assigned as savings and slippage and $2,000,000 reprogrammed from the project. (50 percent Construction, General, and 50 percent Inland Waterways Trust Fund.)

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $16,200,000 is an increase of $800,000 over the latest estimate ($15,400,000) presented to Congress (FY 2000). This change includes the following item:

Item	Amount
Price Escalation on Construction Features	$800,000
Total	$800,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An Environmental Impact Statement was prepared in June 1987 for the originally proposed project. A Finding of No Significant Impact was signed in June 1995. Changes in the original design and alignment to provide a more constructible and efficient project required preparation of an Environmental Assessment in May 1999. Signing of the Finding of No Significant Impact is pending.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in Fiscal Year 1993 under the Operations and Maintenance Appropriation. Construction was initiated in Fiscal Year 1998.


N
EMBANKMENTS
WISCONSIN
PIERCE CO.
PRAIRIE
ISLAND
DIKES
TO U.S. 61
LOCK & DAM
NO.3
MINNESOTA
GOODHUE CO.
CHESTER R.
SCALE IN FEET
C A N A D A
PROJECT
LOCATION
VICINITY MAP
DISTRICT
BOUNDARY
SCALE IN MILES
LEGEND
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR
MISSISSIPPI RIVER
LOCK AND DAM NO. 3
U.S. ARMY ENGINEER DISTRICT, ST. PAUL
MISSISSIPPI VALLEY DIVISION

601

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. Navigation

a. Channels and Harbors

The budget estimate of $153,565,000 provides for essential operation and maintenance on 30 channel projects named in the list which follows. The work to be accomplished under this activity consists of operating and maintaining the coastal navigation channels, harbors and anchorages by means of dredging, constructing bulkheads and spoil disposal areas, snagging, and repairing channel stabilizaiton works, navigation structures, and harbor jetties, all as authorized in the laws pertaining to river and harbor projects.

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Arkansas			
Helena Harbor	135,000 (30,000) (105,000)	304,000 (25,000) (279,000)	1. Variation in survey requirements. 2. None.
Osceola Harbor	523,000 (25,000) (498,000)	419,000 (23,000) (396,000)	1. None. 2. None.
White River	2,225,000 (275,000) (1,950,000)	2,258,000 (185,000) (2,073,000)	1. Variation in dredge surveys. 2. Dredging.
Yellow Bend Port	171,000 (15,000) (156,000)	125,000 (15,000) (110,000)	1. None. 2. None.

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APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. Navigation (Con'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Illinois			
Andalusia Harbor, IL	56,000 (0) (56,000)	0 (0) (0)	1. None. 2. None.
Kentucky			
Elvis Stahr Harbor	340,000 (26,000) (314,000)	361,000 (19,000) (342,000)	1. Variation in survey requirements. 2. None.
Louisiana			
Atchafalaya River, Bayous Chene, Boeuf and Black	12,631,000 (421,000) (12,210,000)	14,026,000 (636,000) (13,390,000)	1. Variation in survey requirements. 2. Dredging.
Bartaria Bay Waterway	2,119,000 (119,000) (2,000,000)	570,000 (110,000) (460,000)	1. Variation in water management activities. 2. None.
Bayou LaFourche And LaFourche Jump Waterway	5,000 (5,000) (0)	726,000 (26,000) (700,000)	1. Variation in survey requirements. 2. Dredging.

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APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. Navigation (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Bayou Segnette Waterway	0 (0) (0)	735,000 (5,000) (730,000)	1. Variation in survey requirements. 2. Dredging.
Calcasieu River	7,560,000 (760,000) (6,800,000)	12,117,000 (757,000) (11,360,000)	1. None. 2. Dredging.
Freshwater Bayou	3,585,000 (1,065,000) (2,520,000)	5,354,000 (1,034,000) (4,320,000)	1. None. 2. Variation in structural maintenance requirements and dredging.
Gulf Intracoastal Waterway	12,506,000 (7,881,000) (4,625,000)	19,478,000 (8,120,000) 11,358,000	1. None. 2. Variation in structure maintenance requirements and dredging.
Houma Navigation Canal	3,443,000 (93,000) (3,350,000)	3,175,000 (65,000) (3,110,000)	1. Variation in environmental compliance. 2. Dredging.
Lake Providence	540,000 (20,000) (520,000)	559,000 (20,000) (539,000)	1. None. 2. Dredging.
Madison Parish Port	93,000 (13,000) (80,000)	108,000 (13,000) (95,000)	1. None. 2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. Navigation (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Mississippi River Baton Rouge to Gulf of Mexico	64,430,000 (4,195,000) (60,235,000)	63,359,000 (4,426,000) (58,933,000)	1. None. 2. Dredging.
Mississippi River - Gulf Outlet	(14,989,000) (289,000) (14,700,000)	11,286,000 (286,000) (11,000,000)	1. None. 2. Dredging.
Mississippi River Outlets at Venice	2,743,000 (93,000) (2,650,000)	2,773,000 (93,000) (2,680,000)	1. None. 2. Dredging.
Waterway from IWW to B. Dulac	0 (0) (0)	45,000 (5,000) (40,000)	1. Variation in survey requirements. 2. None.
Minnesota			
Minnesota River	151,000 (60,000) (91,000)	196,000 (66,000) (130,000)	1. Variation in Real Estate Inspections. 2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. Navigation (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Mississippi			
Claiborne County Port	108,000 (8,000) (100,000)	122,000 (8,000) (114,000)	1. None. 2. None.
Mouth of Yazoo River	104,000 (26,000) (78,000)	133,000 (26,000) (107,000)	1. None. 2. None.
Rosedale Harbor	935,000 (22,000) (913,000)	645,000 (22,000) (623,000)	1. None. 2. Dredging.
Yazoo River, MS	15,000 (15,000) (0)	115,000 (15,000) (100,000)	1. None. 2. None.
Missouri			
Caruthersville Harbor	285,000 (25,000) (260,000)	184,000 (23,000) (161,000)	1. None. 2. None.
Mississippi River Between Ohio & Missouri Rivers	12,636,000 (3,487,000) (9,149,000)	13,384,000 (3,104,000) (10,280,000)	1. Variation in dredge surveys. 2. Dredging.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. Navigation (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
New Madrid Harbor	344,000 (25,000) (319,000)	259,000 (19,000) (240,000)	1. Variation in dredge surveys. 2. None.
Southeast MO Port	422,000 (10,000) (412,000)	401,000 (25,000) (376,000)	1. Variation in dredge surveys. 2. None.
Tennessee			
Wolf River Harbor	388,000 (26,000) (362,000)	348,000 (20,000) (328,000)	1. Variation in dredge surveys. 2. None.

MISSISSIPPI VALLEY DIVISION
JUSTIFICATION OF ESTMATE

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. Navigation (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
TOTAL - Channels and Harbors	143,48226,000 (19,029,000) (124,453,000)	153,565,000 (19,191,000) (134,374,000)	

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APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. Navigation (Cont'd)

'b. Locks and Dams

The program request of $144,632,000 provides for the Operation and Maintenance requirements of fourteen canalized waterways including the Illinois Waterway and Mississippi River projects. Requirements include: operation and ordinary maintenance of project facilities; labor, supplies, materials and parts for day-to-day functioning, and periodic maintenance, repairs, and replacements.

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Arkansas			
Ouachita and Black Rivers, AR and LA	6,196,000 (4,597,000) (1,599,000)	6,402,000 (4,660,000) (1,742,000)	1. None. 2. Dredging.
Illinois			
St. Louis District Illinois Waterway	1,583,000 (301,000) (1,282,000)	1,598,000 (405,000) (1,193,000)	1. Variation in dredge surveys. 2. Dredging.
Rock Island District Illinois Waterway	22,227,000 (13,358,000) (8,869,000)	22,808,000 (14,002,000) (8,806,000)	1. None. 2. Dredging.
Kaskaskia River	1,914,000 (875,000) (1,039,000)	2,081,000 (978,000) (1,103,000)	1. Variation in lock operations. 2. Dredging.

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APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. Navigation (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Illinois and Mississippi Canal, IL (Hennepin)	809,000 (0) (809,000)	562,000 (0) (562,000)	1. None. 2. Variation in bank stabilization work.
Illinois, Iowa, Minnesota, Missouri and Wisconsin			
St. Louis District Mississippi River between Missouri River & Minneapolis	16,101,000 (4,631,000) (11,470,000)	14,499,000 (5,473,000) (9,026,000)	1. Variation in periodic inspection, Lock operations. 2. Dredging.
Rock Island District Mississippi River between Missouri River & Minneapolis	38,321,000 (18,804,000) (19,517,000)	39,842,000 (19,940,000) (19,902,000)	1. None. 2. Dredging.
St. Paul District Mississippi River between Missouri River & Minneapolis	44,909,000 (18,236,000) (26,673,000)	42,765,000 (18,391,000) (24,374,000)	1. None. 2. Includes Major Rehabilitation at Locks and Dams 3, 5A-9 for $2,270,000 (See justification following this table); L/D's 2, 4, 5 and 10 Crane Carrier Supply; L/D 7 Lockwork, Stage 2, Building, Site and Control; L/D 8 Lockwork, Stage 2, Building, Site and Cotnrol; L/D 1, Cribwall Repair and Stabilization, Stage 2; L/D's 7, 8, 9 and 10, Paint Dam Service Bridges; and L/D 1, Repair Leaking Sluiceways.

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APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. Navigation (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Bayou Teche	212,000 (47,000) (165,000)	132,000 (47,000) (85,000)	1. None. 2. None.
Bayou Teche and Vermilion River	32,000 (32,000) (0)	48,000 (38,000) (10,000)	1. Variation in survey requirements. 2. None.
Mermentau River	2,445,000 (920,000) (1,525,000)	1,933,000 (888,000) (1,045,000)	1. None. 2. Dredging.
Red River Waterway, Mississippi River to Shreveport, LA	10,455,000 (5,294,000) (5,161,000)	8,907,000 (5,188,000) (3,719,000)	1. None. 2. Dredging, Bank Stabilization, miter gate repair.
Minnesota			
Reservoirs at Headwaters Mississippi River	3,123,000 (2,675,000) (448,000)	2,805,000 (2,502,000) (303,000)	1. None. 2. None.

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APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. Navigation (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Mississippi			
Pearl River, MS and LA	265,000 (265,000) (0)	250,000 (250,000) (0)	1. None. 2. None.

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APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. Navigation (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
TOTAL - Locks and Dams	148,542,000 (70,035,000) (78,557,000)	144,632,000 (72,762,000) (71,870,000)	
TOTAL - Navigation	292,074,000 (89,064,000) (203,010,000)	298,197,000 (91,953,000) (206,244,000)	

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. Flood Control

a. Reservoirs

The program request of $30,242,000 for the Operation and Maintenance of twenty two flood control reservoir projects providing the amount necessary for operation requirements. Annual requirements are for the necessary operation and ordinary maintenance of project facilities; labor, supplies, materials and parts required for day-to-day functioning of the projects; and contact law enforcement. The requested amount also applications of special recreation user fees for recreation areas.

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Illinois			
Carlyle Lake	4,990,000 (2,162,000) (2,828,000)	5,112,000 (2,355,000) (2,757,000)	1. None. 2. Replace administration building.
Farm Creek	187,000 (37,000) (150,000)	195,000 (45,000) (150,000)	1. Variation in scheduled Periodic Inspection. 2. None.
Lake Shelbyville	5,555,000 (2,400,000) (3,155,000)	5,209,000 (2,518,000) (2,691,000)	1. None. 2. Initiate Phase III shoreline restoration.
Rend Lake	4,105,000 (1,861,000) (2,244,000)	3,904,000 (2,073,000) (1,831,000)	1. Variation in recreation activities. 2. Variation in recreation maintenance.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. Flood Control (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Union Lake	10,000 (10,000) (0)	10,000 (10,000) (0)	1. None. 2. None.
Iowa			
Coralville Lake	2,938,000 (2,159,000) (779,000)	2,952,000 (2,134,000) (818,000)	1. None. 2. None.
Red Rock Dam - Lake Red Rock	4,234,000 (2,158,000) (2,076,000)	3,827,000 (2,131,000) (1,696,000)	1. None. 2. None.
Saylorville Lake	4,002,000 (3,020,000) (982,000)	4,074,000 (3,005,000) (1,069,000)	1. None. 2. None.
Louisiana			
Bayou Bodcau Reservoir	518,000 (467,000) (51,000)	509,000 (495,000) (14,000)	1. None. 2. None.
Caddo Lake	127,000 (99,000) (28,000)	127,000 (99,000) (28,000)	1. Scheduled Periodic Inspection. 2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. Flood Control (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Wallace Lake	211,000 (166,000) (45,000)	233,000 (195,000) (38,000)	1. Scheduled Periodic Inspections. 2. None.
Minnesota			
Big Stone Lake - Whetstone River	209,000 (209,000) (0)	178,000 (178,000) (0)	1. Reduction in Environmental Management. 2. None.
Lac Qui Parle Lake	492,000 (397,000) (95,000)	453,000 (385,000) (68,000)	1. None. 2. None.
Lake Traverse, MN & SD	1,573,000 (403,000) (1,170,000)	580,000 (355,000) (225,000)	1. Reduction in Periodic Inspections. 2. None.
Orwell Lake	(1,056,000) (330,000) (726,000)	315,000 (303,000) (12,000)	1. None. 2. None.
Red Lake Reservoir	486,000 (202,000) (284,000)	101,000 (101,000) 0	1. Reduction in Dam Safety Inspections. 2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. Flood Control (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Missouri			
Wappapello Lake	20,000	0	
	(0)	(0)	1. None.
	20,000	(0)	2. None.
North Dakota			
Lake Ashtabula - Baldhill Dam	1,378,000	1,230,000	
	(1,025,000)	(1,044,000)	1. None.
	(353,000)	(186,000)	2. None.
Homme Lake	174,000	153,000	
	(174,000)	(153,000)	1. Scheduled Periodic Inspection.
	(0)	(0)	2. None.
Souris River	369,000	292,000	
	(318,000)	(292,000)	1. None.
	(51,000)	(0)	2. None.
Wisconsin			
Eau Galle River Lake	670,000	735,000	
	(570,000)	(597,000)	1. None.
	(100,000)	(138,000)	2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. Flood Control (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
La Farge Lake	(52,000) (52,000) (0)	53,000 (53,000) (0)	1. None. 2. None.

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APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. Flood Control (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
TOTAL - Reservoirs	33,356,000 (18,219,000) (15,137,000)	30,242,000 (18,521,000) (11,721,000)	

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APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. Flood Control (Cont'd)

b. Channel Improvements, Inspections and Miscellaneous Maintenance

The budget estimate of $1,708,000 provides for inspection of completed works during the budget year. All work is programmed.

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Louisiana			
Bayou Pierre	25,000 (0) (25,000)	25,000 (0) (25,000)	1. None. 2. None.
Inspection of Completed	(1,658,000)	1,683,000	1. Variation in inspections.
Arkansas	(162,000)	(162,000)	
Illinois	(534,000)	(552,000)	
Iowa	(65,000)	(64,000)	
Kentucky	(5,000)	(5,000)	
Louisiana	(380,000)	(386,000)	
Minnesota	(97,000)	(94,000)	
Missouri	(145,000)	(152,000)	
Mississippi	(120,000)	(120,000)	
North Dakota	(45,000)	(44,000)	
Tennessee	(91,000)	(90,000)	
Wisconsin	(14,000)	(14,000)	

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APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. Flood Control (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
TOTAL - Channel Improvements	1,683,000	1,708,000	
Inspection and Misc	(1,658,000)	(1,683,000)	
Maintenance	(25,000)	(25,000)	
TOTAL - Flood Control	35,039,000	31,950,000	
	(19,877,000)	(20,204,000)	
	(15,162,000)	(11,746,000)	

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APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

3. Multiple Purpose Power Projects

The program request of $18,776,000 for the operation and maintenance of four multiple purpose projects provides the amount necessary for operation requirements. Annual requirements are for the necessary operation and ordinary maintenance of project facilities, labor, supplies, materials and parts required for day-to-day functioning of the project; and contract law enforcement. The requested amount also includes application of Special Recreation Use Fees for recreation areas.

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Blakely Mt. Dam	5,519,000	5,758,000	
Lake Ouachita	(4,111,000)	(4,202,000)	1. None.
	(1,408,000)	(1,556,000)	2. None.
DeGray Lake	4,118,000	4,218,000	
	(3,432,000)	(3,463,000)	1. None.
	(686,000)	(755,000)	2. None.
Narrow Dam - Lake Greeson	3,588,000	3,604,000	
	(3,028,000)	(2,969,000)	1. None.
	(560,000)	(635,000)	2. None.
Missouri			
Clarence Cannon	5,281,000	5,196,000	
and Reservoir	(3,038,000)	(3,095,000)	1. None.
	(2,243,000)	(2,101,000)	2. Variation in recreation maintenance.
TOTAL - Multiple Purpose	18,506,000	18,776,000	
	(13,609,000)	(13,729,000)	
	(4,897,000)	(5,047,000)	

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

4. Protection of Navigation

The aquatic program request shown provides for accomplishing the work necessary for the eradication of aquatic plant and project condition surveys.

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Aquatic Growth	2,270,000	2,000,000	
Louisiana	(0)	(0)	1. None.
	(2,270,000)	(2,000,000)	2. None.
Project Condition	135,000	131,000	
Surveys			
Arkansas	(5,000)	(4,000)	1. Variation in survey requirements.
Illinois	(5,000)	(4,000)	
Kentucky	(5,000)	(4,000)	
Louisiana	(80,000)	(80,000)	
Minnesota	(17,000)	(17,000)	
Mississippi	(5,000)	(4,000)	
Missouri	(5,000)	(5,000)	
Tennessee	(5,000)	(5,000)	
Wisconsin	(8,000)	(8,000)	2. None.
Surveillance of Northern	62,000	64,000	
Boundary Waters	(62,000)	(64,000)	1. None.
Minnesota	(0)	(0)	2. None.
North Dakota			
TOTAL - Protection of	2,467,000	2,195,000	
Navigation	(197,000)	(195,000)	
	(2,270,000)	(2,000,000)	

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APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

4. Protection of Navigation (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
GRAND TOTAL -	348,086,000	351,122,000	
MISSISSIPPI	(122,747,000)	(126,085,000)	
VALLEY DIVISION	(225,339,000)	(225,037,000)	

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APPROPRIATION TITLE: Operation and Maintenance - Major Rehabilitation - Locks and Dams (Navigation)

PROJECT: Mississippi River between Missouri River and Minneapolis, Minnesota, Locks and Dams Nos. 3, 5A, 6, 7, 8, and 9, Minnesota, Wisconsin and Iowa (Major Rehab)(Continuing)

LOCATION: Locks and Dams 3 and 5A-9 are located on the Mississippi River between river miles 797 and 648 and approximately between Red Wing, Minnesota and Prairie du Chien, Wisconsin. Counties located along the river in this area are Dakota, Washington, Wabasha, Winona and Houston in Minnesota; Trempealeau, Buffalo, Pierce, La Crosse, Vernon, Crawford and Grant in Wisconsin and Allamakee and Clayton in Iowa.

DESCRIPTION: The original structures were placed in operation between 1936 and 1938. Each lock and dam consists of a lock (standard dimensions of 600 ft. long by 110 ft. wide), an uncompleted auxiliary lock, a dam consisting of movable gates to control river elevation, an earth embankment and an ungated overflow spillway. Work items under the major rehabilitation program are the replacement and/or refurbishing of the mechanical and electrical systems. This includes the machinery and control systems that operate the lock gates, the valves that control the level of water in the lock, and the movable gates of the dam.

AUTHORIZATION: River and Harbor Act of 1930.

REMAINING BENEFIT-REMAINING COST RATIO: The remaining benefit-remaining cost ratio is not applicable because monetary benefits have not been quantified.

TOTAL BENEFIT-COST RATIO: The total benefit-cost ratio is not applicable because monetary benefits have not been quantified.

INITIAL BENEFIT-COST RATIO: The initial benefit-cost ratio is not applicable because monetary benefits have not been quantified.

BASIS OF BENEFIT-COST RATIO: The basis for the benefit-cost ratio is not applicable because monetary benefits have not been quantified.

SUMMARIZED FINANCIAL DATA		ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost	$66,700,000		Entire Project	67	Being determined
Estimated Non-Federal Cost	0				
Total Estimated Project Cost	$66,700,000				
			PHYSICAL DATA		
Allocations to 30 September 1999	41,478,000				
Conference Amount for FY 2000	3,617,000		DAMS:		
Allocation for FY 2000	5,097,000[1]		Replace electrical systems		6 each
Allocations through FY 2000	46,575,000	70	Replace/refurbish gate chains		29 each
			LOCKS:		
Allocation Requested for FY 2001	2,270,000	73	Replace miter gate machinery		24 each
Programmed Balance to Complete after FY 2001	17,855,000		Replace tainter valve machinery		24 each
Unprogrammed Balance to Complete after FY 2001	0		Replace electrical systems		6 each

JUSTIFICATION: The mechanical and electrical systems of the locks and dams have reached or exceeded their useful life of 50 years. Many of the mechanical components are custom made and a malfunction of any of the parts could shut down a lock for extended periods of time while replacement parts are being manufactured. A major failure of the mechanical system could close operation of the lock for 2 to 3 months. Frequent minor breakdowns which will close the lock for 2 to 3 days at a time are anticipated. Annual navigation benefits total $9,373,086.

FISCAL YEAR 2001: The requested amount of $2,270,000 will be applied as follows:

Continue Lock System Work	$ 915,000
Continue Dam System Work, Bulkhead Hoist Systems, and Gate Chains Improvements	775,000
Planning, Engineering and Design	380,000
Construction Management	200,000
Total	$2,270,000

NON-FEDERAL COST: Not applicable.

[1] Reflects $87,000 reduction assigned as savings and slippage and $1,567,000 reprogrammed to the project.

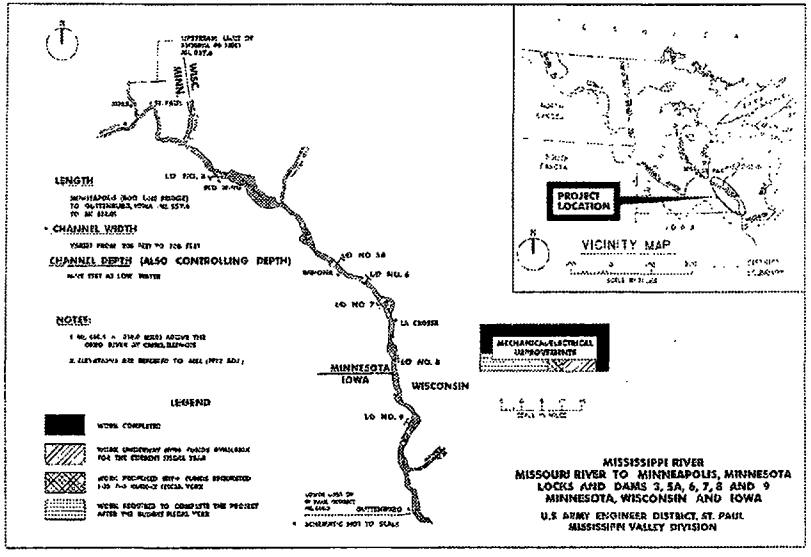
STATUS OF LOCAL COOPERATION: Not applicable.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $66,700,000 is an increase of $100,000 over the latest estimate ($66,600,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	$59,000
Post Contract Award and Other Estimating Adjustments (Including Contingency Adjustments)	41,000
Total	$100,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An Environmental Assessment was prepared in June 1987. The Finding of No Significant Impact was signed in August 1987. The Final Programmatic Environmental Impact Statement Record of Decision was signed 28 July 1989.

OTHER INFORMATION: Funds to initiate construction were appropriated in FY 1986. The project has features that must be funded concurrently with Mississippi River Operation and Maintenance funds.


LENGTH
CHANNEL DEPTH (ALSO CONTROLLING DEPTH)
NOTES:
LEGEND
LD NO. 5A
LD NO. 6
LD NO. 7
LA CROSSE
LD NO. 8
MINNESOTA
IOWA
WISCONSIN
LD NO. 9
MECHANICAL/ELECTRICAL IMPROVEMENTS
PROJECT LOCATION
VICINITY MAP
MISSISSIPPI RIVER
MISSOURI RIVER TO MINNEAPOLIS, MINNESOTA
LOCKS AND DAMS 3, 5A, 6, 7, 8 AND 9
MINNESOTA, WISCONSIN AND IOWA
U.S. ARMY ENGINEER DISTRICT, ST. PAUL
MISSISSIPPI VALLEY DIVISION

SUMMARY MISSISSIPPI RIVER COMMISSION

Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MO, MS, & TN

	FY 2000 Allocation	FY 2001 Request	Increase or Decrease
General Investigations	$ 5,730,000	$ 12,526,000	$ + 6,796,000
Survey	(2,120,000)	(3,492,000)	(+ 1,372,000)
Preconstruction Engineering and Design	(3,610,000)	(9,034,000)	(+ 5,424,000)
Construction	189,303,000	170,941,000	- 18,362,000
Operation and Maintenance, General	128,945,000	139,105,000	+10,160,000
Project Operation	(52,867,000)	(51,239,000)	(- 1,628,000)
Project Maintenance	(76,078,000)	(87,866,000)	(+11,788,000)
Less Reduction for Savings and Slippage	-14,562,000	-13, 572,000	+ 990,000
GRAND TOTAL	$309,416,000	$309,000,000	$ - 416,000

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APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO, and TN - General Investigations, Fiscal Year 2001

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
1. SURVEYS - NEW					
a. Navigation Studies: None.					
b. Flood Damage Prevention Studies: None.					
c. Shoreline Protection Studies: None.					
d. Special Studies: None.					
e. Comprehensive Studies:					
f. Watershed/Ecosystem Studies: The amount of $100,000 is requested to initiate one reconnaissance study.					
Coldwater River Basin Below Arkabutla Lake, MS Vicksburg District	100,000	0	0	100,000	0

The study area is located in northwest Mississippi approximately 30 miles south of Memphis, TN. Increased development within this segment of the Coldwater River Basin has created pressure on area streams to meet water quality standards while maintaining flood damage reduction goals. Yazoo Mississippi Delta Joint Water Management District in conjunction with Tunica County, MS, has requested assistance from the Corps of Engineers in identifying appropriate implementable measures to improve water management, water quality, and the wetland ecosystem throughout this watershed. In particular, the potential sponsors want to implement specific projects and develop guidelines for future development that will improve the aquatic environment and conserve water resources for use in agricultural production and habitat restoration. Projects will be designed to prevent increases in downstream stages or other adverse effects outside the study area. Fiscal Year 2001 funds will be used to initiate and complete the reconnaissance phase. Study authority is provided in a resolution by the Committee on Public Works, U.S. Senate, dated 29 June 1973.

Total - Watershed/Ecosystem Studies	100,000	0	0	100,000	0
TOTAL SURVEYS - NEW	100,000	0	0	100,000	0

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
2. SURVEYS - CONTINUING					
a. Navigation Studies: None.					
b. Flood Damage Prevention Studies: The amount of $2,957,000 is being requested to continue five feasibility studies in FY 2001.					
LOUISIANA					
Alexandria, LA, to the Gulf of Mexico, LA New Orleans District	3,150,000	100,000	519,000	750,000	1,781,000

The study area is located in south-central Louisiana and encompasses an area of about 1,700 square miles extending through nine parishes from Alexandria, Louisiana, to the Gulf of Mexico. The area is the drainage basin for the West Atchafalaya Basin Floodway Levee intercepted drainage system, a feature of the Mississippi River and Tributaries project, that prevents overflow from the Atchafalaya Basin Floodway and intercepts flows from the areas major outlets. The largest urban area in the study area is Alexandria, which has experienced numerous floods in its metropolitan area. New Iberia and Opelousas are also in the study area. There have been extensive flooding problems in the Alexandria area and widespread flooding throughout the basin in the more rural and agricultural areas. Since 1953 there have been fifteen significant storm events with rainfall ranging from 5.4 to 18 inches in the study area. The lower portion of the study area is in the coastal zone and is comprised of wetlands subject to hurricane flooding and related problems including erosion, subsidence, saltwater intrusion, etc. The area is very rich in fish and wildlife resources.

Fiscal Year 2000 and Fiscal Year 2001 funds will be used to continue the feasibility phase. The preliminary estimated cost of the feasibility phase is $6,100,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. The local sponsor is the Louisiana Department of Transportation and Development. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$6,200,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	3,050,000
Feasibility Phase (Non-Federal)	3,050,000

The reconnaissance phase was completed in June 1999. The feasibility study completion date is being determined.

APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO, and TN - General Investigations, Fiscal Year 2001

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Tentative Allocation FY 2000 $	Allocation FY 2001 $	Additional to Complete After FY 2001 $
Donaldsonville to the Gulf, LA New Orleans District	3,500,000	225,000	275,000	1,100,000	1,900,000

The study area is located in southeast Louisiana and includes portions of the Parishes of Assumption, St. James, St. John the Baptist, Lafourche, St. Charles, Jefferson, and Plaquemines. The area is bounded on the west by Bayou Lafourche and on the east and north by the west bank Mississippi River levee, from Donaldsonville, LA to the Gulf of Mexico. The basin is subject to rainfall, tidal, and hurricane flooding resulting in structural, agricultural and environmental damages. Flooding damages are aggravated by the long duration of high stages due to conveyance constructions. These prolonged stages destroy crops and stress the natural vegetation. Floods in June 1959, April 1980, November 1989, January 1991, and April/May 1991 produced near 100-year flood conditions with less than 100-year rainfall. Hurricane Juan in 1985 also produced near 100-year flood stages. This area has been declared a Federal disaster area three times since 1985 and has experienced several additional storms causing FEMA to provide additional individual assistance. Red Cross surveys of the area after the April/May 1991 flood event indicated some 300 residential structures were flooded to varying degrees. Flood damages also occurred in August 1992 as a result of Hurricane Andrew and in May 1995 due to heavy rainfall in the area. The expected study outcome would be to reduce flooding and flood duration by channel modifications, pumping, and water management such that structural and agricultural damages would be prevented and provide environmental restoration to stressed habitat. The study authority is provided by a House Resolution of the Committee on Transportation and Infrastructure, adopted May 6, 1998, Docket 2554. The Corps of Engineers is directed to investigate the problems, needs and opportunities of the area. The anticipated local sponsor, the Lafourche Basin Levee District, expressed support of the study effort, and is willing to cost-share the study.

FY 2000 funds are being used to complete the reconnaissance phase. Fiscal Year 2001 funds will be used to initiate the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $6,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$ 6,500,000
Reconnaissance Phase (Federal)	500,000
Feasibility Phase (Federal)	3,000,000
Feasibility Phase (non-Federal)	3,000,000

The reconnaissance phase is scheduled for completion in June 2000. The feasibility study completion date is being determined.

APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO, and TN - General Investigations, Fiscal Year 2001

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
SURVEYS - Watershed/Ecosystem					
Spring Bayou, Louisiana Vicksburg District	2,600,000	0	96,000	100,000	2,404,000

The Spring Bayou area is located in east-central Louisiana about 20 miles west of the confluence of the Mississippi, Red, and Atchafalaya Rivers. The area encompasses at least 43 lakes and streams and includes three state wildlife management areas and two national wildlife refuges. This ecosystem is being rapidly degraded from pollution of water, sedimentation, rampant growth of exotic aquatic plants and frequent, excessive flooding. Approximately 80,000 acres have been put into reforestation programs in the past 20 years with another 30,000 acres proposed for the future. However, reforestation has been hampered by frequent flooding with tree mortality running as high as 75 percent. Sediment being transported into the 12,000-acre Spring Bayou Wildlife Management Area is filling this cypress-tupelo wetland once known as Louisiana's "Sportsman's Paradise." Representatives of the U.S. Fish and Wildlife Service and the Louisiana Department of Wildlife and Fisheries have expressed concern regarding the deteriorating conditions on the refuges and management areas. The tentative non-Federal sponsor is the Avoyelles Wildlife Federation. Study authority is provided in a resolution by the Committee on Transportation and Infrastructure, U.S. House of Representatives, dated 24 March 1998.

Fiscal Year 2000 funds are being used to fully fund the reconnaissance phase at full Federal expense. If the reconnaissance report is certified to be in accord with policy, the funds requested for Fiscal Year 2001 will be used to complete the reconnaissance phase and continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $5,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one - half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$ 5,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	2,500,000
Feasibility Phase (Non-Federal)	2,500,000

The reconnaissance phase is scheduled for completion in January 2001. The feasibility study completion date is being determined.

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APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO, and TN - General Investigations, Fiscal Year 2001

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
Coldwater River Basin Above Arkabutla Lake, MS Vicksburg District	1,500,000	0	0	350,000	1,150,000

The study area includes portions of DeSoto, Marshall, and Tate Counties in northwest Mississippi. This region is experiencing rapid urbanization with associated increases in stormwater runoff, bank stabilization problems, and water quality degradation. Homes and businesses in certain locations that were previously above the 100-year flood plain are now within this flood zone. Extensive development is anticipated for the upper Coldwater River Watershed over the next 50 years which will exacerbate flooding problems already experienced in the Olive Branch area. In other areas, minor flooding will increase because of widespread changes to the flood plain. Bank caving problems are also expected to increase due to higher runoff rates. Reconnaissance phase studies have been accomplished as part of the Memphis Metro Area Reconnaissance study. The potential sponsor for this study is DeSoto County; however, other local government entities may decide to participate as the study develops.

The funds requested for Fiscal Year 2001 will be used to continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $3,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$ 3,000,000
Reconnaissance Phase (Federal)	0 [1]
Feasibility Phase (Federal)	1,500,000
Feasibility Phase (Non-Federal)	1,500,000

The reconnaissance phase is scheduled for completion in September 2000. The feasibility study completion date is being determined.

[1] Funded as Memphis Metro, TN study.

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APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO, and TN - General Investigations, Fiscal Year 2001

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Memphis Metropolitan Area, TN & MS Memphis District	2,925,000	853,000	416,000	657,000	999,000

The Memphis Metropolitan study area includes all or part of six counties: Shelby, Tipton and Fayette Counties in southwest Tennessee and DeSoto, Benton, and Marshall Counties in northwest Mississippi. The area encompasses all or part of six major drainage basins: Hatchie River, Loosahatchie River, Wolf River, Nonconnah Creek, Horn Lake Creek, and Coldwater River. The area includes approximately 2,600 square miles. The area has experienced extensive growth and development in recent years, and projections are that these trends will continue at an accelerated rate. Major problems with drainage and other infrastructure are prevalent throughout the area. Recent studies show that the 100-year flood profile has increased up to two feet in some locations as a result of development. Similar situations are expected area wide. Three potential projects have been identified as feasible in the reconnaissance study. The channel improvement projects are Fletcher Creek at an estimated cost of $2.2 million, Horn Lake Creek at an estimated cost of $5 million, and Camp Creek and Tributaries at an estimated cost of $2 million. Other problem areas have been identified for further study in the feasibility phase to determine if there is a Federal interest. Potential local sponsors are the City of Memphis, Shelby County, and the Chickasaw Basin Authority in Tennessee; and DeSoto County and the City of Horn Lake in Mississippi.

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Fiscal Year 2000 and Fiscal Year 2001 funds will be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $4,150,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$5,000,000
Reconnaissance Phase (Federal)	850,000
Feasibility Phase (Federal)	2,075,000
Feasibility Phase (Non-Federal)	2,075,000

The reconnaissance phase is scheduled for completion in September 2000. The feasibility study completion date is being determined.

APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO, and TN - General Investigations, Fiscal Year 2001

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
c. Shoreline Protection Studies: None.					
d. Special Studies: None.					
e. Comprehensive Studies: None.					
f. Collection and Study of Basic Data	N/A	N/A	365,000	435,000	0
TOTAL - SURVEYS - NEW	100,000	0	0	100,000	0
TOTAL - SURVEYS - CONTINUING	13,675,000	1,178,000	1,306,000	2,957,000	8,234,000

Surveys, Gages, and Observations. The funds requested for Fiscal Year 2001 are for collection of essential basic data which are subsequently used in the planning and design of flood control projects. The data collected under this activity are for authorized projects or units thereof for which funds have not been appropriated. The data to be collected will consist of information on stream flow, rainfall, floods, and other items of related hydrologic nature.

TOTAL - SURVEYS	13,775,000	1,178,000	1,671,000	3,492,000	8,234,000

3. PRECONSTRUCTION ENGINEERING AND DESIGN ACTIVITIES (PED) - NEW START - None.

4. PRECONSTRUCTION ENGINEERING AND DESIGN ACTIVITIES (PED) - CONTINUING:

a. Navigation: None.

b. Flood Control:

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
3. PRECONSTRUCTION ENGINEERING AND DESIGN ACTIVITIES (PED) - NEW: None.					
4. PRECONSTRUCTION ENGINEERING AND DESIGN ACTIVITIES (PED) - CONTINUING					
ARKANSAS					
Grand Prairie Region and Bayou Meto Basin, AR Bayou Meto Basin Separable Element Memphis District	12,217,000	3,800,000	1,917,000	6,500,000	0

The Grand Prairie Region and Bayou Meto Basin, Arkansas project was authorized by the Flood Control Act of 1950 and subsequently deauthorized in 1989 pursuant to provisions of Section 1001(B) of the Water Resource Development Act of 1986. The project was reauthorized for construction by the Water Resources Development Act of 1996 to include groundwater protection and conservation, agricultural water supply and waterfowl management if the Secretary determines that the change in project scope is technically sound, environmentally acceptable and economically feasible. Feasibility level investigations for the Bayou Meto Basin were conducted as part of the Eastern Arkansas Regional Comprehensive Study. Feasibility studies indicated that groundwater protection and conservation, agricultural water supply, and waterfowl management were feasible for the Bayou Meto Basin (B/C of 1.8). The Bayou Meto Basin project is located in Lonoke, Prairie, Jefferson, and Arkansas Counties in east central Arkansas. The Bayou Meto Basin requires a general reevaluation to formulate this portion of the project. The Bayou Meto Basin project area encompasses 779,109 acres, which include 369,874 acres of irrigated cropland and 22,942 acres of fishponds. The major problems identified in the area are agricultural flooding, loss of nationally significant fish and wildlife habitat resources, and the depletion of the alluvial aquifer that provides essentially all the water used for agricultural irrigation and baitfish farming and supports area wetlands. Features being evaluated include diversion of excess water from the Arkansas River with delivery through a system of new canals, existing streams, and pipelines to the water depleted areas; channel improvements and a pumping station to provide flood damage reduction; waterfowl conservation and management measures; and other environmental restoration and enhancement features. The Bayou Meto Irrigation District is the project sponsor. Preconstruction Engineering and Design (PED) will ultimately be cost shared at the project construction rate, but will initially be 100 percent Federally financed through the PED period. Cost recovery of PED costs will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$12,217,000	Total Estimated Preconstruction Engineering and Design Costs	$12,217,000
Initial Federal Share	12,217,000	Ultimate Federal Share	8,017,000
Initial Non-Federal Share	0	Ultimate Non-Federal Share	4,200,000

The project is authorized for construction. Fiscal Year 2000 funds are being used to continue preconstruction engineering and design of the Bayou Meto Basin. FY 2001 funds will be used to complete preconstruction engineering and design of the Bayou Meto Basin.

APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO, and TN - General Investigations, Fiscal Year 2001

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Tentative Allocation FY 2000 $	Allocation FY 2001 $	Additional to Complete After FY 2001 $
LOUISIANA					
Morganza, LA, to the Gulf of Mexico New Orleans District	5,520,000	0	955,000	2,000,000	2,565,000

The study area is located in south Louisiana and includes portions of Terrebonne and Lafourche Parishes. The study area is subject to primarily backwater and tidal flooding. Extensive flooding occurred in the study area in 1973. Less extensive, but still widespread flooding, has occurred since that time, notably in 1989, May 1991, and 1992. In the May 1991 event, damages in Lafourche and Terrebonne Parishes were estimated at $12,000,000. Between 1950 and 1990, the population increased from 61,000 to 97,000 or about 59 percent. Increases in population and other land use changes such as land clearing, subsidence and land loss have contributed to the increased stages. Also, there is a high probability that improvements to the existing flood control system have not kept pace with population growth and land use changes that would increase runoff. The expected outcome of the study would be to recommend hurricane protection for Terrebonne and Lafourche Parishes. The Water Resources Development Act of 1996 directed the Corps to perform a separate analysis of a lock in the Houma Navigation Canal for hurricane protection, saltwater intrusion, environmental preservation, safe harbor refuge, and potable water supply protection. This separate study was submitted to Congress in April 1997. The report recommended accomplishing Preconstruction Engineering and Design (PED) concurrent with the on-going feasibility study so that implementation would be advanced should a favorable report be authorized. PED for the Houma Navigation Lock was authorized by Congress in FY 1997. The Louisiana Department of Transportation and Development is the feasibility cost sharing sponsor and will continue as the project sponsor. PED will ultimately be cost shared at the rate for the project to be constructed but will be financed through the PED phase at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction. The initial PED estimate is for the Houma Lock portion of the project; the ultimate estimate is for the entire project.

Total Estimated Preconstruction Engineering and Design Cost	$ 2,700,000	Total Estimated Preconstruction Engineering and Design	$ 7,360,000
Initial Federal Share	2,025,000	Ultimate Federal Share	5,520,000
Initial Non-Federal Share	675,000	Ultimate Non-Federal Share	1,840,000

The project is not authorized for construction. Fiscal Year 2000 funds are being used to initiate PED on the Houma Navigation Lock. The feasibility report for the remaining portion of the study will be completed in September 2000. The PED completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Tentative Allocation FY 2000 $	Allocation FY 2001 $	Additional to Complete After FY 2001 $
TENNESSEE					
Reelfoot Lake, TN & KY Memphis District	750,000	2,000	430,000	318,000	0

Reelfoot Lake is located in Lake and Obion Counties in northwest Tennessee and Fulton County in southwest Kentucky. The Reelfoot Lake Basin extends 35 miles in a southerly direction between Hickman, Kentucky, and the Obion River in Tennessee. The basin covers an area of 268 square miles with Reelfoot Lake covering 15,500 acres at normal pool elevation. The lake and its surrounding ecosystem provide unique and significant habitat for fish and wildlife resources. A feasibility report was completed in FY 1999 with a Chief's report in December 1999. The recommended project, estimated to cost $30.9 million (fully funded) with an estimated Federal cost of $20.2 million and an estimated non-Federal cost of $10.7 million, includes a new spillway, circulation channels in the lake, a sediment retention basin, and construction of Shelby Lake and associated waterfowl management areas. Average annual benefits resulting from the project include 5,594 habitat unit values (HUV's), over 4.0 million waterfowl use days (WUDs) and $1.6 million in incidental economic benefits consisting of operation, maintenance, repair, replacement, and rehabilitation savings, enhancement of land values, recreational and commercial fishing, and agricultural production. The State of Tennessee, acting through the Tennessee Wildlife Resources Agency (TWRA), has indicated their willingness to proceed with the PED phase in a letter dated September 30, 1999.

PED will ultimately be cost shared at the rate for the project to be constructed but will be financed through the PED period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$1,000,000	Total Estimated Preconstruction Engineering and Design Costs	$ 1,000,000
Initial Federal Share	750,000	Ultimate Federal Share	650,000
Initial Non-Federal Share	250,000	Ultimate Non-Federal Share	350,000

The project is authorized for construction by Section 101(b) (11) of the Water Resources Development Act (WRDA) of 1999 (Public Law 106-53). The cost sharing for construction of the project will be at 65 percent Federal and 35 percent non-Federal in accordance with WRDA 1996. FY 2000 funds will be used to initiate PED. FY 2001 funds will be used for completion of PED in July 2001.

APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO, and TN - General Investigations, Fiscal Year 2001

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Tentative Allocation FY 2000 $	Allocation FY 2001 $	Additional to Complete After FY 2001 $
Wolf River, Memphis, TN Memphis District	579,000	0	309,000	216,000	54,000

The Wolf River study area is located in Hardeman, Fayette, and Shelby Counties, Tennessee, and Tippah, Marshall, and Benton Counties, Mississippi. The Wolf River flows northwestward approximately 86 miles to its confluence with the Mississippi River at Memphis, Tennessee, meandering through bottomland hardwood forests in its upper reaches and a man-altered channel in its lower reaches. The primary water resources problems in the basin are losses of nationally significant fish and wildlife habitat due in part to previous Corps projects. The principal purpose of the feasibility study is to examine the Wolf River corridor with respect to flood control, environmental restoration, wetlands protection, recreation, and other needs. The lower basin has experienced a change in the hydraulic regime resulting from urbanization, especially in Shelby County, causing the dying of the seasonally flooded bottomland hardwoods and other wetlands, while severe channel instability problems resulted in the loss of riparian and fisheries habitat. The instabilities also threaten public infrastructure on the main channel and tributaries. Fish pool weirs, reforestation, waterfowl habitat structures, features to stop headcutting and other measures to restore a more natural hydraulic regime to the surrounding wetlands are being considered to restore and protect the nationally significant fish and wildlife habitat in the basin. The feasibility study (completed in November 1999) estimated a first cost of $10,533,000 for construction of all the features. Average annual benefits resulting from the plan include over 2,056 habitat unit values (HUVs), 210,277 waterfowl use days (WUDs), and $734,000 in recreational benefits. The Chickasaw Basin Authority, an agency of the State of Tennessee, signed the feasibility cost sharing agreement on 21 March 1997. The feasibility phase is scheduled for completion in September 2000.

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Preconstruction engineering and design (PED) will ultimately be cost shared at the rate for the project to be constructed but will be financed through the PED period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$ 772,000	Total Estimated Preconstruction Engineering and Design Costs	$ 772,000
Initial Federal Share	579,000	Ultimate Federal Share	502,000
Initial Non-Federal Share	193,000	Ultimate Non-Federal Share	270,000

The project is not authorized for construction. The cost sharing for construction of the project will be 65 percent Federal and 35 percent non-Federal in accordance with the Water Resources Development Act of 1996. Fiscal Year 2000 funds will be used to initiate preconstruction engineering and design. Fiscal Year 2001 funds will be used to continue PED. The PED completion date is being determined.

Total - Flood Control	19,066,000	3,802,000	3,611,000	9,034,000	2,619,000
TOTAL - PED	19,066,000	3,802,000	3,611,000	9,034,000	2,619,000
GRAND TOTAL - Surveys & PED	33,641,000	4,980,000	5,282,000	12,526,000	10,853,000

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APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO, & TN - Construction

PROJECT: Mississippi River and Tributaries, Arkansas, Illinois, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee (Continuing)

LOCATION: The comprehensive project for Flood Control, Mississippi River and Tributaries will provide flood protection for the alluvial valley of the Mississippi River from Cape Girardeau, Missouri, to the Head of Passes, Louisiana; and for improvement of the Mississippi River for navigation from Cairo, Illinois, to Baton Rouge, Louisiana. It includes the main river, the basins of the St. Francis, White, Arkansas, Tensas, Red, Yazoo and Atchafalaya Rivers, the alluvial lands around Lake Pontchartrain, and the tributary streams in Western Tennessee and Kentucky. The completed project will provide protection against a project design flood, which will amount to a flow of 2,360,000 cubic feet per second at Cairo, Illinois, and 3,030,000 cubic feet per second at the latitude of Old River above Baton Rouge, Louisiana. This flow will divide near this point with 1,530,000 cubic feet per second going down the Atchafalaya River and the West Atchafalaya and Morganza Floodways. The remaining 1,500,000 cubic feet per second will continue down the Mississippi River to a point above New Orleans, where 250,000 cubic feet per second will be diverted through the Bonnet Carre' Spillway to Lake Pontchartrain. The flow past New Orleans to the Gulf of Mexico will then be 1,250,000 cubic feet per second, which is the river's safe capacity.

The control of this large quantity of water will be accomplished by every practical means of flood control, especially reservoirs, levees, cutoffs, revetments, and floodways.

The justification of the funds requested is presented on separate sheets for each major feature of the project. These major features are termed "project" for the purposes of reporting, accounting and fiscal control, and where appropriate, are further separated into their separable units.

AUTHORIZATION: Flood Control Act of 1928, as amended.

SUMMARIZED FINANCIAL DATA		ACCUM PCT OF EST FED COST
Total Estimated Federal Cost	$12,703,326,000	
Allocations to 30 September 1999	7,005,282,000	
Allocations for FY 2000	184,242,000	
Allocations through FY 2000	7,189,524,000	57
Allocations Requested for FY 2001	179,975,000	58
Programmed Balance to Complete after FY 2001	4,436,282,000	
Unprogrammed Balance to Complete after FY 2001	897,545,000	

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $12,703,326,000 for the Mississippi River and Tributaries project is an increase of $342,319,000 from the latest estimate ($12,361,007,000) submitted to Congress (FY 2000). Detail of the changes for features included in the Fiscal Year 2001 budget request are shown under the individual features on the following pages of the Justification Data.

APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO, TN - Construction

PROJECT: Mississippi River Levees, Arkansas, Illinois, Kentucky, Louisiana, Mississippi, Missouri and Tennessee (Continuing)

LOCATION: The Mississippi River Levee system on the west bank extends from Allenville, Missouri, on the Little River Diversion Channel generally southward to the vicinity of Venice, Louisiana, and on the east bank from Hickman, Kentucky, to opposite Venice, Louisiana, except where interrupted by hills and tributary streams. Included in the system are the levees which protect Mounds, Mound City and Cairo, Illinois, and the New Madrid Levee and Floodway.

DESCRIPTION: The plan of improvement provides for raising, strengthening, and in some cases, extending existing levees to provide protection against the project flood. This feature includes 1,519.5 miles of levees and 14.8 miles of floodwall.

AUTHORIZATION: Flood Control Acts of 1928, 1936, 1938, 1941, 1946, 1950, 1954, 1962, 1965, 1968, and PL 92-222.

REMAINING BENEFIT-REMAINING COST RATIO: 36.5 to 1 at 2-1/2 percent. The benefit-cost ratio is based on all features which comprise the Main Stem system of the Mississippi River and Tributaries project.

TOTAL BENEFIT-COST RATIO: 7.9 to 1 at 2-1/2 percent.

INITIAL BENEFIT-COST RATIO: This project feature of the Main Stem system was authorized in Fiscal Year 1928 and initial construction funds were provided in Fiscal Year 1928. The authorized comprehensive review of the Mississippi River and Tributaries project, contained in House Document 308/88/2, as updated to reflect 1965 conditions and price levels, is considered to be the base estimate for the Main Stem system. The benefit-cost ratio for the Main Stem components computed for the base estimate was 7.9 to 1.

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluation approved in October 1979 at 1979 price levels. The latest comprehensive analysis was conducted in 1974. The 1979 analysis is the same as the 1974 analysis except that certain undocumented benefit categories were eliminated and 1979 prices were used.

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SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST
Estimated Total Appropriation Requirement		$2,117,000,000	
Future Non-Federal Reimbursement		674,000	
Estimated Federal Cost (Ultimate)		2,116,326,000	
Estimated Non-Federal Cost		$ 73,000,000	
Cash Contributions	$ 1,400,000		
Other Costs	70,926,000		
Reimbursement	674,000		
Recreation Facilities	$674,000		
Total Estimated Project Cost		$2,189,326,000	
Allocations to 30 September 1999		$ 849,831,000	
Conference Allowance for FY 2000		30,000,000	
Allocation for FY 2000		28,647,000[1]	
Allocations through FY 2000		878,478,000	41
Allocation Requested for FY 2001		$ 40,621,000	43
Programmed Balance to Complete After FY 2001		1,197,901,000	
Unprogrammed Balance to Complete After FY 2001		0	

STATUS (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project	92	Being determined

PHYSICAL DATA	
Channel and Canals	72 miles
Levees:	
Average Height	20-35 feet
Length	1,519.5 miles
Floodwalls:	
Average Height	14-23 feet
Length	14.8 miles
Levee Berms	627.4 miles
Levee Roads	1,500.0 miles
Pumping Stations	5

[1] Reflects $1,353,000 reduction assigned as savings and slippage.

JUSTIFICATION: The Mississippi River Levees project is one of the Main Stem components which comprise the plan of improvement for the control of floods on the Mississippi River. The contribution of each element to the overall plan is inseparably related to that made by the others. Therefore, their benefits are inseparable and a composite benefit-cost ratio for the Main Stem components is necessary. The components are: Mississippi River Levees, Channel

Improvement, South Bank Arkansas and South Bank Red River Levees, the Atchafalaya Basin, Atchafalaya Floodway System, Old River and a few miscellaneous items.

The Mississippi River Levee System provides protection to 23,620 square miles and partial protection to an additional 3,780 square miles in the alluvial valley subject to flooding by the project flood. The alluvial valley is over 650 miles long and varies in width from 20 to 90 miles. Numerous railroads, highways, and airfields connecting the major transportation centers lie within the protected area as do several major transcontinental communication routes. In addition to the vast highly developed and productive agricultural areas, the levees afford protection to urban areas and many large and varied industries whose products have a vital bearing on the welfare, economy, and defense capabilities of this country.

The value of lands and improvements protected by authorized works against the design flood is $138.3 billion in 1999 dollars. This consists of 226,000 residential acres which include the City of New Orleans, 45,000 acres of commercial lands, 10 million acres of agricultural lands, and 6.5 million acres of woodland and marshland. The area subject to flooding by the project flood assuming no protective works is 22.7 million acres. The area that will be provided complete protection by the completed project is 15.1 million acres.

The maximum flood of record was the 1927 flood which overflowed about 26,000 square miles, caused the deaths of 214 people, rendered 637,000 people temporarily homeless, and caused property damages of $347.0 million. This would be equivalent to $10.4 billion damages in 1999 prices.

The next flood of magnitude was the 1973 flood which overflowed 16,875 square miles (10.8 million acres), caused the death of 28 people, and displaced approximately 45,300 persons. The deaths and displacements of persons would have been significantly higher without the project in place. Without Federal projects, approximately 19.8 million acres would have been inundated. Total damages with existing projects in operation were $643 million (1973 price levels). Damages without projects would have been $11.3 billion and total damages prevented by projects amounted to $10.6 billion. Expressed in 1999 prices, damages without the projects would have been $37.9 billion and damages prevented would have been $35.6 billion.

The benefit-cost ratio was derived by measuring the total benefits credited to those Main Stem components against their total cost. Average annual benefits for the composite of Main Stem features are as follows:

Annual Benefits	Amount
Flood Control	$2,734,073,000
Navigation	884,704,000
Area Redevelopment	3,127,000
Recreation	3,434,000
Total	$3,625,338,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate:	
Blue Lake, AR, Seepage Control	$ 1,275,000
Island 8, KY, Seepage Control	2,000,000
Hillhouse, MS, Seepage Control	3,000,000
Caruthersville, MO, Seepage Control	1,800,000
Willow Point-Youngs Point, LA, Item 461-R	50,000
Wilson Point-Point Lookout, LA, Item 485-R	300,000
Tallula-Magna Vista, MS, Item 477-L	50,000
Gap Closure, East Bank, LA, Mile 230 to 44-L	750,000
Initiate and Complete:	
Harmon, MO, Culvert	535,000
Continue:	
Lands and Damages	411,000
Surveys and Layouts	66,000
Cultural Resources Preservation	344,000
Miscellaneous Relocations	30,000
Miscellaneous Hired Labor	23,000
Wilson Point-Point Lookout, LA, Item 487-R	1,672,000
Valewood-Carlisle, MS, Item 496-L	6,000,000
Stateline-Wilson Point, LA, Item 503-R	4,500,000
Wilson Point-Point Lookout, LA, Item 480-R	1,500,000
Carville-Marchand, LA, Mile 189 to 181-L	1,500,000

Complete:	
Below Commerce, MO, Relief Wells, Parcel 3	1,258,000
Highway 22 Culvert, Tiptonville, TN	1,000,000
Drinkwater, MO, Pump Station	1,319,000
Wilson Point-Point Lookout, LA, Item 489-R	420,000
Reveille-Point Pleasant, LA, Mile 207 to 197-R	847,000
Carolina-Valewood, MS, Item 502-L(2)	2,402,000
Planning, Engineering and Design	5,418,000
Supervision and Administration	2,151,000
Total	$40,621,000

NON-FEDERAL COST: In accordance with the Flood Control Acts of 1928, 1936, 1938, 1941, 1946, 1950, 1954, 1962, 1965, 1968 and PL 92-222, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights-of-way, and borrow and excavated or dredged material disposal areas.	$70,604,000	
Minor maintenance of all flood control works after their completion, except controlling and regulating spillway structures, including special relief levees; maintenance includes normally such matters as cutting grass, removal of weeds, local drainage and minor repairs to mainline river levees.		$1,058,000
Pay one-half of the separable costs allocated to recreation (except recreational navigation) and bear all costs of operation, maintenance, repair, rehabilitation and replacement of recreation facilities.	2,074,000	141,900
Other (levee and revetment construction)	322,000	
Total Non-Federal Costs	$73,000,000	$1,199,900

STATUS OF LOCAL COOPERATION: It is estimated that local interests had spent approximately $292,000,000 for flood protection prior to the Act of 15 May 1928. After passage of the Act, the 37 levee districts along the Mississippi River adopted resolutions assuring the United States that the requirements of local cooperation will be met. These local interests have acquired all rights-of-way for work completed and underway and will try to provide the rights-of-way for work scheduled for Fiscal Year 2001. Some levee boards are having difficulty in providing right-of-way when requested because of financial problems, even for construction work in areas where the existing levees are farthest below the authorized grade. Supplemental assurances covering the requirements of the Uniform Relocations Assistance and Real Property Acquisition Policies Act of 1970 (PL 91-646) have been accepted for Main Stem Mississippi River Levees in Arkansas, Illinois, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee.

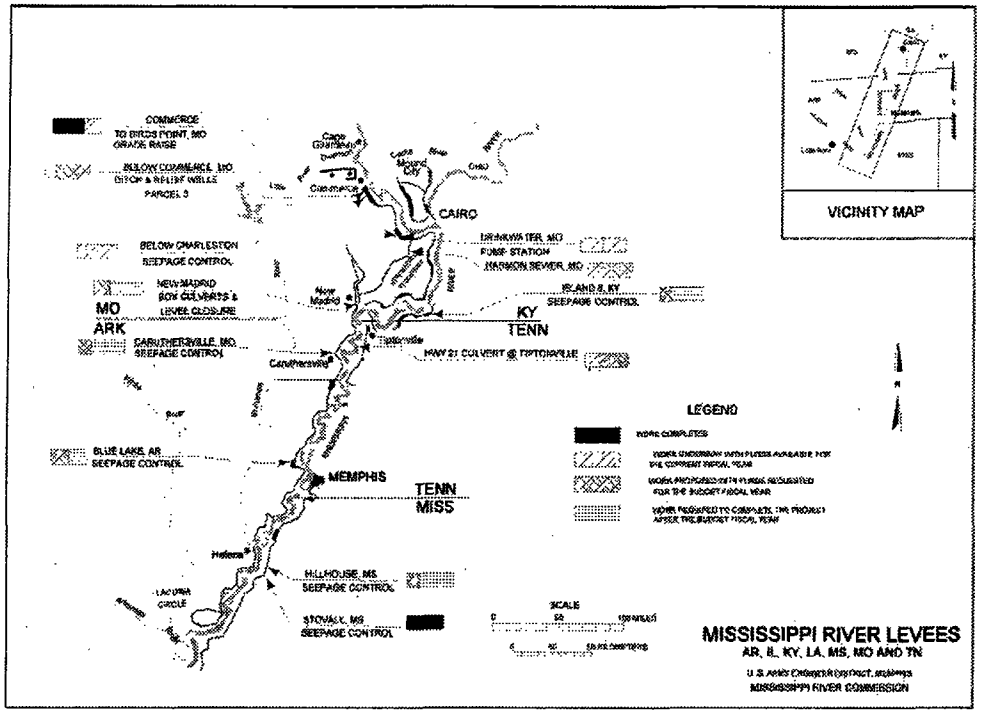
Assurances of local cooperation for the recreation facilities at Warfield Point, Mississippi, were accepted on 14 October 1969. Supplemental assurances covering the River and Harbor Act of 1970 (PL 91-611) and PL 91-646 were accepted 7 August 1972. Assurances have not as yet been requested for the recreation facilities at Mississippi River State Park, Arkansas.

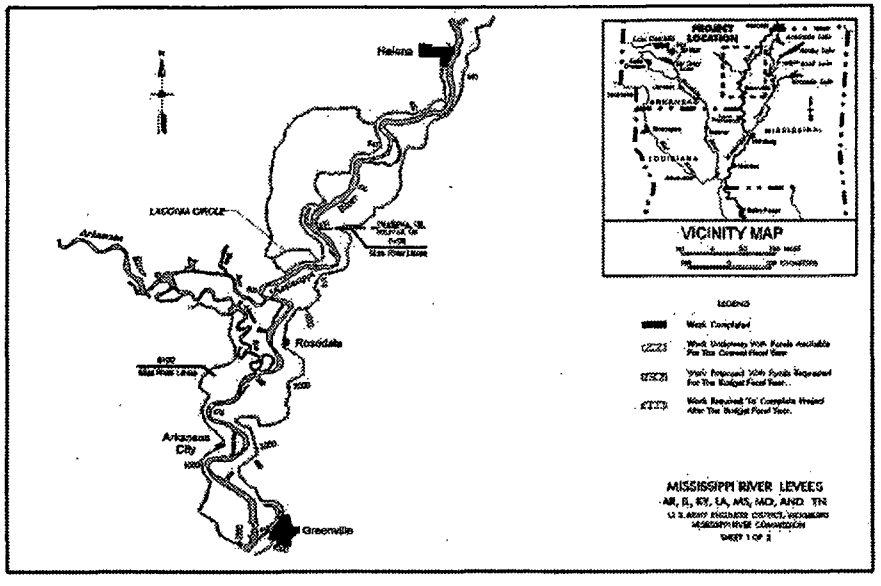
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $2,117,000,000 is an increase of $122,000,000 from the latest estimate ($1,995,000,000) presented to Congress (FY 2000). This change includes the following items:

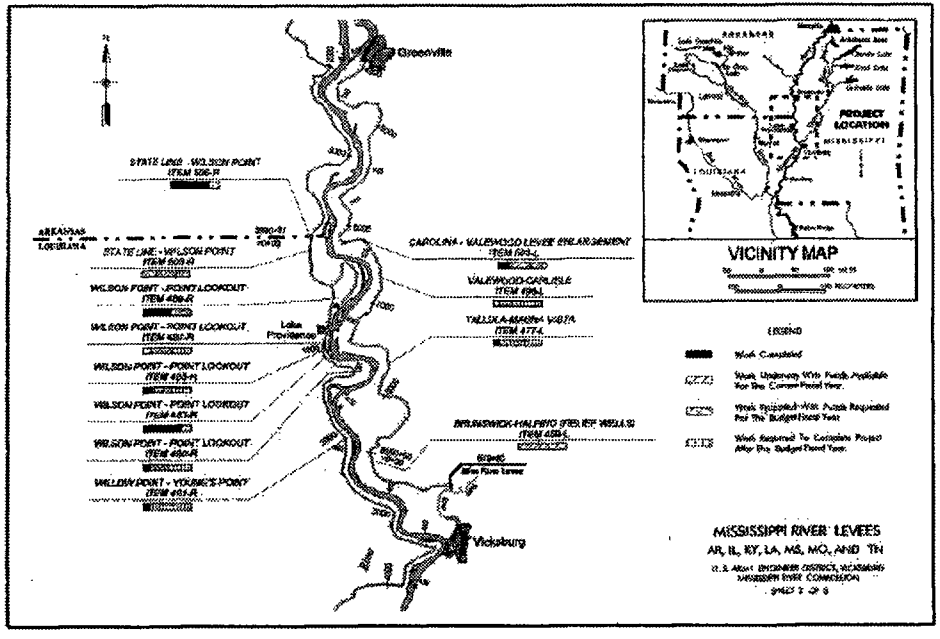
Item	Amount
Price Escalation on Construction Features	$103,901,000
Post Contract Award and Other Estimating Adjustments	14,174,000
Price Escalation on Real Estate	3,925,000
Total	$122,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Final Environmental Impact Statement was filed with the Council on Environmental Quality on 16 April 1976. A Supplemental Environmental Impact Statement for the project has been completed and the Record of Decision was signed on 5 October 1998. The adequacy of the Supplemental Environmental Impact Statement was challenged but upheld by the United States District Court for the Eastern District of Louisiana on September 8, 1999. Plaintiffs have appealed the decision to the Fifth Circuit Court of Appeals.

OTHER INFORMATION: Initial construction funds were appropriated in Fiscal Year 1928.


COMMERCE
TO BIRDS POINT, MO
GRADE RAISE
BELOW COMMERCE, MO
DITCH & RELIEF WELLS
PARCEL 3
BELOW CHARLESTON
SEEPAGE CONTROL
NEW MADRID
BOX CULVERTS &
LEVEE CLOSURE
MO
ARK
CARUTHERSVILLE, MO
SEEPAGE CONTROL
BLUE LAKE, AR
SEEPAGE CONTROL
HILLHOUSE, MS
SEEPAGE CONTROL
STOVALL, MS
SEEPAGE CONTROL
CAIRO
BRANDYWINE, MO
PUMP STATION
HARRISON SEWER, MO
ISLAND 8, KY
SEEPAGE CONTROL
KY
TENN
HWY 51 CULVERT @ RIPLEY/HALE
MEMPHIS
TENN
MISS
LEGEND
WORK COMPLETED
SCALE
MISSISSIPPI RIVER LEVEES
AR, IL, KY, LA, MS, MO AND TN
MISSISSIPPI RIVER COMMISSION
VICINITY MAP


Helena
LAGOONA CIRCLE
Arkansas
Rosedale
Arkansas City
Greenville
PROJECT LOCATION
VICINITY MAP
LEGEND
Work Completed
MISSISSIPPI RIVER LEVEES
AR, IL, KY, LA, MS, MO, AND TN


Greenville
Vicksburg
STATE LINE - WILSON POINT
ITEM 505-R
ARKANSAS
LOUISIANA
STATE LINE - WILSON POINT
ITEM 505-R
WILSON POINT - POINT LOOKOUT
ITEM 456-R
WILSON POINT - POINT LOOKOUT
ITEM 456-R
WILSON POINT - POINT LOOKOUT
ITEM 455-R
WILSON POINT - POINT LOOKOUT
ITEM 457-R
WILSON POINT - POINT LOOKOUT
ITEM 460-R
WILSON POINT - YOUNG'S POINT
ITEM 461-R
CAROLINA - VALEWOOD LEVEE ENLARGEMENT
ITEM 593-L
VALEWOOD-CARLISLE
ITEM 596-L
YAZOO BASIN YAZOO
ITEM 477-L
BRUNSWICK-HALEPATO (FIELD'S) LEVEE
ITEM 459-L
Lake Providence
Mile Point Levee
PROJECT LOCATION
VICINITY MAP
LEGEND
Work Completed
Work Underway With Funds Available For The Current Fiscal Year.
Work Requested With Funds Requested For The Budget Fiscal Year
Work Required To Complete Project After The Budget Fiscal Year.
MISSISSIPPI RIVER LEVEES
AR, IL, KY, LA, MS, MO, AND TN
U.S. ARMY ENGINEER DISTRICT, VICKSBURG
MISSISSIPPI RIVER COMMISSION

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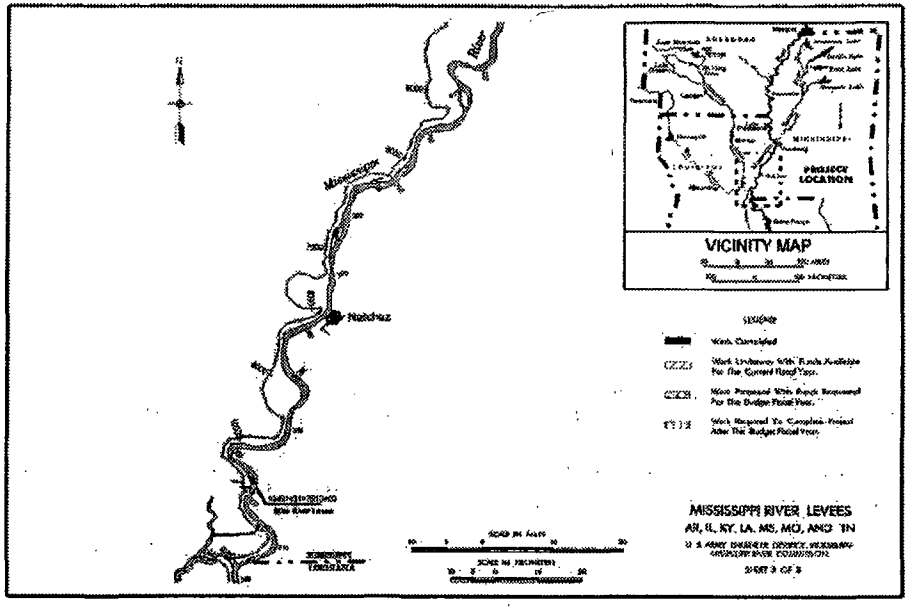
PROJECT LOCATION
VICINITY MAP
MISSISSIPPI RIVER LEVEES
AR, IL, KY, LA, MS, MO, AND TN

APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO and TN - Construction

PROJECT: Channel Improvement, Arkansas, Illinois, Kentucky, Louisiana, Mississippi, Missouri and Tennessee (Continuing)

LOCATION: The project is located in the Mississippi River and along its banks from the vicinity of Cairo, Illinois, to the Head of Passes, Louisiana, a distance of approximately 966 miles.

DESCRIPTION: The plan of improvement consists of stabilizing the banks of the river in a desirable alignment and obtaining the most efficient flow characteristics for it for flood control and navigation by means of revetments, dikes, foreshore protection, and improvement dredging. All work is programmed.

AUTHORIZATION: Flood Control Acts of 1928, 1936, 1938, 1941, 1944, 1962, 1965, 1966, and 1970.

REMAINING BENEFIT-REMAINING COST RATIO: 36.5 to 1 at 2-1/2 percent. The benefit-cost ratio is based on all features which comprise the Main Stem system of the Mississippi River and Tributaries project.

TOTAL BENEFIT-COST RATIO: 7.9 to 1 at 2-1/2 percent.

INITIAL BENEFIT-COST RATIO: This project feature of the Main Stem system was authorized in Fiscal Year 1928 and initial construction funds were provided in Fiscal Year 1928. The authorized comprehensive review of the Mississippi River and Tributaries project, contained in House Document 308/88/2, as updated to reflect 1965 conditions and price levels, is considered to be the base estimate for the Main Stem system. The benefit-cost ratio for the Main Stem components computed for the base estimate was 7.9 to 1.

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluation approved in October 1979 at 1979 price levels. The latest comprehensive analysis was conducted in 1974. The 1979 analysis is the same as the 1974 analysis except that certain undocumented benefit categories were eliminated and 1979 prices were used.

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SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$3,697,000,000		Entire Project	95	Being determined
Estimated Non-Federal Cost		$ 1,900,000				
Cash Contributions	$1,800,000					
Other Costs	100,000					
Total Estimated Project Cost		$3,698,900,000		PHYSICAL DATA		
Allocations to 30 September 1999		$2,530,826,000		Lands and Damages		19,135 acres
Conference Allowance for FY 2000		37,685,000		Revetments		1,085 miles
Allocation for FY 2000		35,991,000[1]		Dikes		339 miles
Allocations through FY 2000		2,566,817,000	69	Dredging		As required
				Foreshore Protection		160 miles
Allocation Requested for FY 2001		$ 35,690,000	70	Pumping Station		1
Programmed Balance to Complete After FY 2001		1,094,493,000				
Unprogrammed Balance to Complete After FY 2001		0				

[1] Reflects $1,694,000 reduction assigned as savings and slippage.

JUSTIFICATION: The Channel Improvement Project is one of the Main Stem components which comprise the plan of improvement for the control of floods on the Mississippi River. The contribution of each element to the overall plan is inseparably related to that made by the others. Therefore, their benefits are inseparable and a composite benefit-cost ratio for the Main Stem components is necessary. The components are: Mississippi River Levees, Channel Improvement, South Bank Arkansas and South Bank Red River Levees, the Atchafalaya Basin, Atchafalaya Floodway System, Old River, and a few miscellaneous items.

The Mississippi River, with a drainage area of about 1,245,000 square miles, has a wide range of flow, increasing from an approximate minimum of 90,000 cubic feet per second (675,000 gallons per second) to a maximum of 2,345,000 cubic feet per second (17,587,000 gallons per second) which occurred in 1927 at the latitude of Red River Landing. The project flood is 3,030,000 cubic feet per second (22,500,000 gallons per second). Part of the tremendous energy of this volume of flowing water is directed toward a relentless attack on the banks of the river, causing the unprotected banks to cave into the river. As this caving progresses, the attack becomes more direct, the bendway moves in toward the levee, and more sediment is placed in the river and deposited downstream in the form of a sandbar. This bar gradually builds out into the channel and deflects the river's attack to the opposite bank. As the cycle is repeated the river tends to meander and lengthen. Revetment is placed against the banks of the river at locations where mainline levees are being threatened with destruction or where

unsatisfactory alignment and channel conditions are developing. Revetment serves a three-fold purpose in that the river is prevented from encroaching on the Main Stem levees, excess material is kept out of the stream, and a favorable channel alignment and depth are maintained. An objective of the plan is to preserve favorable alignments and efficient cross-sectional areas and to prevent the river from creating new meander patterns. In wide reaches of the river, dikes are used to contract the channel width so as to produce a single efficient channel for navigation and to insure the flood carrying capacity of the river. Chutes and secondary channels are closed for the same purpose. Improvement dredging is employed to assist the river in removing natural obstructions which deflect the current into undesirable patterns of flow and to assist in developing an efficient channel. Foreshore protection is utilized to preserve the integrity of the Mississippi River Levees from attack by erosion of the batture. Erosion of the batture leads to steep slopes which, when undermined, result in considerable loss of batture and possible failure of the levee.

The value of lands and improvements protected by the Main Stem System authorized works against the design flood is $138.3 billion in 1999 dollars. This consists of 226,000 residential acres which include the City of New Orleans, 45,000 acres of commercial lands, 10 million acres of agricultural lands, and 6.5 million acres of woodland and marshland. The area subject to flooding by project flood assuming no protective works is 22.7 million acres. The area that will be provided complete protection by the completed project is 15.1 million acres.

The maximum flood of record was the 1927 flood which overflowed about 26,000 square miles, caused the deaths of 214 people, rendered 637,000 people temporarily homeless, and caused property damages of $347.0 million. This would be equivalent to $10.4 billion in damages in 1999 prices.

The next flood of magnitude was the 1973 flood which overflowed 16,875 square miles (10.8 million acres), caused the death of 28 people, and displaced approximately 45,300 persons. The deaths and displacements of persons would have been significantly higher without the project in place. Without Federal projects, approximately 19.8 million acres would have been inundated. Total damages with existing projects in operation were $643 million (1973 price levels). Damages without projects would have been $11.3 billion and total damages prevented by projects amounted to $10.6 billion. Expressed in 1999 prices, damages without the projects would have been $37.9 billion and damages prevented would have been $35.6 billion.

The benefit-cost ratio was derived by measuring the total benefits credited to those Main Stem components against their total cost. Average annual benefits for the composite of Main Stem features are as follows:

Annual Benefits	Amount
Flood Control	$2,734,073,000
Navigation	884,704,000
Area Redevelopment	3,127,000
Recreation	3,434,000
Total	$3,625,338,000

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FISCAL YEAR 2001: The requested amount will be applied as follows:

Revetments	$ 25,923,000
Dikes	9,767,000
Total	$ 35,690,000

Revetments: The planned program consists of items of work for which funds will be required as follows:

Lands and Damages	$ 100,000
Construction of Revetments	19,483,000
Cultural Resources	60,000
Planning, Engineering, and Design	5,630,000
Supervision and Administration	650,000
Total	$ 25,923,000

The items of revetment work are:	Approximate length in feet:
Cedar Point - Densford, TN	5,000
Lake Concordia, MS	2,000
Baleshed-Stack Island, MS-LA	1,000
Milliken Bend, LA	1,000
Ashland, MS-LA	1,500
Hog Point, LA	2,000
Nestor, LA	2,000
Reinforcement	11,409

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Dikes: The planned dike work consists of the following items:

Big Island, AR	$3,055,000
Caulk Neck, AR	700,000
Below Yellow Bend, MS	150,000
Vaucluse Bendway Weirs, AR, Phase I	900,000
Below Grand Gulf, MS	1,000,000
Yucatan, LA	1,300,000
Lands and Damages	45,000
Cultural Resources	20,000
Planning, Engineering, and Design	2,047,000
Supervision and Administration	550,000
Total	$9,767,000

NON-FEDERAL COST: In accordance with Section 4 of the Flood Control Act of 1944, as amended by Section 207 of the Flood Control Act of 1962, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, and Replacement Costs
Provide lands, easements, rights-of-way, and borrow and excavated or dredged material disposal areas.	$ 100,000	
Pay one-half of the separable costs allocated to recreation (except recreational navigation) and bear all costs of operation, maintenance, and replacement of recreation facilities.	1,800,000	$ 160,000
Total Non-Federal Costs	$ 1,900,000	$ 160,000

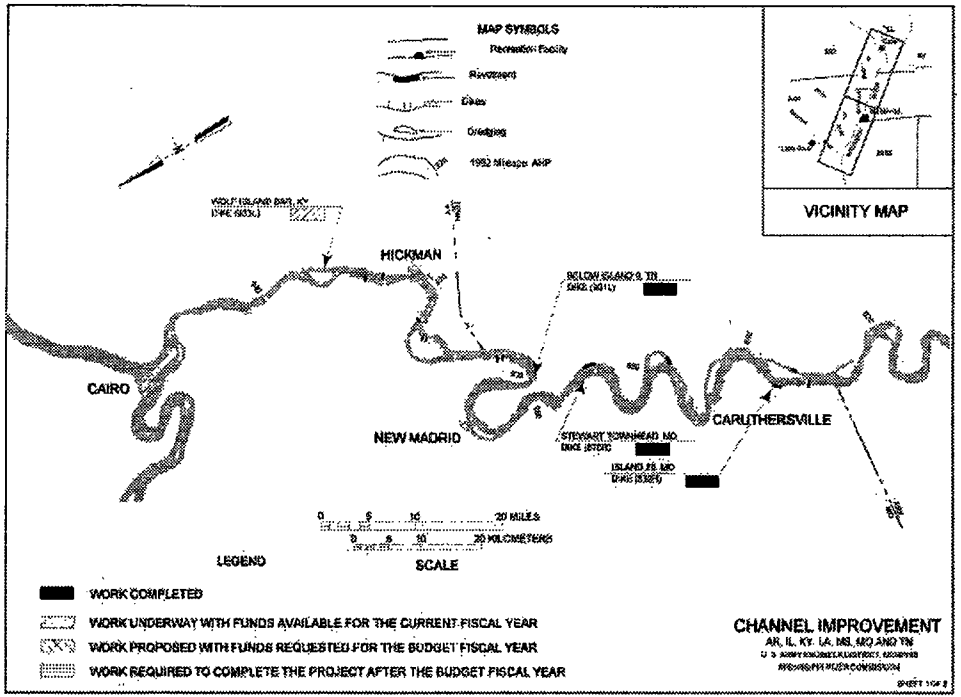
STATUS OF LOCAL COOPERATION: Assurances furnished by the Missouri Department of Conservation for the Dorena Recreation Facility were accepted 27 August 1971; assurances furnished by the Tennessee Department of Conservation for the Richardson Landing Recreation Facility were accepted 3 September 1976; and assurances furnished by the City of Memphis, Tennessee, for Volunteer Bicentennial Park were accepted 11 September 1975. Assurances furnished by the City of Osceola, Arkansas, for Lake Neark, Arkansas, are embodied in the contract for cost sharing approved on 19 September 1982. A Local Cooperation Agreement for the Ed Jones Boat Ramp with the State of Tennessee was signed 27 October 1988. A Local Cooperation Agreement for the Shelby Forest Boat Ramp with the State of Tennessee was signed 11 October 1990. A Local Cooperation Agreement for the Dyersburg, Tennessee, Boat Ramp with the State of Tennessee was signed 11 July 1994.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $3,697,000,000 is an increase of $30,000,000 from the latest estimate ($3,667,000,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	$30,204,000
Post Contract Award and Other Estimating Adjustments	- 120,000
Price Escalation on Real Estate	- 84,000
Total	$30,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Final Environmental Impact Statement was filed with the Council on Environmental Quality on 16 April 1976.

OTHER INFORMATION: Initial construction funds were appropriated in Fiscal Year 1928.


MAP SYMBOLS
Revetment
Dikes
Dredging
1992 Mileage ARP
VICINITY MAP
HICKMAN
CAIRO
NEW MADRID
CARUTHERSVILLE
20 MILES
20 KILOMETERS
LEGEND
SCALE
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR
CHANNEL IMPROVEMENT
AR, IL, KY, LA, MS, MO AND TN

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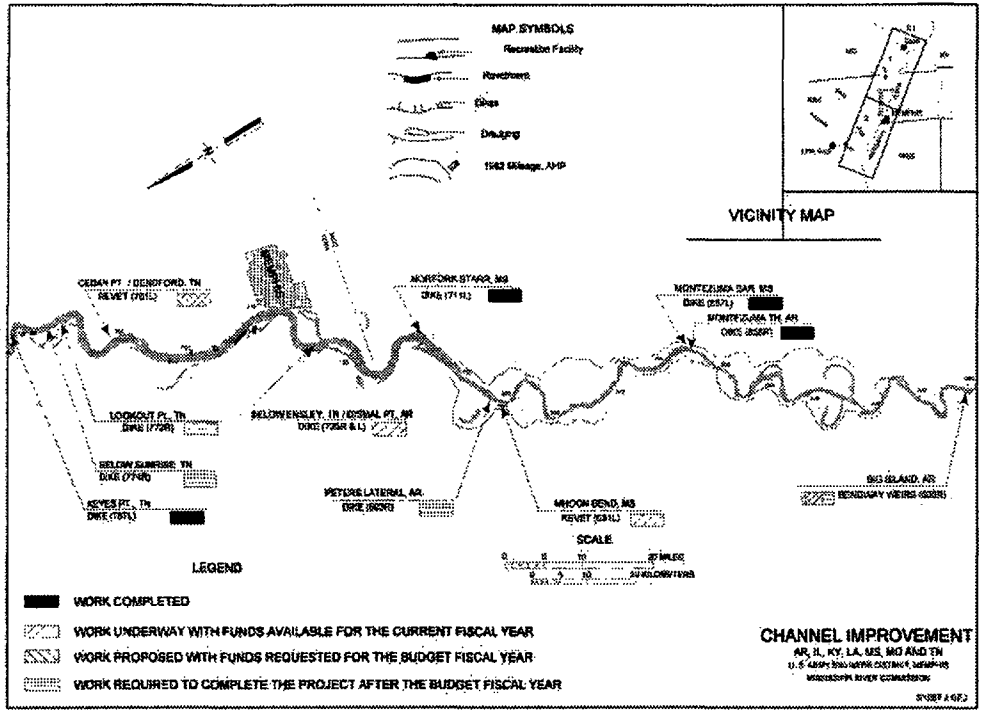
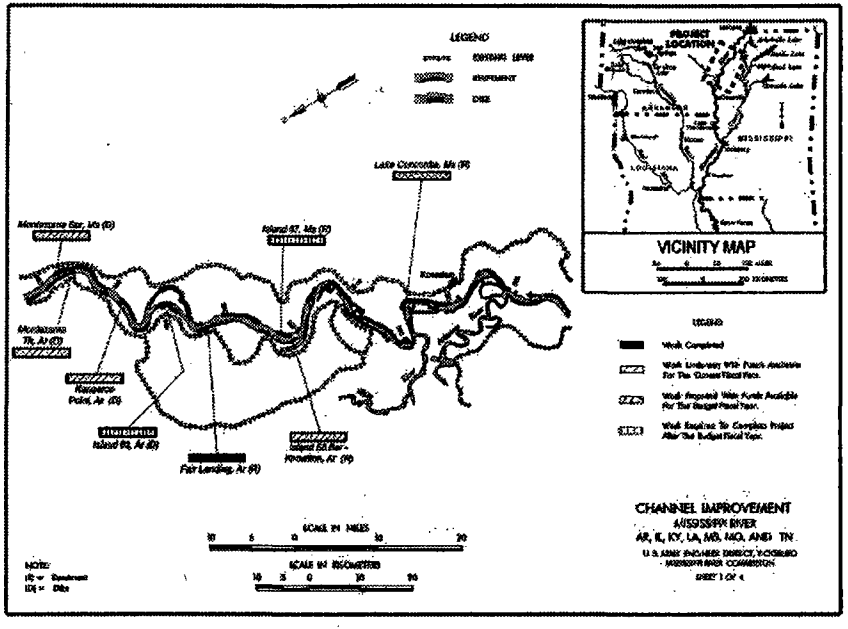
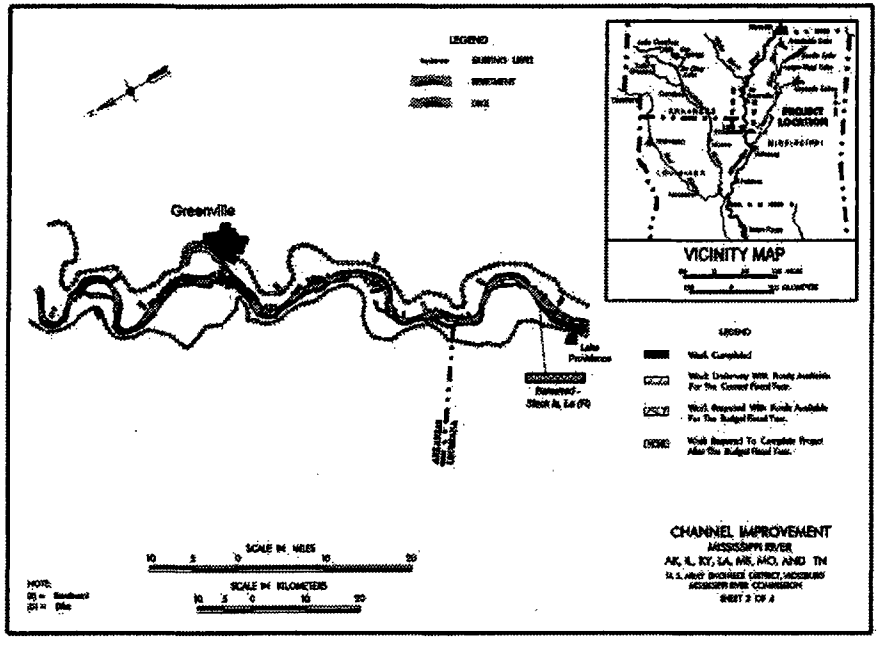
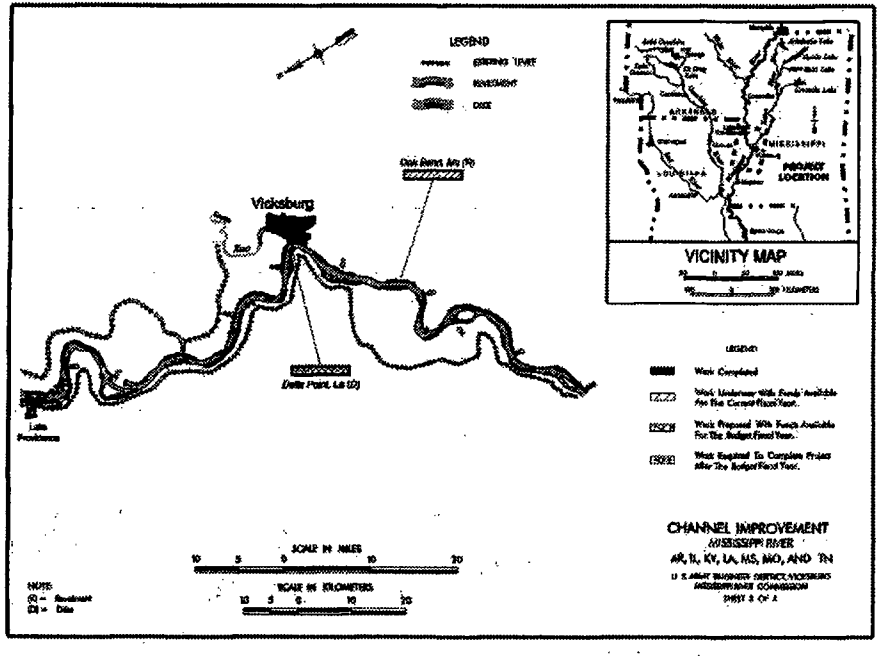
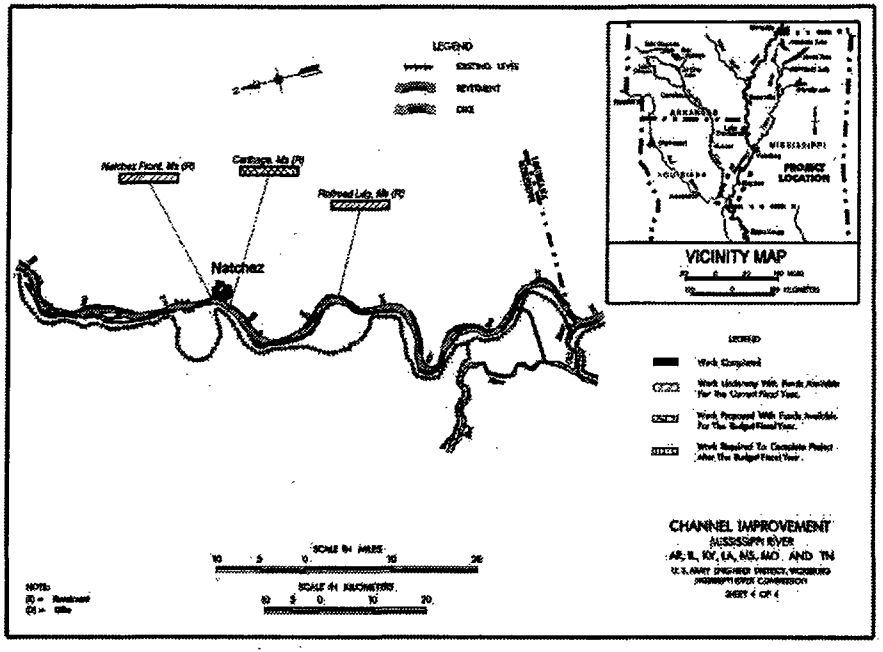
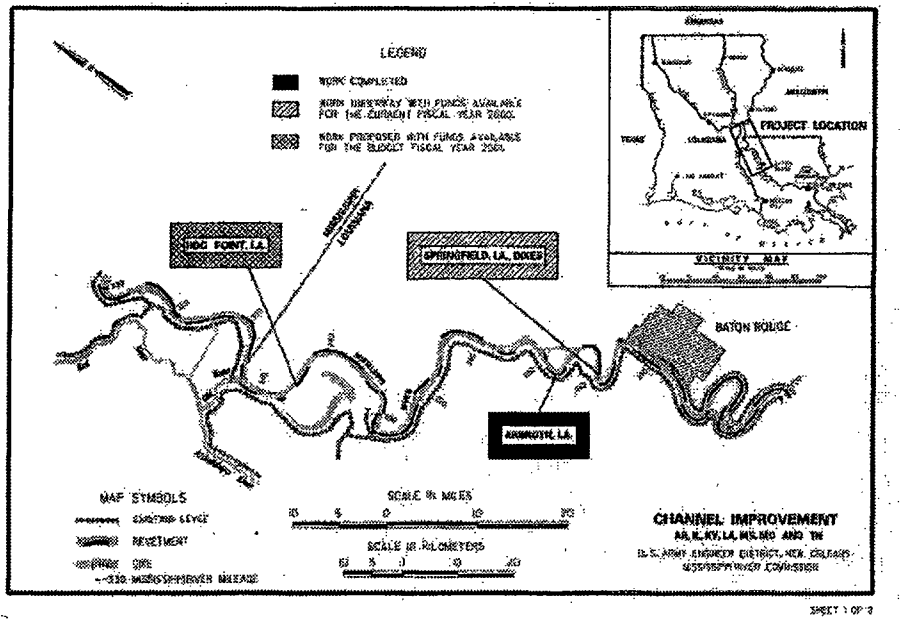

MAP SYMBOLS
Recreation Facility
Revetment
Dikes
Dredging
1982 Mileage, AHP
VICINITY MAP
CEDAR PT. / BENDFORD, TN
REVET (7015)
NEWFORK STARR, MS
DIKE (7114)
MONTEZUMA BAR, MS
DIKE (8371)
MONTEZUMA TH, AR
DIKE (8387)
LOOKOUT PT., TN
DIKE (7726)
BELOW ENSLEY, TN / CENTRAL PT, AR
DIKE (7258 & L)
BELOW SUNRISE, TN
DIKE (7749)
KEYES PT., TN
DIKE (7971)
PETUS LATERAL, AR.
DIKE (8009)
WHOOM BEND, MS
REVET (8311)
BIG ISLAND, AR
BOUNDARY WEIRS (8028)
SCALE
LEGEND
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR
CHANNEL IMPROVEMENT
AR, IL, KY, LA, MS, MO AND TN


LEGEND
Lake Concordia, La (R)
Montezuma Bar, Ms (D)
Island 63, Ms (D)
Montezuma
TN, Ar (D)
Island 63, Ar (D)
Island 63 Ext -
Houston, Ar (R)
Fair Landing, Ar (R)
SCALE IN MILES
SCALE IN KILOMETERS
NOTE:
R = Revetment
D = Dike
PROJECT LOCATION
VICINITY MAP
CHANNEL IMPROVEMENT
MISSISSIPPI RIVER
AR, IL, KY, LA, MS, MO, AND TN


LEGEND
Greenville
Lake Providence
PROJECT LOCATION
VICINITY MAP
LEGEND
Work Completed
CHANNEL IMPROVEMENT
MISSISSIPPI RIVER
AR, IL, KY, LA, MS, MO, AND TN
SCALE IN MILES
SCALE IN KILOMETERS


LEGEND
Vicksburg
Delta Point, La (D)
VICINITY MAP
PROJECT LOCATION
CHANNEL IMPROVEMENT
MISSISSIPPI RIVER
AR, IL, KY, LA, MS, MO, AND TN


LEGEND
EXISTING LEVEE
REVETMENT
DIKE
Natchez Front, Mi (P)
Carthage, Mi (P)
Railroad Loop, Mi (P)
Natchez
VICINITY MAP
PROJECT LOCATION
ARKANSAS
MISSISSIPPI
LOUISIANA
Work Complete
Work Underway With Funds Available For the Current Fiscal Year.
Work Proposed With Funds Available For the Budget Fiscal Year.
Work Required To Complete Project After The Budget Fiscal Year.
SCALE IN MILES
SCALE IN KILOMETERS
CHANNEL IMPROVEMENT
MISSISSIPPI RIVER
AR, IL, KY, LA, MS, MO, AND TN
SHEET 4 OF 4



SHEET 1 OF 3

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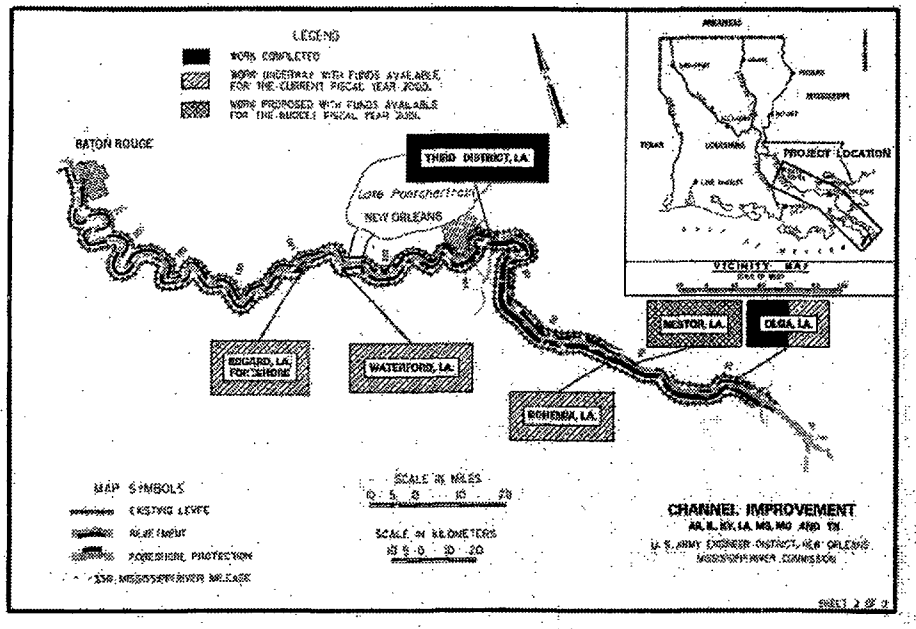
LEGEND
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR 2000.
WORK PROPOSED WITH FUNDS AVAILABLE FOR THE BUDGET FISCAL YEAR 2001.
BATON ROUGE
THIRD DISTRICT, LA.
Lake Pontchartrain
NEW ORLEANS
BOGARD, LA. PORCHERIE
WATERFORD, LA.
ROHEMA, LA.
MESTOR, LA.
OLGA, LA.
PROJECT LOCATION
VICINITY MAP
MAP SYMBOLS
EXISTING LEVEE
NEW LEVEE
FORESHORE PROTECTION
SCALE IN MILES
SCALE IN KILOMETERS
CHANNEL IMPROVEMENT
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
MISSISSIPPI RIVER COMMISSION

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APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO, and TN - Construction

PROJECT: Atchafalaya Basin, Louisiana (Continuing)

LOCATION: The project is located in south-central Louisiana below the latitude of Old River and west of and generally paralleling the Mississippi River. The Atchafalaya River flows through the middle of the basin.

DESCRIPTION: The plan of improvement consists of a leveed floodway about 15 miles wide and 110 miles long that extends generally from the latitude of Old River to the Gulf of Mexico. The upper half of the basin is divided by the leveed Atchafalaya River. The Morganza Floodway is to the east of the Atchafalaya River and has a capacity of 600,000 cubic feet per second, which is introduced into the floodway by a gated control structure. The West Atchafalaya Floodway, which is located to the west of the river, is placed into operation when the fuse plug sections are overtopped bringing flows from the river that will introduce 900,000 cubic feet per second into the lower basin. After passing through the floodways, the flood waters enter the Gulf of Mexico through the Lower Atchafalaya River at Morgan City and the Wax Lake Outlet channel constructed west of Patterson, Louisiana. The project is part of a system and all work is programmed.

AUTHORIZATION: Flood Control Acts of 1928, 1934, 1936, 1938, 1941, 1946, 1950, 1954.

REMAINING BENEFIT - REMAINING COST RATIO: 36.5 to 1 at 2-1/2 percent. The benefit-cost ratio is based on all features which comprise the Main Stem System of the Mississippi River and Tributaries project.

TOTAL BENEFIT - COST RATIO: 7.9 to 1 at 2-1/2 percent.

INITIAL BENEFIT - COST RATIO: This project feature of the Main Stem system was authorized in Fiscal Year 1928 and initial construction funds were provided in Fiscal Year 1928. The authorized comprehensive review of the Mississippi River and Tributaries project, contained in House Document 308/88/2, as updated to reflect 1965 conditions and price levels, is considered to be the base estimate for the Main Stem system. The benefit-cost ratio for the Main Stem components computed for the base estimate was 7.9 to 1.

BASIS OF BENEFIT - COST RATIO: Benefits are from latest available evaluation approved in October 1979 at 1979 price levels. The latest comprehensive analysis was conducted in 1974. The 1979 analysis is the same as the 1974 analysis except that certain undocumented benefit categories were eliminated and 1979 prices were used.

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS: (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$1,870,000,000				
				Entire Project	93	Being determined
Estimated Non-Federal Cost		$ 11,000,000				
Cash Contributions	$2,500,000					
Other Costs	$8,500,000					
Total Estimated Project Cost		$1,881,000,000				
Allocations to 30 September 1999		$ 849,626,000				
Conference Allowance for FY 2000		22,000,000				
Allocation for FY 2000		21,011,000[1]				
Allocations through FY 2000		870,637,000	47			
Allocation Requested for FY 2001		$ 26,000,000	48			
Programmed Balance to Complete after FY 2001		973,363,000				
Unprogrammed Balance to Complete after FY 2001		0				

[1] Reflects $989,000 reduction assigned as savings and slippage.

Levees:
- Average Height - 20 feet
- Length - 449 miles

Relocations:
- Roads - 15 miles
- Railroads - 20 miles

Drainage Structures:

Pointe Coupee	2 gates, 10.5 by 15 feet
Melville	2 - 72-inch corrugated metal pipe with vertical lift gate
Darbonne	10-foot by 10-foot barrel with vertical lift gate
Bayou des Glaises	72-inch corrugated metal pipe with flap gate
Bayou Courtableau	2 weirs, 503 feet long
Brushy Bayou	5-foot by 6-foot barrel with vertical lift gate
Bayou Courtableau	5-barrel, each 10 feet by 15 feet with vertical lift gate
Wax Lake East	25 pipes, 5 feet in diameter with slide gates
Wax Lake West	15 pipes, 5 feet in diameter with slide gates

Lands and Damages:
- 289,212 acres

Pumping Stations:
- Number - 11
- Capacity - Minimum - 50 cubic feet per second
  Maximum - 1,500 cubic feet per second
  Average - 400 cubic feet per second

Bank Stabilization:
- Length - 58 miles

Floodgates:
- Charenton - Sector-gated, 45 feet wide
- East Calumet - Sector-gated, 45 feet wide
- West Calumet - Sector-gated, 45 feet wide

Channels:
- Length: 147.1 miles

Locks:
- Bayou Boeuf, 75 feet by 1,156 feet, earth chamber
- Bayou Sorrel, 56 feet by 797 feet, earth chamber
- Berwick, 45 feet by 300 feet, concrete chamber

Atchafalaya River Navigation:
- New Channel-10.1 miles

Freshwater Control Structure:
- Sherburne - dual 10-foot by 10-foot reinforced concrete box culverts with gates
- Henderson - dual 10-foot by 10-foot reinforced concrete box culverts with gates

JUSTIFICATION: The Mississippi River below Morganza Floodway is capable of carrying 1,500,000 cubic feet per second without threatening the integrity of the levees along its banks which protect densely populated areas, highly developed agricultural lands, industries, and the city of New Orleans, as well as a number of lesser populated communities. Studies indicate that the project flood against which the flood control protection works are designed will be of such magnitude that 3,030,000 cubic feet per second will pass the latitude of Old River. Since the Mississippi River below the Morganza Floodway can carry only one-half this amount, the other one-half must be diverted from the main channel. The diversion is made through the Old River Control Structure, the Old River Auxiliary Structure, and the Atchafalaya River, and through the Morganza and West Atchafalaya Floodways. In order to prevent diverted waters from spreading over the rich and highly developed agricultural lands outside of the Atchafalaya Basin, these rivers and floodways have been leveed to confine the diverted flow. In order to eliminate unnecessary damage, it is essential that the work proceed as vigorously and as expeditiously as possible.

This floodway system is, for all practical purposes, a part of the main river system, in as much as the integrity of the main river system depends upon its utilization. Since this construction began, farms and industries have developed in the areas adjacent to the floodway with full confidence that they would receive protection. Therefore, overtopping or crevassing of the levees would cause far more damage than anticipated at the start of project construction. The main protection levees in the lower reaches are deficient because of consolidation of the soft underlying soils, especially those below the latitude of Krotz Springs, LA. Early construction of these levees to the approved grade is essential, not only for flood protection, but as a means of access for the movement of manpower and equipment to any spot threatened by floods.

The Atchafalaya Basin project, authorized in 1928, is one of the Main Stem components which comprise the plan of improvement for the control of floods on the Mississippi River. The contribution of each element to the overall plan is inseparably related to that made by the others. Therefore, their benefits are inseparable and a composite benefit-cost ratio for the Main Stem components is necessary. The components are: Mississippi River Levees, Channel Improvement, South Bank Arkansas and South Bank Red River Levees, the Atchafalaya Basin, the Atchafalaya Basin Floodway System, Old River, and a few miscellaneous items.

The value of lands and improvements protected by authorized works of the Main Stem System against the design flood is $138.3 billion in 1999 dollars. This consists of 226,000 residential acres which include the City of New Orleans, 45,000 acres of commercial lands, 10 million acres of agricultural lands, and 6.5 million acres of woodland and marshland. The area subject to flooding by project flood assuming no protective works is 22.7 million acres. The area that will be provided complete protection by the completed project is 15.1 million acres.

The maximum flood of record for the Main Stem System was the 1927 flood which overflowed about 26,000 square miles, caused the deaths of 214 people, rendered 637,000 people temporarily homeless, and caused property damages of $347.0 million. This would be equivalent to $10.4 billion damages in 1999 prices.

The next flood of magnitude was the 1973 flood which overflowed 16,875 square miles (10.8 million acres), caused the death of 28 people, and displaced approximately 45,300 persons. The deaths and displacements of persons would have been significantly higher without the project in place. Without Federal projects, approximately 19.8 million acres would have been inundated. Total damages with existing projects in operation were $643 million (1973 price levels). Damages without projects would have been $11.3 billion and total damages prevented by projects amount to $10.6 billion. Expressed in 1999 prices, damages without the projects would have been $37.9 billion and damages prevented would have been $35.6 billion.

The benefit-cost ratio was derived by measuring the total benefits credited to those Main Stem components against their total cost. Average annual benefits for the composite of Main Stem features are as follows:

Annual Benefits	Amount
Flood Control	$2,734,073,000
Navigation	884,704,000
Area Redevelopment	3,127,000
Recreation	3,434,000
Total	$3,625,338,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate:	
West Bayou Sale Gordy Levee Enlargement	$ 544,000
West Bayou Sale Maryland North Bend Levee Enlargement	300,000
Wax Lake East Drainage Structure	1,243,000
Initiate and Complete:	
E-73.3 Levee Enlargement, 2nd Lift	936,000
East Bayou Sale Gordy Levee Enlargement	1,727,000
North Bend Levee Enlargement	104,000
Bayou Yokely Pumping Station No. 3 (Reimbursement)	2,100,000
Continue:	
Bank Stabilization	3,853,000
E-96/E-99 Erosion Protection, Phase 2	1,500,000

Complete:	
Todd Area Levee Enlargement	$ 634,000
Morgan City Floodproofing No. 2	2,001,000
Morgan City Floodproofing No. 3	122,000
Morgan City Floodproofing No. 4	750,000
Morgan City Floodproofing No. 5	677,000
123 Levee Enlargement	417,000
W-46/W-52 Levee Enlargement, 2nd Lift	2,215,000
Lands and Damages	700,000
Relocations	279,000
Surveys and Layouts	75,000
Planning, Engineering and Design	4,217,000
Supervision and Administration	1,606,000
Total	$26,000,000

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NON-FEDERAL COST: In accordance with the Flood Control Act of 15 May 1928, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, and Replacement Costs
Bear the administrative costs for furnishing rights-of-way for levee and levee drainage construction; purchase maintenance equipment; and perform miscellaneous levee work.	$ 1,110,000	0
Agree to accept lands turned over to them under the provision of Section 4 of the Flood Control Act of 15 May 1928, and as provided in the Flood Control Act of 18 August 1941.	0	0
Bear costs for and maintain all flood control works after their completion, except controlling and regulating spillway structures, including special levees; maintenance includes normally such matters as cutting grass, removal of weeds, local drainage and minor repairs to the levees.	0	$3,700,000
For the Upper Point Coupee Loop Area, provide an interior drainage system and comply with the applicable provisions of the Uniform Relocations Assistance and Real Property Acquisition Policies Act of 1970, PL 91-646, approved 2 January 1971, and comply with the provision of Section 221 of the Flood Control Act of 1970, PL 91-611.	$ 7,390,000	0
The State of Louisiana, through the Department of Transportation and Development as the local sponsor, will provide a voluntary 25% cost share for the planning, design, and construction of the interim protection for floodproofing of riverfront businesses in Morgan City and Berwick.	2,500,000	0
Total Non-Federal Costs	$11,000,000	$3,700,000

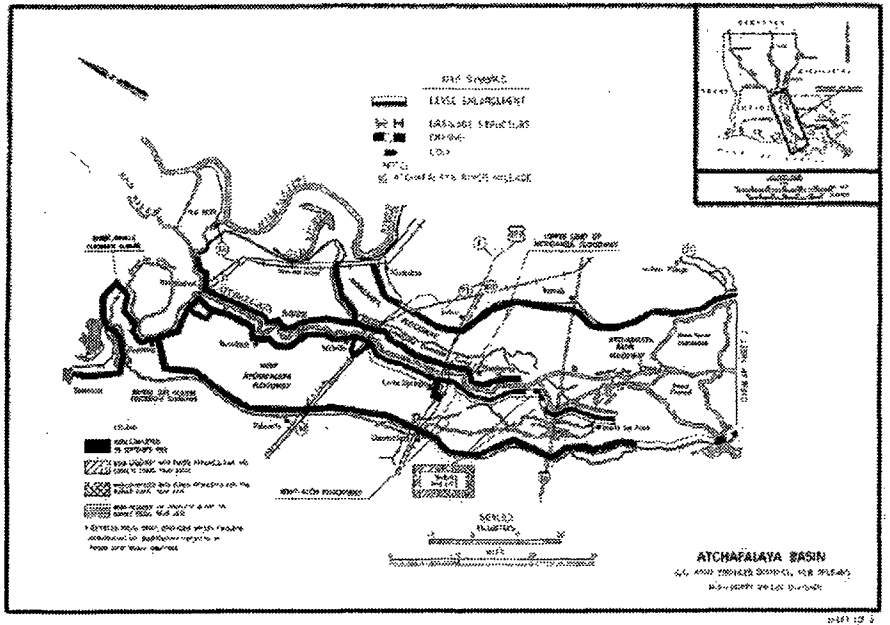
STATUS OF LOCAL COOPERATION: Necessary assurances for maintaining the project have been furnished by the Atchafalaya Basin Levee District; Red River, Atchafalaya and Bayou Boeuf Levee District; St. Mary Parish Government; Pointe Coupee Parish Police Jury; and the towns of Berwick and Morgan City, LA. These agencies are furnishing all requirements of local cooperation necessary for meeting present project schedules.

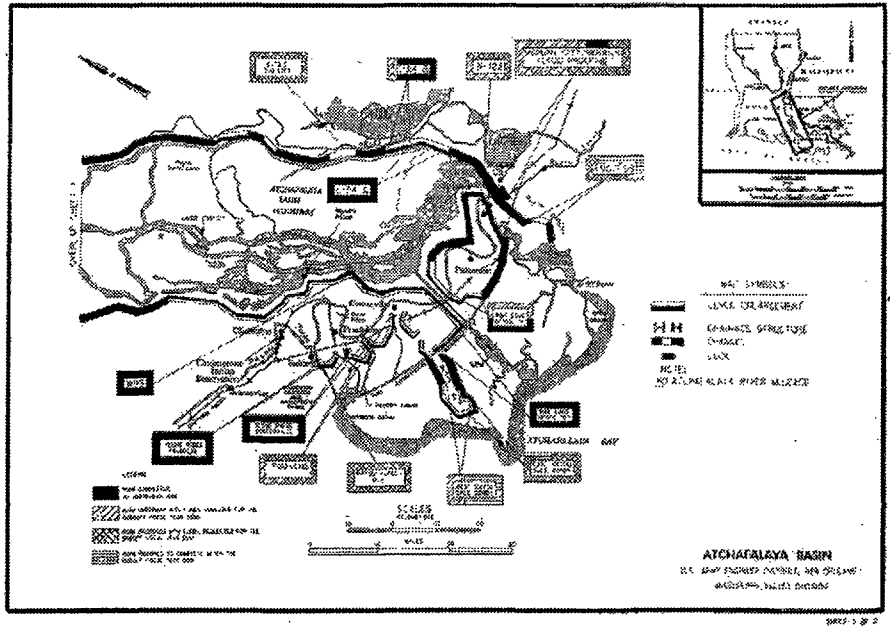
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $1,870,000,000 is an increase of $150,000,000 from the latest estimate ($1,720,000,000) presented to Congress (Fiscal Year 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	$ 149,664,000
Design Changes	36,877,000
Post Contract Award and Other Estimating Adjustments	-36,877,000
Price Escalation on Real Estate	336,000
Total	$ 150,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed with the Environmental Protection Agency on 20 August 1982. The final Environmental Impact Statement for the Upper Pointe Coupe Loop Area was filed with the Council on Environment Quality on 11 June 1976.

OTHER INFORMATION: Funds to initiate construction were appropriated in 1928.


ATCHAFALAYA BASIN


ATCHAFALAYA BASIN

APPROPRIATION TITLE: Flood Control, Mississippi River & Tributaries, AR, IL, KY, LA, MS, MO, and TN - Construction

PROJECT: Atchafalaya Basin Floodway System, Louisiana (Continuing)

LOCATION: The project is located in south-central Louisiana and encompasses 595,000 acres in an area bounded on the north by south right-of-way line of the Union Pacific Railroad (just south of US Hwy 190); on the south by Morgan City; and on the east and west by the East and West Atchafalaya Basin Protection Levees.

DESCRIPTION: The plan of improvement consists of acquisition of real estate interest, excluding minerals, in the Lower Atchafalaya Floodway for flood control purposes, environmental protection purposes, developmental control purposes, and public access; acquisition of real estate interest, excluding minerals, in the Lower Atchafalaya Floodway, for recreation developmental purposes and construction of several campgrounds, boat launching ramps, visitor's center, other recreational facilities and initial construction of two pilot water management units, including construction of miscellaneous canal closures and water circulation improvements, and implementation of future units at the discretion of the Chief of Engineers. These project features will be implemented in accordance with the cost-sharing and financing concepts reflected in the Water Resources Development Act of 1986.

AUTHORIZATION: Supplemental Appropriations Act, 1985; the Water Resources Development Act of 1986; E&WD Appropriation Act, 1997 authorized Simmesport Boat Launch as part of the Atchafalaya Basin Floodway System, Louisiana, Project.

REMAINING BENEFIT–REMAINING COST RATIO: 36.5 to 1 at 2-1/2 percent. The benefit-cost ratio is based on all features which comprise the Main Stem system of the Mississippi River and Tributaries project.

TOTAL BENEFIT-COST RATIO: 7.9 to 1 at 2-1/2 percent.

INITIAL BENEFIT-COST RATIO: This project is a feature of the Main Stem system which was authorized in Fiscal Year 1928. Initial funds for the acquisition of real estate interests for flood control, developmental control, environmental protection, and public access were provided in 1988. The authorized comprehensive review of the Mississippi River and Tributaries project, contained in House Document 308/88/2, as updated to reflect 1965 conditions and price levels, is considered to be the base estimate for the Main Stem system. The benefit-cost ratio for the Main Stem components computed for the base estimate was 7.9 to 1.

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluation approved in October 1979 at 1979 price levels. The latest comprehensive analysis was conducted in 1974. The 1979 analysis is the same as the 1974 analysis except that certain undocumented benefit categories were eliminated and 1979 prices were used.

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS: (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost$184,000,000				Land Acquisition	23	Being determined
				Recreation	0	Being determined
Estimated Non-Federal Cost		$ 13,000,000		Management Units	0	Being determined
Cash Contribution	$ 12,274,000			Entire Project	14	Being determined
Other Costs	726,000					
Total Estimated Project Cost		$197,000,000				
Allocations to 30 September 1999		$ 73,720,000		PHYSICAL DATA		
Conference Allowance for FY 2000		7,500,000				
Allocation for FY 2000		7,163,000[1]		Lands and Damages: 388,000		
Allocations through FY 2000		80,883,000	44	Relocations: 2 Pipelines		
				Recreational Facilities		
Allocation Requested for FY 2001		$ 10,000,000	49	3 campgrounds – developed		
Programmed Balance to Complete after FY 2001		93,117,000		7 campgrounds – primitive		
Unprogrammed Balance to Complete after FY 2001		0		15 2-lane boat launching ramps		
				1 Visitors Center		
				Water Management Units		
				Miscellaneous canal closures and water circulation channels		

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JUSTIFICATION: The Atchafalaya Basin Floodway System features result from a comprehensive study with a view to developing a plan for the management and preservation of the water and related land resources of the Atchafalaya River Basin, Louisiana, which would include provisions for reductions of siltation, improvement of water quality, and possible improvements of the area for commercial and sport fishing. The features of the Atchafalaya Basin Floodway System

[1] Reflects $337,000 reduction assigned as savings and slippage.

are compatible with the current flood control plan, and include real estate acquisition of developmental control easements over privately owned land in the floodway south of Krotz Springs, Louisiana, to ensure unhampered use of the floodway during major floods and environmental protection easements over the same land to protect the basin's environmental resources. Provision of additional public access and several campgrounds, boat launching ramps, visitors center, and other recreational facilities are also included to allow public enjoyment of the area's unique environmental values. The water management units feature involves making use of distinct hydrologics within the floodway to restore historical overflow conditions and thereby enhance aquatic ecosystem productivity.

The Atchafalaya Basin Floodway System project is one of the Main Stem components which comprise the plan of improvement for the control of floods on the Mississippi River. The contribution of each element to the overall plan is inseparably related to that made by the others. Therefore, their benefits are inseparable and a composite benefit-cost ratio for the Main Stem components is necessary. The components are: Mississippi River Levees, Channel Improvement, South Bank Arkansas and South Bank Red River Levees, Atchafalaya Basin, Atchafalaya Basin Floodway System, Old River, and a few miscellaneous items.

The value of lands and improvements protected by authorized works of the Main Stem System against the design flood is $138.3 billion in 1999 dollars. This consists of 226,000 residential acres which include the City of New Orleans, 45,000 acres of commercial lands, 10 million acres of agricultural lands, and 6.5 million acres of woodland and marshland. The area subject to flooding by project flood assuming no protective works is 22.7 million acres. The area that will be provided complete protection by the completed project is 15.1 million acres.

The maximum flood of record for the Main Stem System was the 1927 flood which overflowed about 26,000 square miles, caused the deaths of 214 people, rendered 637,000 people temporarily homeless, and caused property damages of $347.0 million. This would be equivalent to $10.4 billion damages in 1999 prices.

The next flood of magnitude was the 1973 flood which overflowed 16,875 square miles (10.8 million acres), caused the death of 28 people, and displaced approximately 45,300 persons. The deaths and displacements of persons would have been significantly higher without the project in place. Without Federal projects, approximately 19.8 million acres would have been inundated. Total damages with existing projects in operation were $643 million (1973 price levels). Damages without projects would have been $11.3 billion and total damages prevented by projects amounted to $10.6 billion. Expressed in 1999 prices, damages without the projects would have been $37.9 billion and damages prevented would have been $35.6 billion.

The benefit-cost ratio was derived by measuring the total benefits credited to those Main Stem components against their total cost. Average annual benefits for the composite of Main Stem features are as follows:

Annual Benefits	Amount
Flood Control	$2,734,073,000
Navigation	884,704,000
Area Redevelopment	3,127,000
Recreation	3,434,000
Total	$3,625,338,000

680

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue:	
Lands and Damages (Acquisition)	$ 9,435,000
Planning, Engineering and Design (Water management units)	200,000
Planning, Engineering and Design (Recreation)	300,000
Complete:	
Simmesport Boat Launch (Construction)	50,000
Supervision and Administration (Simmesport)	15,000
TOTAL	$ 10,000,000

NON-FEDERAL COST: In accordance with the cost-sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation and Replacement Costs
Pay one-half of the separable cost allocated to recreation and bear all costs of operation, maintenance, and replacements of recreation facilities.	$ 12,100,000	$ 520,500
Provide lands, easements, rights-of-way, and dredged material disposal areas for recreation.	900,000	0
Pay 25 percent of operation and maintenance of Water Management Units.	0	17,700
Total Non-Federal Costs	$ 13,000,000	$ 538,200

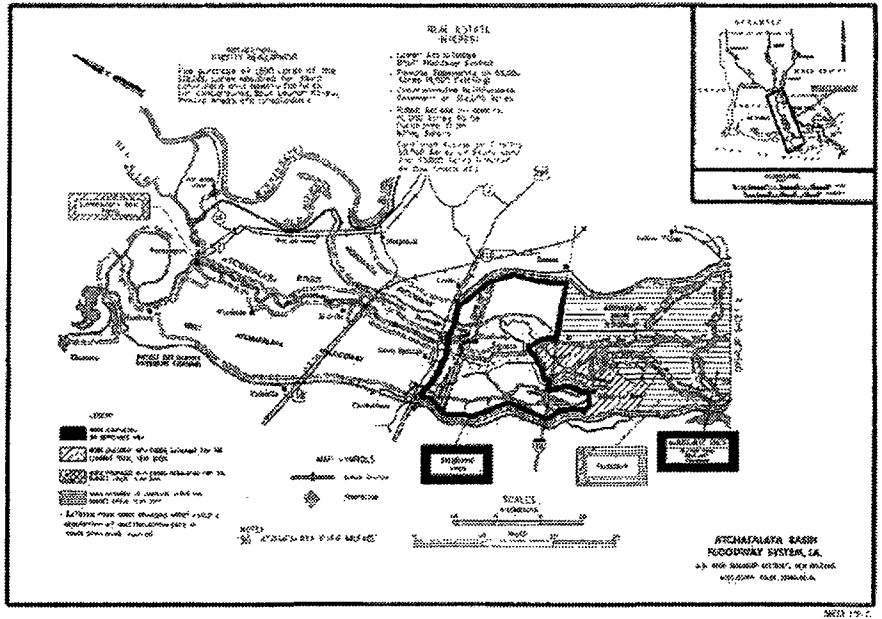
STATUS OF LOCAL COOPERATION: The Avoyelles Parish Police Jury is participating as the non-Federal sponsor for the design and construction of the Simmesport Boat Ramp and is currently finalizing their financial package to support the execution of the project cooperation agreement. The State of Louisiana agreed to provide a letter of interest supporting the recreation feature of the project and agrees to its cost sharing requirements. The State designated the Department of Natural Resources to be the lead State agency to represent the State in the implementation of the project and to negotiate all contracts, agreements, and project cooperation agreements (except Simmesport Boat Ramp) with the Corps.

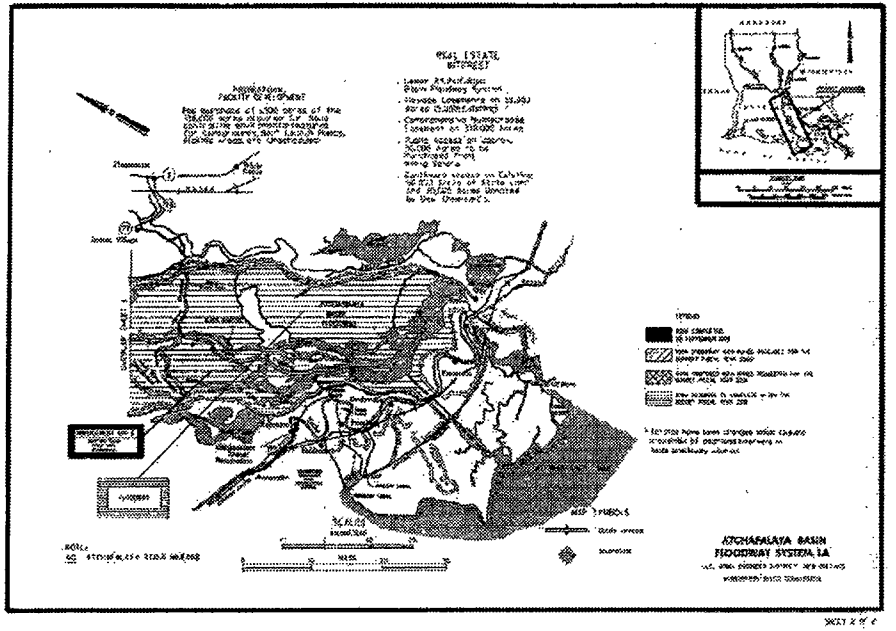
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $184,000,000 is a decrease of $1,000,000 from the latest estimate ($185,000,000) presented to Congress (Fiscal Year 2000). The change includes the following items:

Price Escalation on Construction Features	$ -1,462,000
Price Escalation on Real Estate	$ 462,000
TOTAL	$ -1,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed with the Environmental Protection Agency on 20 August 1982.

OTHER INFORMATION: Funds to initiate construction were appropriated in FY 1985.


ATCHAFALAYA BASIN
FLOODWAY SYSTEM, LA.


REAL ESTATE
INTEREST
ATCHAFALAYA BASIN
FLOODWAY SYSTEM, LA

APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO and TN - Construction

PROJECT: Francis Bland Floodway Ditch (Eight Mile Creek), Arkansas (Continuing)

LOCATION: The project is located in Greene and Craighead Counties in northeastern Arkansas approximately 90 miles northwest of Memphis, Tennessee. The city of Paragould, Arkansas, is drained by Eight Mile Creek.

DESCRIPTION: The project provides for 12.4 miles of channel improvement. There are 4.4 miles within the city limits of Paragould, Arkansas, the remaining 8.0 miles providing a downstream outlet for the city. All work is programmed.

AUTHORIZATION: 1985 Supplemental Appropriations Act and the Water Resource Development Act of 1986.

REMAINING BENEFIT-REMAINING COST RATIO: 3.9 to 1 at 8-7/8 percent.

TOTAL BENEFIT-COST RATIO: 1.3 to 1 at 8-7/8 percent.

INITIAL BENEFIT-COST RATIO: 1.3 to 1 at 8-7/8 percent (FY 1986).

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available reevaluation approved in January 1995 at 1993 price levels.

SUMMARIZED FINANCIAL DATA		
Estimated Federal Cost		$ 9,100,000
Estimated Non-Federal Cost		5,900,000
Cash Contributions	$ 750,000	
Other Costs	5,150,000	
Total Estimated Project Cost		$15,000,000

STATUS (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project	43	Being Determined

PHYSICAL DATA

Lands and Damages:	180 acres Commercial/Residential
Relocations:	
Roads	7 bridges
Railroads	2 bridges
Channels	12.4 miles

685

SUMMARIZED FINANCIAL DATA		ACCUM PCT OF EST FED COST
Allocations to 30 September 1999	$3,896,000	
Conference Allowance for FY 2000	700,000	
Allocation for FY 2000	469,000[1]	
Allocations through FY 2000	4,365,000	48
Allocation Requested for FY 2001	2,110,000	71
Programmed Balance to Complete After FY 2001	2,625,000	

JUSTIFICATION: Eight Mile Creek provides drainage primarily for the city of Paragould, Arkansas. A 100-year flood would cause expected annual damages of $1,790,000 (October 1999 price levels). The project will provide 100-year protection in the urban area of Paragould and maintain current 3-year protection levels in the downstream rural area. Flooding impacts 1,750 residential and commercial structures and contents within the 100-year flood plain. The structure and contents have a value of approximately $169,536,000 (October 1999 price levels). Total damage from a 100-year flood is estimated at approximately $13,160,000 (October 1999 price levels). Average annual damage for such properties with project is $178,600 (October 1999 price levels). Flooding has occurred to some extent on an annual basis. Major floods occurred in 1973, 1974, 1980, and 1991. The plan of improvement addresses the need for flood damages reduction without significant detriment to the natural environment. Total average benefits (1993 price levels), all for flood control, are $2,260,000.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate: Railroad Relocations	$ 475,000
Continue: Item 2 Channel Improvement	1,469,000
Planning, Engineering and Design	35,000
Supervision and Administration	131,000
Total	$2,110,000

[1] Reflects $31,000 reduction assigned as savings and slippage and $200,000 reprogrammed from the project.

NON-FEDERAL COST: In accordance with the cost sharing and financial concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction And Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, And Replacement Costs
Provide lands, easements, rights-of-way, and dredged material disposal areas.	$4,108,000	—
Modify or relocate buildings, utilities, roads, bridges (except railroad bridges) and other facilities where necessary in the construction of the project.	1,042,000	—
Pay 5 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	750,000	$21,000
Total Non-Federal Costs	$5,900,000	$21,000

STATUS OF LOCAL COOPERATION: City officials have identified sufficient funds in current annual tax revenue, which can be used to meet project cash contributions and other requirements. The Arkansas Soil and Water Conservation Commission is the sponsor with the City of Paragould, Arkansas as the sub-party. The Project Cooperation Agreement with the Arkansas Soil and Water Commission was executed on 28 June 1996.

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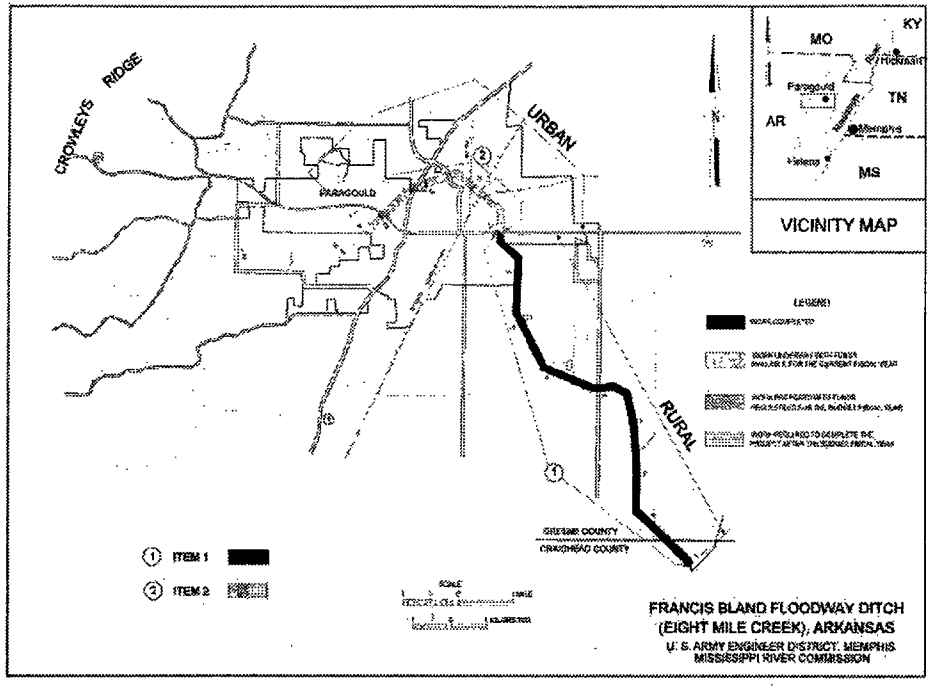
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $9,100,000 is an increase of $100,000 from the latest estimate ($9,000,000) presented to Congress (FY 2000). This change includes the following items.

Item	Amount
Post Contract Award and Other Estimating Adjustments	$100,000
Total	$100,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An environmental assessment/Finding of No Significant Impact (FONSI) was completed as part of the August 1988 General Design Memorandum. A cultural resources field survey indicates that some cultural resource sites are located in the project vicinity. The project will not impact any of the sites. There are no endangered species in the project area. Water quality certification has been granted by the State of Arkansas.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design and construction were appropriated in FY 1986.


CROWLEYS RIDGE
URBAN
RURAL
PARAGOULD
MO
KY
TN
AR
MS
VICINITY MAP
LEGEND
GREENE COUNTY
CRAIGHEAD COUNTY
ITEM 1
ITEM 2
FRANCIS BLAND FLOODWAY DITCH
(EIGHT MILE CREEK), ARKANSAS
U. S. ARMY ENGINEER DISTRICT, MEMPHIS
MISSISSIPPI RIVER COMMISSION

APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO, and TN – Construction

PROJECT: Grand Prairie Region and Bayou Meto Basin, Grand Prairie Region, AR (Continuing)

LOCATION: The Grand Prairie Region and Bayou Meto project area is located in five counties in east central Arkansas. The Grand Prairie Region in primarily located in Arkansas and Prairie Counties and a small portion in Lonoke and Monroe Counties. The Bayou Meto Basin also includes Jefferson County.

DESCRIPTION: The Grand Prairie Region portion of the project addresses the problems of depletion of the alluvial aquifer and the sparta aquifer. The loss of these aquifers would result in severe reductions in irrigated agricultural lands with losses to the agricultural based economy, and would pose a threat to the municipal and industrial water supply. The project will provide for aquifer protection, agricultural water supply, groundwater conservation, and fish and wildlife restoration and enhancement. The project consists of a pumping station located on the White River, a network of new canals, existing channels, pipelines, and associated channel structures to provide surface water to the water depleted areas. Other project components include on-farm storage reservoirs, conservation measures, and environmental restoration and enhancement measures.

AUTHORIZATION: Water Resources Development Act of 1996.

REMAINING BENEFIT-REMAINING COST RATIO: 1.4 at 6-7/8 percent.

TOTAL BENEFIT-COST RATIO: 1.07 at 6-7/8 percent.

BASIS OF BENEFIT-COST RATIO: Benefits are from the revised General Reevaluation Report dated September 1999, approved by the Deputy Commander for Civil Works on 1 November 1999.

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SUMMARIZED FINANCIAL DATA		ACCUM PCT OF EST FED COST	STATUS (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost	$208,000,000		Grand Prairie Region	0	Being determined
Estimated Non-Federal Cost	$111,000,000				
Cash Contribution	86,500,000				
Other Costs	24,500,000				
Total Estimated Project Cost	$319,000,000		PHYSICAL DATA		
			Pumping Stations		
			Major Pumping Station		1640 CFS
			Relief Station		100 CFS
Allocations to 30 September 1999	$ 14,667,000		Channels		
Conference Allowance for FY 2000	0		New Channels		184 miles
Allocation for FY 2000	$ 2,875,000[1]		Existing Channels		291 miles
Allocations through FY 2000	17,542,000	8	Weirs		120
Allocation Requested for FY 2001	22,800,000	19	Pipelines		177 miles
Programmed Balance to Complete	167,658,000		Check Stations		14
Unprogrammed Balance to Complete	0		PHYSICAL DATA (cont.)		
			Conservation Measures		
			Relocations		
			Utility Relocations		342
			Bridge Relocations		34

JUSTIFICATION: The project will provide for groundwater protection, agricultural water supply, and environmental restoration and protection. The agricultural economy, which supports the eastern Arkansas region, cannot exist without a dependable supply of irrigation water. Continued withdrawals at the current rate will deplete the alluvial aquifer such that by the year 2015 it will no longer be a viable source of irrigation water; and agriculture, as it is now practiced, will be impossible. The economic result of exhausting the aquifer would be catastrophic. The selected plan is the combination of conservation, groundwater, on-farm storage, import water, and environmental measures, which best meet the needs of the project area and is the preferred plan with the potential project sponsor. The selected plan provides a supplemental source of irrigation water combined with conservation, which allows the alluvial aquifer to stabilize. The environmental benefits consist of preservation of the alluvial aquifer, restoration of fisheries habitat, restoration of historic native prairies, and creation of waterfowl habitat. The 184 miles of new canals would result in the creation of 8,560 fish habitat units per month (one habitat equals on acre-foot of prime fish habitat). The placement of 120 weirs in the existing channelized streams in the area would restore 4,328 habitat units per month and the new on-farm storage would provide over 8,000 new surface acres on existing farmland. Very little of the historic prairie remains in the project area. The project provides the opportunity of restoration of approximately 3,000 acres into native prairie grasses along project rights-of-way. Waterfowl habitat is a major component of the project. An average of 38,000

[1] Reflects $2,875,000 reprogrammed to the project.

additional acres of rice field would be flooded annually providing a high quality food source for waterfowl and over 22,000,000 duck use days. In addition, the long term drying of the wetland along the White River within the southern portions of the Grand Prairie would be halted or slowed through protection of the aquifer. Average annual benefits (1996 price levels) are as follows:

Annual Benefits	Amount
Irrigation	$35,812,000
Fish and Wildlife	472,000
Total	$36,284,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate:	
Item 3, Channel	$ 370,000
Item 4, Channel	200,000
Item 1, Pumping Station	2,257,000
Continue:	
On-Farm Improvements	4,370,000
Complete:	
Item 1B, Pipeline	11,350,000
Lands and Damages	200,000
Cultural Resources	170,000
Planning, Engineering, and Design	2,383,000
Supervision and Administration	1,500,000
Total	$22,800,000

NON-FEDERAL COST: In accordance with the cost sharing and financial concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights-of-way and borrow and excavated or dredged material disposal areas.	$ 11,106,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), where necessary for the construction of the project.	13,394,000	
Operate, maintain, repair, replace and rehabilitate all completed works in accordance with regulations prescribed by the Assistant Secretary of the Army for Civil Works (ASA(CW)).		$4,883,000
Contribute cash to bring the total non-Federal share of project costs to 35 percent.	86,500,000	
Total Non-Federal Costs	$111,000,000	$4,883,000

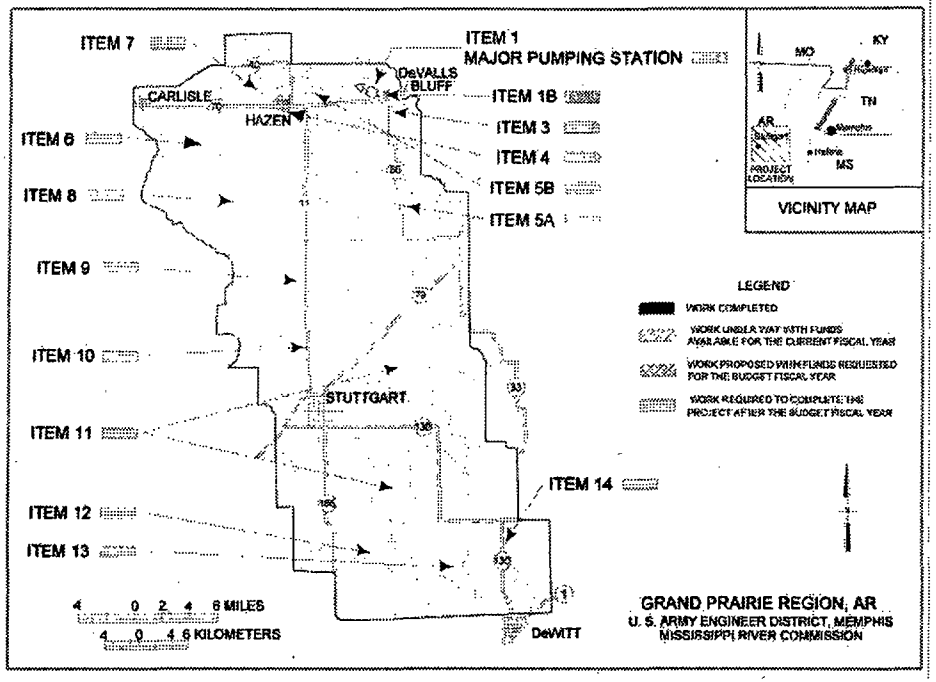
STATUS OF LOCAL COOPERATION: The project sponsor, the White River Regional Irrigation Water Distribution District, has indicated a willingness to cost share in project construction. They have provided a preliminary financial capability plan, which is under review. A Project Cooperation Agreement is being prepared and is scheduled to be executed in May 2000.

COMPARISON OF FEDERAL COST ESTMATES: The current Federal cost estimate of $208,000,000 is a decrease of $37,350,000 from the latest estimate ($245,350,000) presented to Congress (FY 2000). The estimate includes changes to the following items.

Item	Amount
Price Escalation on Construction Features	$-18,895,000
Post Contract Award and Other Estimating Adjustments (including Contingency Adjustments)	-18,492,000
Price Escalation on Real Estate	37,000
Total	$-37,350,000

STATUS OF ENVIROMENTAL IMPACT STATEMENT: The Final Environmental Impact Statement has been released to the public for review.

OTHER INFORMATION: The project was originally authorized by the Flood Control Act of 1950 and subsequently deauthorized in 1989 pursuant to provisions of Section 101(B) of the Water Resource Development Act (WRDA) of 1986. The project was reauthorized for construction by the Water Resources Development of 1996 to include groundwater protection and conservation, agricultural water supply and waterfowl management if the Secretary determines that the change in project scope is technically sound, environmentally acceptable and economically feasible. Feasibility level investigations of the Grand Prairie Region were conducted as part of the Eastern Arkansas Regional Comprehensive Study with a general reevaluation conducted under the same authority. The General Reevaluation Report was approved by the Deputy Commander for Civil Works 1 November 1999. This report, indicated that aquifer protection and groundwater conservation, agricultural water supply, fish and wildlife habitat restoration, and waterfowl management were feasible. Funds to initiate preconstruction engineering and design were appropriated in FY 1991 and funds to initiate construction were appropriated in FY 1999. Detailed engineering and design is continuing to ready the project for construction. An evaluation of additional features for aquifer protection, waterfowl conservation, and habitat restoration is underway.


ITEM 7
ITEM 1
MAJOR PUMPING STATION
DeVALLS BLUFF
CARLISLE
HAZEN
ITEM 1B
ITEM 3
ITEM 4
ITEM 5B
ITEM 5A
ITEM 6
ITEM 8
ITEM 9
ITEM 10
ITEM 11
ITEM 12
ITEM 13
ITEM 14
STUTTGART
DeWITT
MO
KY
TN
AR
MS
PROJECT LOCATION
VICINITY MAP
LEGEND
WORK COMPLETED
WORK UNDER WAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR
4 0 2 4 6 MILES
4 0 4 6 KILOMETERS
GRAND PRAIRIE REGION, AR
U. S. ARMY ENGINEER DISTRICT, MEMPHIS
MISSISSIPPI RIVER COMMISSION

APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO and TN - Construction

PROJECT: Helena and Vicinity, Arkansas – (Continuing)

LOCATION: The project is located in Phillips County in east central Arkansas, approximately 60 miles South of Memphis, Tennessee.

DESCRIPTION: The project is an urban flood control project. The plan of improvement consists of 1.41 miles of channel improvement with the city limits of Helena, Arkansas. The plan includes 0.69 miles of earthen channel enlargement at the south end of the city limits, 0.19 miles of open concrete channel enlargement and 0.28 miles of underground concrete box culverts. This plan of improvement would provide approximately a 25-year level of protection for the downtown business district of the city of Helena and for the adjacent residential community. All work is programmed.

AUTHORIZATION: Water Resources Development Act of 1986.

REMAINING BENEFIT-REMAINING COST RATIO: 4.8 to 1 at 7-3/8 percent.

TOTAL BENEFIT-COST RATIO: 1.3 to 1 at 7-3/8 percent.

BASIS OF BENEFIT-COST RATIO: Benefits are from the Helena and Vicinity, Arkansas, General Reevaluation Report dated January 1995 at October 1992 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST
Estimated Federal Cost		$ 8,380,000	
Estimated Non-Federal Cost		3,020,000	
Cash Contributions	$ 590,000		
Other Costs	2,430,000		
Total Estimated Project Cost		$11,400,000	
Allocations to 30 September 1999		$ 3,119,000	
Conference Allowance for FY 2000		2,190,000	
Allocation for FY 2000		1,592,000[1]	
Allocations through FY 2000		4,711,000	56
Allocation Requested for FY 2001		2,450,000	85
Programmed Balance to Complete after FY 2001		1,219,000	

STATUS (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project	40	Being determined

PHYSICAL DATA

Lands and Damages: 17 acres
Relocations: 2 bridges and 50 utilities
Channels: 1.41 miles

[1] Reflects a $98,000 reduction assigned as savings and slippage and $500,000 reprogrammed from the project.

JUSTIFICATION: The project provides drainage primarily for the city of Helena, Arkansas. Expected annual structural damage in the Standard Project Floodplain is approximately $1,005,000 in 1999 price levels, over half of which occurs to structures located in the 0-1.1 year flood zone. The project will reduce flooding in the urban area of Helena. The project will provide a 25-year level of protection along Main Outlet Ditch and prevent approximately $41,368,000 in total expected annual damages (1999 price levels).

Flooding impacts 637 residential and commercial structures and their contents within the Standard Project Floodplain. The structures and contents have a present value of approximately $69,868,000 (1999 price levels). Total damage from the Standard Project Flood event is estimated at $12,526,000 (1999 price levels). Average annual damages for such properties with and without project conditions are estimated at $561,000 and $2,005,000 (1999 price levels), respectively. Flooding has occurred to some extent on virtually an annual basis over the recent past. Major flooding occurred in 1973, 1974, 1980, and 1989. The plan of improvement addresses the need for flood damage reduction without significant detriment to the natural environment.

The project lies solely within Phillips County, Arkansas, a county with historically high unemployment.

Average annual benefits (1992 price levels) are as follows:

Annual Benefits	Amount
Flood Damage Prevention	$1,259,000
Area Redevelopment	$ 48,000
Total	$1,307,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue:	
Item 2, Underground Concrete Culvert	$1,814,000
Planning, Engineering, and Design	250,000
Supervision and Administration	386,000
Total	$2,450,000

NON-FEDERAL COST: In accordance with the cost sharing and financial concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction And Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, And Replacement Costs
Provide lands, easements, rights-of-way, and dredged material disposal areas.	$ 883,000	
Modify or relocate buildings, utilities, roads, bridges (except railroad bridges) and other facilities where necessary in the construction of the project.	$1,557,000	
Pay 14 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 50 percent, as determined under proposed legislation, or Section 103(m) of the Water Resources Development Act of 1986 to reflect the non-Federal sponsor's ability to pay and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	$ 590,000	$100,000
Total Non-Federal Costs	$3,020,000	$100,000

The non-Federal sponsor will be required to make all payments concurrently with project construction.

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STATUS OF LOCAL COOPERATION: The Project Cooperation Agreement (PCA) with the city of Helena, the project sponsor was executed on 18 August 1997.

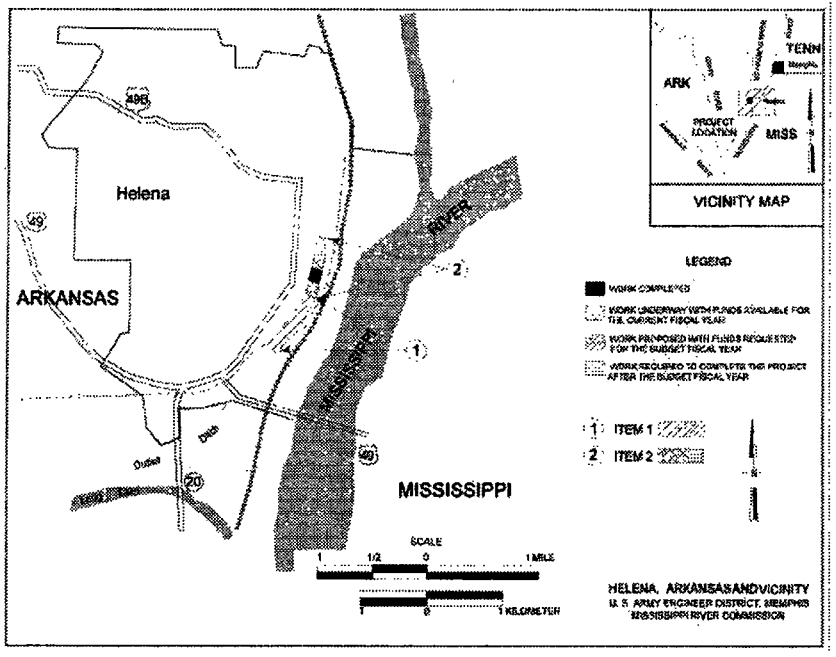
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $8,380,000 is an increase of $10,000 from the latest estimate ($8,370,000) presented to Congress (FY 2000). This charge includes the following items:

Item	Amount
Price Escalation on Construction Features	$10,000
Total	$10,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An environmental assessment/Finding of No Significant Impact (FONSI) was completed as a part of the January 1995 General Reevaluation Report. Environmental impacts of this project will be minimal since construction will be completed within the already highly developed city limits. Water Quality Certification has been granted by the state of Arkansas.

OTHER INFORMATION: Funds to initiate Preconstruction Engineering and Design were appropriated in FY 1990. Funds to initiate construction were appropriated in Fiscal Year 1997.

669


Helena
ARKANSAS
MISSISSIPPI
MISSISSIPPI RIVER
495
49
40
20
Outlet
Dam
TENN
ARK
MISS
PROJECT LOCATION
VICINITY MAP
LEGEND
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR
WORK REQUIRED TO COMPLETE THIS PROJECT AFTER THE BUDGET FISCAL YEAR
1 ITEM 1
2 ITEM 2
N
SCALE
1 1/2 0 1 MILE
1 0 1 KILOMETER
HELENA, ARKANSAS AND VICINITY
U. S. ARMY ENGINEER DISTRICT, MEMPHIS
MISSISSIPPI RIVER COMMISSION

700

APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO and TN – Construction

PROJECT: L'Anguille River, Arkansas (Continuing)

LOCATION: The project is located in northeast Arkansas within the counties of Poinsett, Cross, Woodruff, St. Francis and Lee. The city of Marianna is at the lower end of the project and Harrisburg is at the upper end.

DESCRIPTION: The authorized project for the L'Anguille River basin included work on 97.6 miles of the river. It also included work on 8.0 miles of First Creek and 6.4 miles of Brushy Creek, two principal tributaries. Local interests were not successful in formally organizing to provide the non-Federal requirements for project construction. This problem was overcome in late 1979 by the formation of the L'Anguille Improvement District No. 1, formed for the express purpose of sponsoring the project. A reevaluation report was prepared and approved on February 21, 1986. The sponsor could not, at that time, afford to pay the non-Federal cost as outlined in Water Resources Development Act of 1986 and further action toward project construction was deferred. The sponsor has requested that a reevaluation be performed to formulate a project of flood control measures that will maintain or restore valuable fish and wildlife habitat of the basin, using Stream Obstruction Removal Guidelines (SORG).

AUTHORIZATION: Flood Control Act of 1948.

REMAINING BENEFIT – REMAINING COST RATIO: 1.3 to 1 at 8-5/8 percent (FY 1988).

INITIAL BENEFIT – COST RATIO: 1.4 to 1 at 8-7/8 percent (FY 1988).

SUMMARIZED FINANCIAL DATA (1 Oct 1988 Price Levels)			ACCUM PCT OF EST FED COST
Estimated Federal Cost		$ 15,100,000	
Estimated Non-Federal Cost		$ 4,300,000	
Cash Contributions	$ 925,000		
Other Costs	$ 3,375,000		
Total Estimated Project Cost		$19,400,000	
Allocations to 30 September 1999		$ 2,803,000	
Conference Allowance for FY 2000		$ 100,000	
Allocation for FY 2000		$ 96,000[1]	
Allocations through FY 2000		$ 2,899,000	19
Allocation Requested for FY 2001		$ 750,000	24
Balance to Complete after FY 2001		$11,451,000	

STATUS (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project	15	Being Determined

PHYSICAL DATA	
Lands and Damages:	903 acres
Flood Control	903 acres
Relocations:	
Roads	3 bridges
Railroads	2 bridges
Utilities	7 facilities
Channels:	
Vegetative Clearing	95.0 miles
Selective Cleanout	As required to provide uniform slope and cross

[1] Reflects $4,000 reduction assigned as savings and slippage.

JUSTIFICATION: The project will provide for rural flood control benefits. Increased protection will be provided for more than 65,800 acres. The present crop distribution is: soybeans, 85%; and rice, 15%. Ninety-five percent of average annual flood protection benefits are attributable to existing developments. Flood and drainage problems in the basin have been serious since the early 1940's. Annual flooding in recent years has become more severe due to increased siltation in the channel and more runoff resulting from conversion of woodlands to croplands. The floods of record include the 1937 backwater flood and the 1953 headwater flood. The counties in which the project will be constructed are eligible under Subsections 1 or 3 of Title IV of the Public Works and Economic Development Act of 1965 (as amended May 1978) for inclusion of redevelopment benefits. Local interests requested a reevaluation of the project to consider more environmentally sensitive flood reduction measures. Congress provided $100,000 in the FY 2000 Energy and Water Development Appropriations Bill to initiate the project reevaluation. Total average annual benefits are as follows:

Annual Benefits		Amount
Flood Control		$1,021,000
Existing	$ 992,000	
Future	29,000	
Other Economic Benefits		194,000
Area Redevelopment	68,000	
Relocation	126,000	
Total		$1,215,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Planning, Engineering and Design	$ 750,000
Total	$ 750,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Acts of 1986 and 1996, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction And Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, And Replacement Costs
Provide all lands, easements, rights-of-way, bridges (except railroad bridges) and other facilities necessary for the construction, maintenance, and operation of the recommended improvements.	$3,375,000	$ 0
Maintain and operate the project work after completion without cost to the United States.	0	100,000
Provide a cash contribution of 5 percent of the total project cost.	925,000	0
Total Non-Federal Costs	$4,300,000	$100,000

The non-Federal sponsor is aware of the cost sharing requirements reflected in the Water Resources Development Act of 1986, as amended. The sponsor has been informed that these cost provisions will be applicable to the L'Anguille River project.

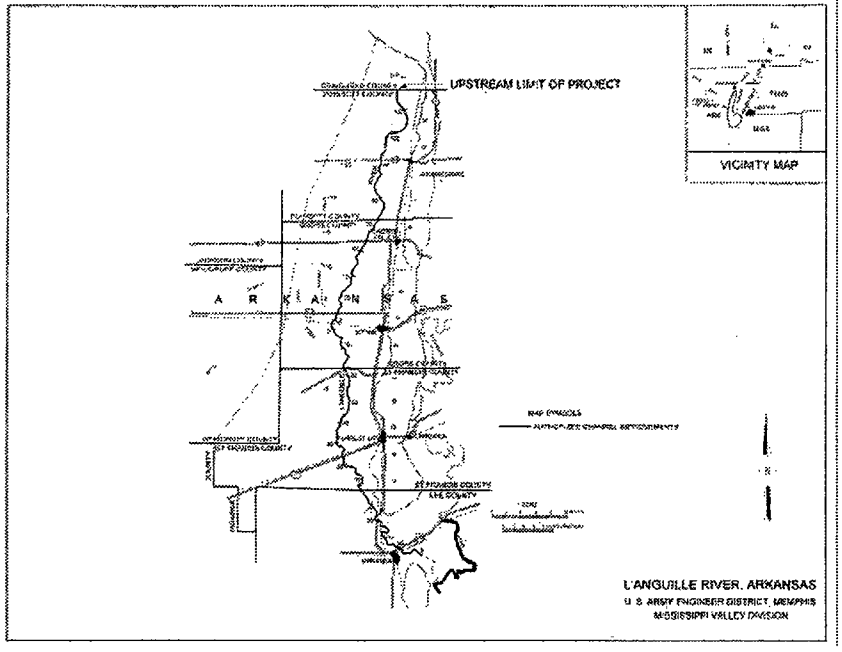
STATUS OF LOCAL COOPERATION: The local sponsor, L'Anguille Improvement District No. 1, has indicated a willingness to fulfill the non-Federal requirements for the project and is expected enter into a project design agreement upon completion of a project study plan for a project reevaluation.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $15,100,000 is the same as the latest estimate ($15,100,000) presented to Congress (FY 1990) for the authorized project. The project is being reevaluated and a new cost estimate will be developed.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: A final Environmental Impact Statement was filed with the Environmental Protection Agency on 15 November 1985 for the approved project. A revised EIS will be filed upon completion of project reevaluation.

STATUS OF COMPLIANCE WITH CLEAN WATER ACT: State Water Quality Certification and a Section 404(b)(1) evaluation will meet the provisions of Section 404 of the Clean Water Act. Certification for the current approved project was received from the State of Arkansas on 10 December 1987.

OTHER INFORMATION: Funds to initiate preconstruction planning were appropriated in Fiscal Year 1981. Construction funds were appropriated in FY 1988.


UPSTREAM LIMIT OF PROJECT
VICINITY MAP
L'ANGUILLE RIVER, ARKANSAS
U.S. ARMY ENGINEER DISTRICT, MEMPHIS
MISSISSIPPI VALLEY DIVISION

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APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO and TN - Construction

PROJECT: St. Francis Basin, Arkansas and Missouri (Continuing)

LOCATION: The project is located in the St. Francis Basin in southeastern Missouri and northeastern Arkansas, and extends from the hills southwest of Cape Girardeau, Missouri, near Wappapello, Missouri, to the confluence of the St. Francis and Mississippi Rivers about 10 miles above Helena, Arkansas.

DESCRIPTION: The project provides for protection against headwater floods by means of a detention reservoir at Wappapello, MO, improvement of the flood-carrying capacities of the St. Francis and Little Rivers and there principal tributaries by means of levees, channel improvements, new channels, auxiliary channels, and floodways, including the main ditches in the Little River Basin. Protection against backwater flooding of the Mississippi River is provided by realignment of the St. Francis River channel supplemented with auxiliary channels, levee construction, and a pumping plant and floodgate. All work is programmed.

AUTHORIZATION: Flood Control Acts of 1928, 1936, 1938, 1941, 1944, 1946, 1950, 1958, 1965, and 1968 and Water Resources Development Act of 1974.

REMAINING BENEFIT-REMAINING COST RATIO: 3.1 to 1 at 2-1/2 percent.

TOTAL BENEFIT-COST RATIO: 3.5 to 1 at 2-1/2 percent.

INITIAL BENEFIT-COST RATIO: This project feature was authorized in Fiscal Year 1928 and initial construction funds were provided in Fiscal Year 1938. The authorized comprehensive review of the Mississippi River and Tributaries project, contained in House Document 308/88/2, as updated to reflect 1965 conditions and price levels, is considered to be the base estimate for the project. The benefit-cost ratio for the St. Francis Basin components computed for the base estimate was 2.4 to 1.

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluation approved in July 1985 at 1983 price levels.

SUMMARIZED FINANCIAL DATA		
Estimated Federal Cost		$389,000,000
Estimated Non-Federal Cost		1,876,000
Cash Contributions	$ 263,000	
Other Costs	1,613,000	
Total Estimated Project Cost		$390,876,000

STATUS (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Big Slough and Mayo Ditch	100	
Wappapello Lake	100	
Little River Drainage	99	Sep 1999
St. Francis River and and Tributaries	93	Being Determined
Entire Project	94	Being Determined

SUMMARIZED FINANCIAL DATA (CONT)

		ACCUM PCT OF EST FED COST
Allocations to 30 September 1999	$364,345,000	
Conference Allowance for FY 2000	4,850,000	
Allocation for FY 2000	4,682,000[11]	
Allocations through FY 2000	369,027,000	95
Allocation Requested for FY 2001	3,195,000	96
Programmed Balance to Complete After FY 2001	16,793,000	

PHYSICAL DATA

Levees:
Average Height: 11.7 feet
Length: 438.0 miles

Channels:
St. Francis River and Tributaries: 638 miles
Little River Drainage: 299 miles
Big Slough and Mayo Ditches: 28 miles

Pumping Plants:
1 – 25 cubic feet per second
1 – 12,000 cubic feet per second
1 – 700 cubic feet per second

Relocations:
Roads: 21.3 miles and 296 bridges
Railroads: 39 bridges

Dam and Reservoir: 1 – Dam

Flood Control and Diversion Structures: 8

Lands and Damages: 188,927 acres

Other: 1 – Siphon

JUSTIFICATION: The project is a flood control project and is a unit in the Comprehensive Plan for Flood Control, Mississippi River and Tributaries. Protection against headwater floods of the St. Francis and Little Rivers will be afforded to an area of approximately 1,436,855 acres of agricultural lands including numerous small towns, several major railroads, highways, and utilities, located in Missouri and Arkansas. The construction of adequate outlets for the many drainage improvements undertaken by local interests will provide relief from overflow on approximately 196,700 acres in the Little River Basin, 29,000 acres in the Elk Chute Basin, and 35,000 acres in the Big Slough area. In addition, relief from flooding by backwaters of the Mississippi River is afforded to approximately 532,000 acres in the Lower St. Francis Basin below the latitude of St. Francis Lake by the Madison to Marianna Cutoff and related work including the pumping plant. Flooding has occurred every year with few exceptions, and the flood of record occurred in 1937 causing numerous breaks in the locally constructed substandard levees with resultant damages of over $2,000,000. It is estimated that the recurrence of the 1937 flood, under present conditions of development in the floodplain, would cause damages of over $60,551,000 (1999 price levels) if the flood occurred during the crop-growing season. Continuing construction of this project is needed to prevent recurring flood losses. Project benefits will result from flood damages prevented, increased utilization of land, and fish and wildlife enhancement.

[1] Reflects $218,000 reduction assigned as savings and slippage and $50,000 reprogrammed to the project.

Counties within the project area that are subject to substantial and persistent unemployment are: Lee, Mississippi and St. Francis in Arkansas. Average annual benefits (1983 price levels) are as follows (for total project):

Annual Benefits	Amount
Flood Control	$27,439,000
Recreation	2,152,000
Fish and Wildlife	333,000
Area Redevelopment	785,000
Advance Replacement	1,807,000
Betterments	519,000
Relocation Assistance	24,000
Total	$33,059,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

ST. FRANCIS RIVER AND TRIBUTARIES	
Continue:	
Lands and Damages	$ 670,000
Miscellaneous Utilities	30,000
Gravel on Roadways	84,000
Complete:	
Relocations on I-155 DRP Structure Ditches 1, MO	42,000
Ditch 10, AR IT 2 Culvert	75,000
Main and Ditch 2, Item 2, Channel Improvements, MO	677,000
Planning, Engineering and Design	1,470,000
Supervision and Administration	147,000
Total	$3,195,000

NON-FEDERAL COST: Prior to the Flood Control Act of 1946, local interests provided lands, easements, and rights-of-way and provided for relocation of interfering facilities. After 1946, local cooperation was limited to minor maintenance of levees except for providing right-of-way for specific features, i.e., recreation facilities at the W. G. Huxtable Pumping Plant, Inter River Culvert and St. Francis Lake Control Structure. A tabulation of these and other non-Federal costs is as follows:

	Payment During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation and Replacement Costs
Requirements of Local Cooperation Provide lands, easements, rights-of-way, and dredged material disposal areas.	$1,492,000	
Modify or relocate buildings, utilities, roads, bridges (except railroad bridges), and other facilities where necessary for the construction of the project.	121,000	
Pay one-half of the separable costs allocated to recreation (except recreational navigation) and bear all costs of operation, maintenance, and replacement of recreation facilities.	85,000	
Pay all costs of minor maintenance of levees.		$970,000
Pay a portion equivalent to 6.4% of the first costs associated with the improvements in the Big Lake area for fish and wildlife enhancement.	178,000	
Total Non-Federal Costs	$1,876,000	$970,000

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STATUS OF LOCAL COOPERATION: Necessary assurances have been furnished by 24 levee and drainage districts to perform minor maintenance as required by law. These agencies are furnishing all requirements of local cooperation necessary for meeting the present project schedule.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $389,000,000 is an increase of $2,000,000 from the latest estimate ($387,000,000) presented to Congress (FY 2000). This change includes the following items.

Item	Amount
Price Escalation on Construction Features	$ 442,000
Post Contract Award and Other Estimating Adjustments	1,358,000
Price Escalation on Real Estate	200,000
Total	$2,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed with the Council on Environmental Quality on 11 December 1973.

OTHER INFORMATION: Initial construction funds were appropriated in Fiscal Year 1938.

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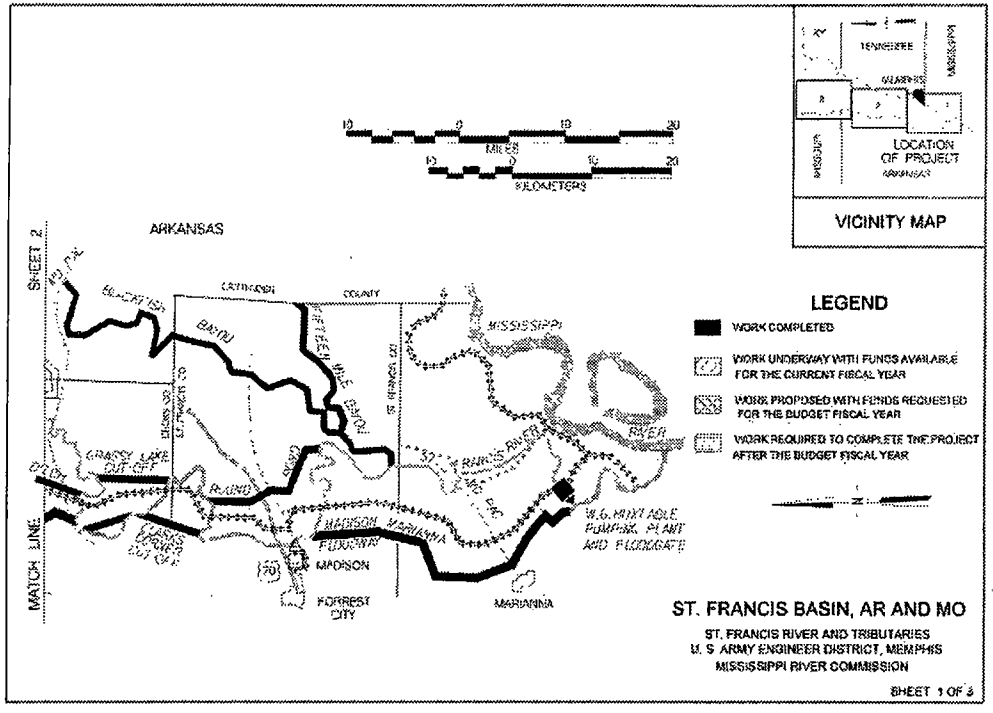
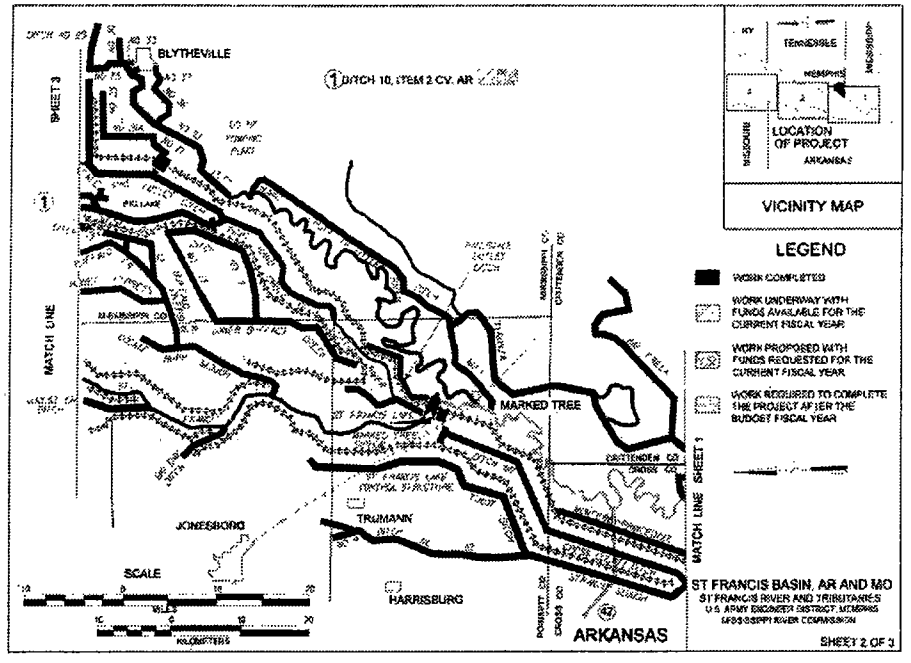
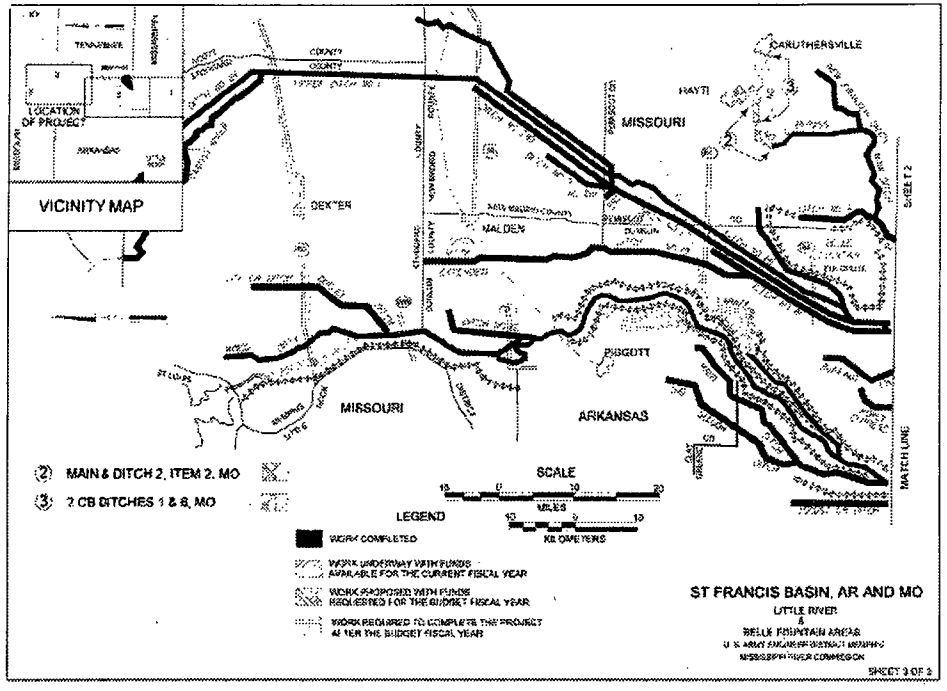

VICINITY MAP
LOCATION OF PROJECT
TENNESSEE
MISSISSIPPI
ARKANSAS
MILES
KILOMETERS
LEGEND
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR
ARKANSAS
MISSISSIPPI
MADISON
FORREST CITY
MARIANNA
ST. FRANCIS BASIN, AR AND MO
ST. FRANCIS RIVER AND TRIBUTARIES
U. S ARMY ENGINEER DISTRICT, MEMPHIS
MISSISSIPPI RIVER COMMISSION
SHEET 1 OF 3


BLYTHEVILLE
DITCH 10, ITEM 2 CV, AR
SHEET 3
MATCH LINE
MARKED TREE
JONESBORO
TRUMANN
HARRISBURG
ARKANSAS
SCALE
MILES
KILOMETERS
KY
TENNESSEE
MISSOURI
MISSISSIPPI
MEMPHIS
LOCATION OF PROJECT
ARKANSAS
VICINITY MAP
LEGEND
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR
WORK PROPOSED WITH FUNDS REQUESTED FOR THE CURRENT FISCAL YEAR
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR
MATCH LINE SHEET 1
ST FRANCIS BASIN, AR AND MO
ST FRANCIS RIVER AND TRIBUTARIES
U.S. ARMY ENGINEER DISTRICT, MEMPHIS
MISSISSIPPI RIVER COMMISSION
SHEET 2 OF 3


VICINITY MAP
LOCATION OF PROJECT
TENNESSEE
MISSISSIPPI
ARKANSAS
DEXTER
MALDEN
MISSOURI
CARUTHERSVILLE
HAYTI
PIGGOTT
ARKANSAS
MISSOURI
SHEET 2
MATCH LINE
② MAIN & DITCH 2, ITEM 2, MO
③ 2 CB DITCHES 1 & 8, MO
SCALE
MILES
KILOMETERS
LEGEND
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR
ST FRANCIS BASIN, AR AND MO
LITTLE RIVER
&
BELLE FOUNTAIN AREAS
U.S. ARMY ENGINEER DISTRICT, MEMPHIS
MISSISSIPPI RIVER COMMISSION
SHEET 3 OF 3

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APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO and TN - Construction

PROJECT: Tensas Basin, Arkansas and Louisiana (Continuing)

LOCATION: The Tensas Basin is located in the alluvial valley of Arkansas (counties of Jefferson, Lincoln, Draw, Desha and Chicot) and Louisiana Parishes of East Carroll, West Carroll, Morehouse, Richland, Madison, Franklin, Tensas, Catahoula, Concordia, Avoyelles and LaSalle) between the Mississippi River on the east and an escarpment on the west and extends southward from the Arkansas River to the Red River in the vicinity of Marksville, Louisiana.

DESCRIPTION: The Basin is comprised of two separable units--the upper portion known as the Boeuf-Tensas area and the lower portion known as the Red River backwater area. Major features in the upper Basin consist of 120.4 miles of channel and tributary improvements along the Tensas River and a 6,500 cubic foot per second pumping plant at Lake Chicot, Arkansas. The lower basin features include 93.1 miles of levee and a 4,000 cubic foot per second pumping plant in the Tensas-Cocodrie subarea; 83.2 miles of ring levee for the Larto Lake to Jonesville subarea; construction of a 56.0-mile levee and two pumping plants (300 and 750 cubic feet per second) at Sicily Island subarea; and a 31.3-mile levee with a 500 cubic foot per second pumping plant for the Below Red River subarea. All work within the project is programmed except Tensas River (Boeuf and Tensas Rivers, etc.), and Below Red River Area (Red River Backwater). Because of the inability of the local development authority to execute its assurances, two remaining recreation facilities at Lake Chicot have been deleted from the project. The Tensas River Project was reclassified to the inactive category in September 1990 because the project currently does not have a committed local sponsor to cost share further work on the project and there is no indication that a commitment will be made in the near future. The Below Red River Area Project was reclassified to the inactive category in May 1993 based on the lack of economic justification. Approval was granted by CEMRC letter, 11 March 1997, to reclassify Larto Lake to Jonesville Levees, Below Larto Lake Area, to the inactive category due to lack of local interest.

AUTHORIZATION: Flood Control Acts of 1941, 1944, 1946, 1950, 1958, 1962, 1965, 1968, and Water Resources Development Act of 1986.

REMAINING BENEFIT - REMAINING COST RATIO: 4.5 to 1 at 2-1/2 percent.

TOTAL BENEFIT-COST RATIO: 4.6 to 1 at 2-1/2 percent.

INITIAL BENEFIT - COST RATIO: 3.0 to 1 at 2-1/2 percent (FY 1967).

BASIS OF BENEFIT-COST RATIO: Benefits are based on the "1974 Mississippi River and Tributaries Update," except for the Below Red River project, which was based on the "Phase II, General Design Memorandum," December 1988, and the Tensas River Project, which was based on the "Tensas River Project, Louisiana, General Design Memorandum No. 26," December 1988.

SUMMARIZED FINANCIAL DATA			
Estimated Total Appropriation Requirement			$476,746,000
Programmed Construction		$331,369,000	
Unprogrammed Construction		145,377,000	
Future Non-Federal Reimbursement			1,784,000
Programmed Construction		1,784,000	
Unprogrammed Construction		0	
Estimated Federal Cost (Ultimate)			474,962,000
Programmed Construction		329,585,000	
Unprogrammed Construction		145,377,000	
Estimated Non-Federal Cost			30,728,000
Programmed Construction		2,246,000	
Cash Contributions	$ 0		
Other Costs	462,000		
Reimbursements	$1,784,000		
Rec Fac $1,784,000			
Unprogrammed Construction		28,482,000	
Cash Contribution	7,403,000		
Other Costs	21,079,000		
Total Estimated Programmed Construction Cost			$ 331,831,000
Total Estimated Unprogrammed Construction Cost			173,859,000
Total Estimated Project Cost			505,690,000

STATUS (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULED
Boeuf and Tensas Rivers, Etc		
All Work Except Lake Chicot Pumping Plant	82	Indefinite
Lake Chicot Pumping Plant	100	September 1992
Tensas River Separable Element	0	Indefinite
Red River Backwater Area		
All Work Except Tensas-Cocodrie Pumping Plant	72	Indefinite
Tensas-Cocodrie Pumping Plant	100	September 1997
Below Red River Separable Element	0	Indefinite
Entire Project	89	Being Determined

SUMMARIZED FINANCIAL DATA		ACCUM PCT OF EST FED COST
Allocations to 30 September 1999	$313,623,000	
Conference Allowance for FY 2000	8,930,000	
Allocation for FY 2000	8,529,000 1/	
Allocations Through FY 2000	322,152,000	67
Allocation Requested for FY 2001	2,330,000	68
Programmed Balance to Complete After FY 2001	1,887,000	
Unprogrammed Balance to Complete After FY 2001	145,377,000	

1/ Reflects $401,000 reduction for savings and slippage.

PHYSICAL DATA

Boeuf and Tensas Rivers, Etc.
All Work Except Lake Chicot Pumping Plant

Lands and Damages:	Relocations:	Channels and Canals:
74,279 acres	Roads: 26.6 miles and 88 bridges Railroads: 9 bridges	1,009.3 miles

Lake Chicot Pumping Plant

Lands and Damages:	Relocations:	Channels and Canals:	Dams:
1,201 acres	Roads: 1 mile	2 Weirs	1 - 200 feet length 1 - 300 feet length

Recreation Facilities:
4 sites

Pumping Plants:
1 - 6,500 cubic feet per second

Roads:
1 - Access Road for Pumping Plant
1 - Access Road for Ditch Bayou Dam
1 - Access Road for Connerly Bayou Dam

Red River Backwater Area
All Work Except Tensas-Cocodrie Pumping Plant

Lands and Damages:
29,091 acres (includes 12,800 acres for mitigation)

Relocations:
Roads: 28.4 miles and
5 bridges

Levees and Floodwalls:
Levees:
Average Height: 10-25 feet
Length: 263.6 miles
Drainage Structures: 32 (24" pipes to 10' x 15' box culverts)

Channels and Canals: 46.0 miles
All Interior Drainage except 1-1/2 miles Smithland Cutoff

Recreation Facilities:
9 miles access road

Pumping Plants:
1-300 cubic feet per second
1-750 cubic feet per second
1-500 cubic feet per second

Fish and Wildlife:
1.1 miles diversion channel,
Two 60-inch pipe gravity structures,
1 weir

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Tensas-Cocodrie Pumping Plant

Lands and Damages:
790 acres

Relocations:
Roads: 1.4 miles
and 3 bridges

Channels and Canals:
6.8 miles, 1 concrete weir, 1 earth weir, and 1 gravity structure

Pumping Plant:
1-4,000 cubic feet per second

Fish and Wildlife Facilities:
Diversion channel
2 water control structures
3 boat-launching ramps

JUSTIFICATION: The Tensas Basin project is comprised of two separable units: the Boeuf and Tensas Rivers, which includes the Lake Chicot Pumping Plant, and the Red River Backwater Area, which includes the Tensas-Cocodrie Pumping Plant.

The land in the Boeuf and Tensas River Basin possesses a high potential for agricultural production but this potential is restricted by the frequency and duration of overflow and by poor drainage which, for long periods, causes the ground to remain in a condition unsuitable for cultivation. The project will eliminate most of these hindrances and allow full economic development by providing adequate channels for the streams and major outlets for an effective local drainage system. A total of 922,000 acres (including Lake Chicot) will be substantially benefitted by the project. Lands in the Red River Backwater Area are extremely fertile but their development to full potential is adversely affected by backwaters of the Mississippi River. These lands must remain subject to use for storage of floodwaters during a Mississippi River project flood. However, protection of the area against lesser floods, particularly headwater floods of the Ouachita, Black, and Red Rivers, will permit a high degree of economic development. A total of 575,700 acres will be substantially benefitted by the project. Average annual benefits for the Tensas Basin are as follows:

Annual Benefits	Amount
Flood Control	$38,187,000
Recreation	567,000
Fish and Wildlife	416,000
Area Redevelopment	494,000
Total	$39,664,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Red River Backwater Area All Work Except Tensas-Cocodrie Pumping Plant	
Continue:	
Sicily Island, LA, Item 1-C	417,000
Sicily Island, LA, Item 1-D	417,000
Lands and Damages	156,000
Planning, Engineering and Design	750,000
Supervision and Administration	590,000
TOTAL	$2,330,000

NON-FEDERAL COST: In accordance with the cost-sharing and financing concepts reflected in the initial authorization and subsequent authorized modifications of the Tensas Basin project including the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
All Work Except Tensas River and Below Red River		
Provide lands, easements, rights-of-way, and borrow and excavated or dredged material disposal areas.	$ 462,000	
Pay one-half of the separable costs allocated to recreation (except recreational navigation) and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of recreation facilities.	1,784,000	$1,367,000
Subtotal Non-Federal Costs	$2,246,000	$1,367,000

Local interests estimate that they have expended at least $5,900,000 in the Tensas Basin on the construction of drainage improvements prior to initiation of the Federal project. They estimate they will spend an additional $48,343,000 in construction on connecting ditches, main laterals, and on-farm drainage improvements. This work is being accomplished as the major outlets are opened. Local drainage and levee districts have reported that they expended approximately $5,388,032 on construction and maintenance of drainage improvements between 1950 and 1985.

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Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Tensas River		
Provide lands, easements, rights-of-way, and borrow and excavated or dredged material disposal areas.	$ 8,402,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	10,971,000	
Pay 5 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of flood control facilities.	3,127,000	$ 410,000
Subtotal Non-Federal Costs	$22,500,000	$ 410,000

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Below Red River		
Provide lands, easements, rights-of-way, and borrow and excavated or dredged material disposal areas.	$ 1,706,000	
Pay 18.9 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of flood control facilities.	4,276,000	117,000
Subtotal Non-Federal Costs	$ 5,982,000	$ 117,000
Total Non-Federal Costs	$30,728,000	$1,894,000

STATUS OF LOCAL COOPERATION:

Boeuf and Tensas Rivers, Etc.

Formal assurances have been furnished by eight levee and drainage districts to operate and maintain all units of the project except the Kirsch Lake Canal. Assurances for Lake Chicot Pumping Plant required by PL 91-611 and PL 91-646 were accepted 16 April 1976 and a cost sharing agreement with the Chicot County Rural Development Authority was executed 28 May 1976. All lands for Lake Chicot recreation development were furnished by 30 March 1976.

The local development authority, which provided assurances that it would operate and maintain Corps constructed recreation facilities in the Tensas Basin at Lake Chicot, Arkansas, has since notified the Vicksburg District that it is unable to comply with the assurances previously furnished regarding operation and maintenance of two remaining recreation facilities, and that the two remaining facilities are not needed. The local authority has been informed that based on the fact that the two remaining facilities are not needed, all programmed construction is considered complete and payback of their cost share for construction should begin in accordance with executed assurances. The local authority has been unable to identify a source of funds to repay the debt. The matter was elevated to the Governor of Arkansas; however, since the local authority was not sanctioned by the State, the State feels no legal obligation for the payment. A litigation report has been sent to the Department of Justice, 8 October 1997. In letter dated 5 March 1998, the U.S. Attorney General granted authority to terminate collection against the Chicot County Rural Development Authority.

Red River Backwater Area

Formal assurances were received 12 February 1947 and accepted 24 April 1947 for all project features except the Sicily Island Area. Assurances of local cooperation were received on 10 February 1981 and accepted 1 April 1981 for the Sicily Island Area project. The adoption of a constitutional amendment in the general election of 1 February 1972 gave the State of Louisiana and its agencies authority to comply with the Uniform Relocations Assistance and Real Property Acquisition Policies Act of 1970 (PL 91-646). Supplemental assurances covering the requirements of PL 91-646 for the Larto Lake to Jonesville Area were received 9 May 1972 and accepted 25 May 1972. Supplemental assurances covering the requirements of PL 91-646 for the Tensas-Cocodrie Levee Enlargement were received 1 February 1974 and accepted 7 February 1974. Supplemental assurances covering the requirements of PL 91-646 for the Tensas-Cocodrie Pumping Plant were received 18 August 1975 and accepted 27 August 1975. In March 1997, Larto Lake to Jonesville Levees, Below Larto Lake Area was placed in the inactive category due to lack of local interest.

Tensas River and Below Red River Areas

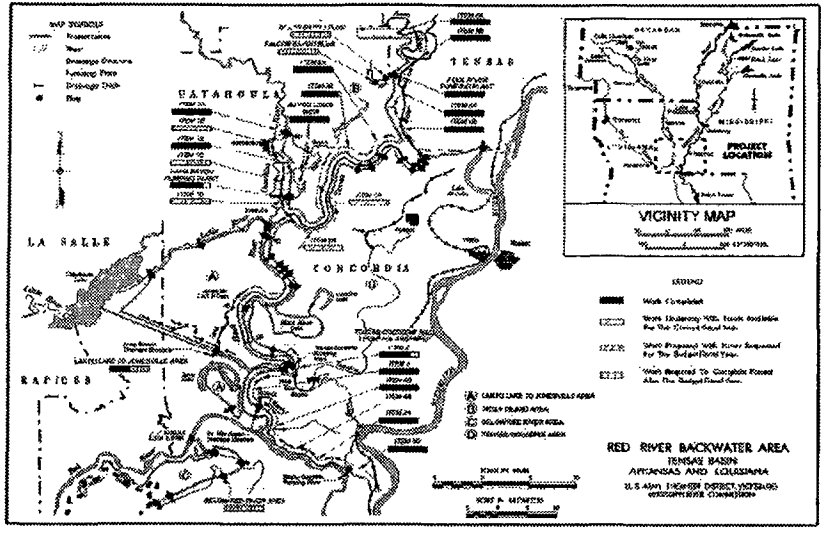
Project Cooperation Agreements for the Tensas River and Below Red River separable elements will be obtained consistent with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986. The local sponsor for the Tensas River and the Below Red River elements is the Fifth Louisiana Levee District. A draft Project Cooperation Agreement was sent to the local sponsor 2 May 1988 for review. The local sponsor indicated in October 1988 that they are unable to cost share these elements in accordance with the Water Resources Development Act of 1986. By resolution dated 15 November 1989, the Levee District has requested the East Carroll and Madison Parish Police Juries to cosponsor this project. However, no formal agreement was received from either police jury; therefore, the Tensas River separable element and the Below Red River separable element were placed in the inactive category.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal fully funded cost estimate of $476,746,000 is an increase of $1,410,000 from the latest estimate ($475,336,000) presented to Congress (Fiscal Year 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	$1,406,000
Price Escalation on Real Estate	4,000
Total	$1,410,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed with the Environmental Protection Agency on Tensas River, Louisiana, on 18 May 1984; Lake Chicot Pumping Plant on 29 August 1975; and the Red River Backwater Area, Sicily Island Area, on 21 May 1982; Below Red River Area on 30 October 1981; Tensas-Cocodrie Pumping Plant on 24 September 1976; and Tensas-Cocodrie Levee Item on 24 September 1976.

OTHER INFORMATION: Funds to initiate construction were appropriated in FY 1947 on Red River Backwater Area and in FY 1948 on Boeuf and Tensas River, etc.


TENSAS
CATAHOULA
LA SALLE
CONCORDIA
RAPIDES
VICINITY MAP
PROJECT LOCATION
RED RIVER BACKWATER AREA
TENSAS BASIN
ARKANSAS AND LOUISIANA

APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO and TN - Construction

PROJECT: Louisiana State Penitentiary Levee, Louisiana (Continuing)

LOCATION: The project is located near Angola, Louisiana, in West Feliciana Parish, approximately 40 miles northwest of Baton Rouge, Louisiana and borders the Louisiana State Penitentiary along the Mississippi River and State of Mississippi state line.

DESCRIPTION: The project provides for improving about 12 miles of existing levees along the Mississippi River which currently afford flood protection to the Penitentiary on the left descending bank below Old River. The existing levees are owned and maintained by the State of Louisiana and are substandard with regard to Federal specifications. The project, by improving the existing levees to Federal standards, will reduce the risk of flooding with its attendant property damage and threat to the lives of up to 5,100 inmates and about 1,750 employees and residents (527 reside on penitentiary grounds). All work is programmed.

AUTHORIZATION: Water Resources Development Acts of 1986, 1990 and 1999.

REMAINING BENEFIT - REMAINING COST RATIO: 2.7 to 1 at 6-7/8 percent

TOTAL BENEFIT - COST RATIO: 2.7 to 1 at 6-7/8 percent

INITIAL BENEFIT - COST RATIO: 1.37 at 7-5/8 percent (FY 1999)

BASIS OF BENEFIT - COST RATIO: The initial benefit-cost ratio was presented in the January 1982 Final Feasibility Report. The current estimate of 2.7 to 1 results from an update performed.

SUMMARIZED FINANCIAL DATA			PCT OF EST FED COST	STATUS (1 January 2000)	PERCENT COMPLETE	COMPLETION SCHEDULE
				Entire Project	14	Being Determined
Estimated Federal Cost		$ 19,500,000				
				PHYSICAL DATA		
Estimated Non-Federal Cost		6,500,000		Levees:		
Cash Contributions	5,700,000			Average Height - 15 feet		
Other Costs	800,000			Length - 12.0 miles		
Total Estimated Project Cost		$ 26,000,000				
Allocations to 30 September 1999		2,383,000				
Conference Allowance for FY 2000		9,000,000				
Allocation for FY 2000		8,595,000[1]				
Allocations through FY 2000		10,978,000	56			
Allocation Requested for FY 2001		5,500,000	84			
Programmed Balance to Complete after FY 2001		3,022,000				
Unprogrammed Balance to Complete after FY 2001		0				

[1] Reflects $405,000 reduction assigned as savings and slippage.

JUSTIFICATION: Past high-water events have threatened the lives of up to 5,100 maximum security inmates and about 1,750 employees and residents (527 reside on the penitentiary grounds) and physical plant valued at $260 million. The need to evacuate during flood events causes severe disruption and serious public threat to residents throughout the state. The 1997 high-water event demonstrated that improvement of the state-constructed levee to Flood Control, Mississippi River and Tributaries standards is imperative. During this event, serious under-seepage (which created numerous sand boils) threatened the integrity of the levee. The levee failure threat precipitated the night-time evacuation of 3,000 inmates housed in dormitories to a "tent city" on high ground within the prison. Emergency levee protection activities and support by the Louisiana National Guard, prison laborers and staff, contractors, and the Corps ultimately preserved the levee. This emergency event cost the State of Louisiana about $2 million. Had the levee failed, the nearly 2,000 prisoners housed in cells and over 500 resident staff could have drowned. Average annual benefits, all for flood control, are $3,496,000.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate:	
Levee Downstream Camp C	$1,544,000
Complete:	
Levee Upstream Camp C#1	$ 779,000
Drainage Structure	2,092,000
Levee Upstream Camp#2	683,000
Lands and Damages	8,000
Planning, Engineering and Design	48,000
Supervision and Administration	346,000
Total	$5,500,000

NON-FEDERAL COST: In accordance with the Water Resources Development Acts of 1986 (PL 99-662) and 1990 (PL 101-640), the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation and Replacement Costs
Provide without cost to the United States, all rights-of-way for levee foundations and levees.	$ 800,000	$ 0
Maintain all flood control works after their completion, except controlling and regulating spillway structures, including special relief levees.		
Pay 22 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, as determined under Section 103, of the Water Resources Development Act of 1986.	5,700,000	14,000
Total Non-Federal Costs	$ 6,500,000	$ 14,000

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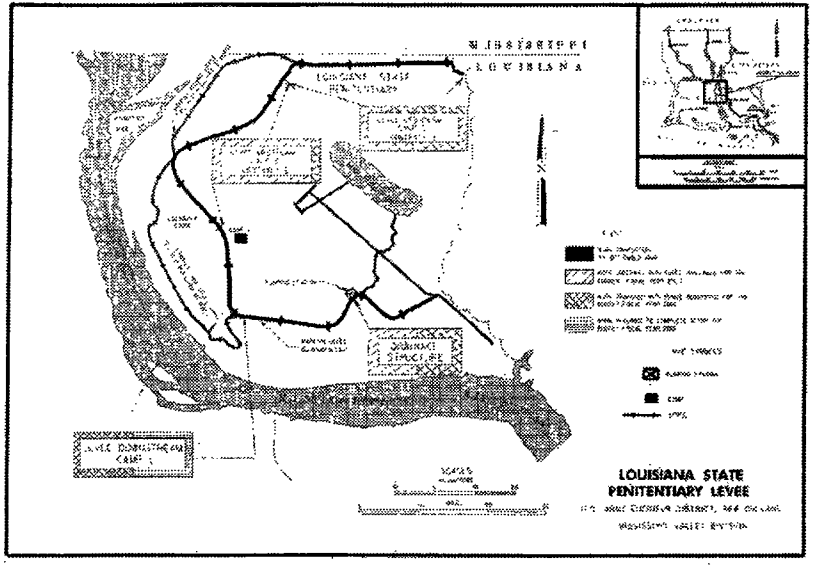
STATUS OF LOCAL COOPERATION: The Limited Reevaluation Report was approved on July 2, 1999 and formed the basis for execution of the Project Cooperation Agreement which was approved on July 30, 1999. Three construction contracts were awarded in September 1999. The local sponsor, the Louisiana Department of Public Safety and Corrections has provided cash in the amount of $1,150,000 in addition to furnishing the lands and damages necessary to support their share of the project cost.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $19,500,000 is the same as the latest estimate submitted to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An Environmental Impact Statement was included in the Final Feasibility Report dated January 1982. An Environmental Assessment and two Supplemental Environmental Assessments have been prepared to disclose the potential environmental consequences of the levee project as described in the Limited Reevaluation Report and as being constructed. It was determined that the project would have no adverse impacts upon significant resources, with implementation of the mitigation feature. Findings of No Significant Impact were distributed, which completed the public disclosure of that determination.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1991 and funds to initiate construction were appropriated in FY 1998. Water Resources Development Act of 1999 provides for the sponsor to receive credit for work accomplished in the project area since authorization. Documentation to support qualified creditable work has been requested from the Louisiana Department of Public Safety and Corrections. The estimated amount of the creditable work is $3,000,000. After submission of the creditable amount to both Committees on Appropriations, the Project Cooperation Agreement will be revised, thus the credit will probably be issued in FY 2001.



731

APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO, and TN - Construction

PROJECT: Mississippi Delta Region, Louisiana (Salinity Control Structures) (Continuing)

LOCATION: The project is located in the lower Mississippi River delta region in Plaquemines and St. Charles Parishes, Louisiana. The Caernarvon structure is located in Plaquemines Parish on the east bank of the Mississippi River in the vicinity of Caernarvon, Louisiana. The Davis Pond structure is located in St. Charles Parish on the west bank just downstream of Luling, Louisiana.

DESCRIPTION: The plan of improvement originally consisted of four salinity control structures (Caernarvon, Davis Pond, Homeplace, and Bohemia) with appurtenant levees and channels, to divert freshwater from the Mississippi River into coastal bays and marshes for fish and wildlife restoration. The Caernarvon and Davis Pond salinity control structures are programmed, including post-construction environmental monitoring which will continue for four years after completion of construction of each structure. The Homeplace and Bohemia structures were deauthorized on 1 May 1997.

AUTHORIZATION: Flood Control Act of 1965, and Water Resources Development Acts of 1974, 1986 and 1996.

REMAINING BENEFIT - REMAINING COST RATIO: 10.9 to 1 at 8-7/8 percent (DAVIS POND).

TOTAL BENEFIT - COST RATIO: 2.8 to 1 at 3-1/4 percent for Caernarvon, and 5.6 to 1 at 8-7/8 percent for Davis Pond.

INITIAL BENEFIT - COST RATIO: 3.4 to 1 at 3-1/4 percent for Caernarvon (Fiscal Year 1969), and 3.0 to 1 at 8-1/8 percent for Davis Pond (Fiscal Year 1983).

BASIS OF BENEFIT - COST RATIO: Benefits are from the latest available evaluations: Caernarvon - approved in November 1985, at 1985 price levels; and Davis Pond - approved in September 1992 at 1990 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS (1 JANUARY 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$99,500,000				
Estimated Non-Federal Cost		33,100,000				
Cash Contribution	26,069,000			Caernarvon Structure	100	February 1997
Other Costs	7,031,000			Davis Pond Structure	70	Being Determined
				Entire Project	80	Being Determined
Total Estimated Project Cost		132,600,000				
Allocations to 30 September 1999		76,720,000[1]				
Conference Allowance for FY 2000		10,400,000[2]				
Allocation for FY 2000		9,933,000	87			
Allocations through FY 2000		86,653,000	92			
Allocation Requested for FY 2001		5,000,000				
Programmed Balance to Complete After FY 2001		7,847,000				
Unprogrammed Balance to Complete After FY 2001		0				

PHYSICAL DATA

	Caernarvon	Davis Pond
Lands and Damages	2,092 acres	10,213 acres
Relocations		
Roads/Bridges	1,600 linear feet	2,920 linear feet
Railroads	2,500 linear feet	3,600 linear feet
Utilities	4,600 linear feet	7,980 linear feet
Fish & Wildlife Facilities		
Structures	5 box culverts 15 feet by 15 feet 8,000 cubic feet per second	4 box culverts 14 feet by 14 feet 10,650 cubic feet per second

[1] Includes $58,000 expended on Bohemia prior to 1970.
[2] Reflects $467,000 reduction assigned as savings and slippage.

Pumping Stations		1 pumping station, 570 cfs capacity
Channels	1.7 miles	2.2 miles
Levees	3.7 miles	16.9 miles

JUSTIFICATION: The project will divert freshwater from the Mississippi River to coastal bays and marshes for fish and wildlife restoration. Benefits will include restoration of former ecological conditions by controlling salinity and supplementing nutrients. The bays are important to oyster production and as breeding areas for shrimp and food fishes, while the marsh areas produce natural food for fur-bearing animals and migratory waterfowl. A total of 981,500 acres of marshes and bays will be benefitted. The diversions will take place under regulated conditions developed from monitoring the impact on the environment and the fish and wildlife. Average annual benefits are as follows:

Annual Benefits	Amount
Fish and Wildlife	
Caernarvon	$ 8,706,000
Davis Pond	14,997,000
Recreation	
Caernarvon	449,000
Davis Pond	298,000
Total	$24,450,000

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FISCAL YEAR 2001: The requested amount will be applied as follows:

Davis Pond

Complete:	
Diversion Structure	$ 708,000
Burlington Northern Railroad Bridge	1,036,000
Union Pacific RR Relocation	959,000
Lands and Damages	25,000
Cultural Resources	71,000
Planning, Engineering and Design	1,986,000
Supervision and Administration	186,000
Relocations Hired Labor	29,000
Total	$5,000,000

NON-FEDERAL COST: Based on the cost sharing concept adopted for the Caernarvon Structure, the non-Federal sponsor will voluntarily contribute 25 percent of the first cost of the project as well as the required 25 percent of the cost of operating, maintaining, repairing, rehabilitating, and replacing the project after completion.

	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Requirements of Local Cooperation		
Contribute 25 percent of the costs allocated to fish and wildlife restoration and pay 25 percent of the costs of operation, maintenance, repair, rehabilitation, and replacement of fish and wildlife facilities.		
Davis Pond	$26,600,000	$174,800
Caernarvon	6,500,000	69,000
Total Non-Federal Costs	$33,100,000	$243,800

The non-Federal sponsor for the Caernarvon and Davis Pond Structures has also agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The Project Cooperation Agreement for the Caernarvon Structure was signed by the State of Louisiana on 2 June 1987 and by the Assistant Secretary of the Army for Civil Works on 10 June 1987. The current non-Federal cost estimate of $6,500,000, which includes a cash contribution of $5,456,000, is an increase of $375,000 from the non-Federal cost estimate of $6,125,000 noted in the Project Cooperation Agreement, which included a cash contribution of $6,125,000. In a letter dated 26 February 1987, the non-Federal sponsor indicated that it is financially capable and willing to contribute the increased non-Federal share. Our analysis of the non-Federal sponsor's financial capability to participate in the project affirms that the sponsor has a reasonable and implementable plan for meeting its financial commitment. The State of Louisiana has provided cash contributions of $5,456,000 through 30 September 1998 for the Caernarvon Structure. The State has also performed biological monitoring, with an estimated value of $1,044,000. The Project Cooperation Agreement for the Davis Pond Structure was signed 17 April 1993, by the State of Louisiana and for the Acting Assistant Secretary of the Army. The Water Resources Development Act of 1996 authorized the Corps to credit the State of Louisiana for up to $7,500,000 in oyster relocation costs. We are currently preparing an amendment to the Davis Pond PCA to incorporate these requirements. We anticipate execution of the amendment in July 2000. The State of

Louisiana plans to fund both the construction and the operations and maintenance of the project through the Wetlands Conservation and Restoration Trust Fund. Our recent analysis of the non-Federal sponsor's financial capability affirms that the sponsor has a reasonable and implementable plan for meeting its financial commitment. The State of Louisiana has provided cash contributions of $18,503,000 through 30 September 1999, for the Davis Pond Structure.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $99,500,000 is an increase of $300,000 over the latest estimate ($99,200,000) submitted to Congress (Fiscal Year 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Featus	$ 1,269,000
Post Contract Award and Other Estimating Adjustments	-969,000
Total	$ 300,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement for the Louisiana Coastal Area Study was filed with the Environmental Protection Agency on 5 April 1985. This statement is adequate for the Caernarvon and Davis Pond structures.

OTHER INFORMATION: Local interests, during the period 1954-1970, spent an estimated $420,000 for construction and maintenance of freshwater diversion structures and channel improvements on the east bank of the Mississippi River in the vicinity of Bohemia and Bayou Lamoque.

Funds to initiate preconstruction engineering and design were appropriated in Fiscal Year 1969 and funds to initiate construction were appropriated in Fiscal Year 1987.

SUMMARIZED FINANCIAL DATA:

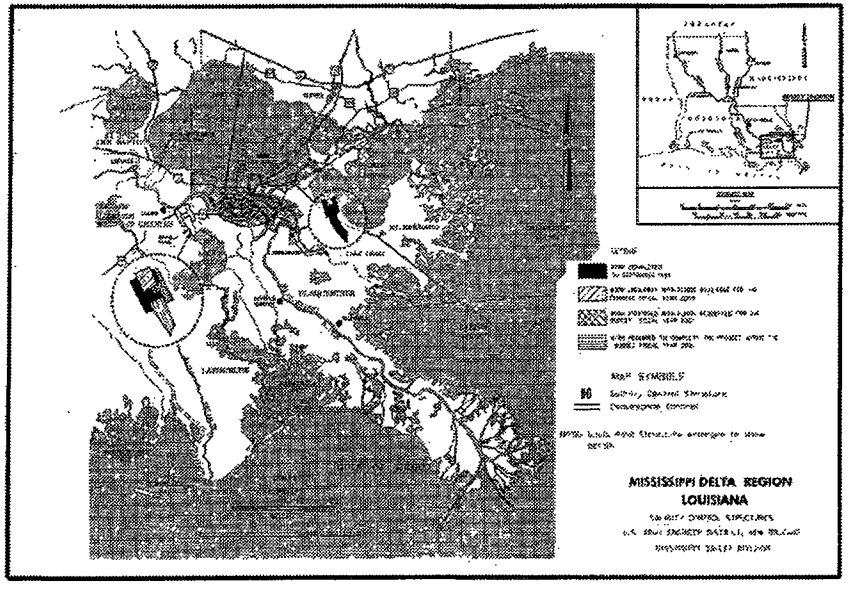
Davis Pond:		
Estimated Federal Cost		$79,800,000
Estimated Non-Federal Cost		26,600,000
Cash Contributions	$20,601,000	
Other Costs	5,999,000	
Total Estimated Project Cost		$106,400,000
Caernarvon:		
Estimated Federal Cost		$19,700,000
Estimated Non-Federal Cost		6,500,000
Cash Contributions	$ 5,468,000	
Other Costs	1,032,000	
Total Estimated Project Cost		$26,200,000

REMAINING BENEFIT - REMAINING COST RATIO:

Davis Pond: 10.9 to 1 at 8-7/8 percent.
Caernarvon: Not applicable because construction is complete.

TOTAL BENEFIT - COST RATIO:

Davis Pond: 2.8 to 1 at 8-7/8 percent.
Caernarvon: Not applicable because construction is complete.



739

APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO, and TN - Construction

PROJECT: Mississippi and Louisiana Estuarine Areas, Mississippi and Louisiana (Continuing)

LOCATION: The project is located in St. Charles Parish, Louisiana about 33 miles upstream of the City of New Orleans, Louisiana, at the upstream end of the Bonnet Carre' spillway structure.

DESCRIPTION: The project plan consists of six-gated 18' x 18' box culverts with associated inflow and outflow channels designed to divert water from the Mississippi River into Lake Pontchartrain. A sediment trap will be located 2,300 feet downstream from the diversion structure. All work is programmed.

AUTHORIZATION: Water Resources Development Act of 1988.

REMAINING BENEFIT-REMAINING COST RATIO: 1.4 to 1 at 8-7/8 percent.

TOTAL BENEFIT-COST RATIO: 1.2 to 1 at 8-7/8 percent.

INITIAL BENEFIT-COST RATIO: 1.2 to 1 at 8-5/8 percent..

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluation approved in February 1991, at 1990 price levels.

740

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$ 74,600,000		Entire Project	7	Being Determined
Estimated Non-Federal Cost		24,800,000				
Cash Contribution	$ 22,028,000					
Other Costs	2,772,000[1]					
Total Estimated Project Cost		$ 99,400,000				
Allocations to 30 September 1999		7,844,000				
Conference Allowance for FY 2000		100,000				
Allocation for FY 2000		96,000[2]				
Allocations through FY 2000		7,940,000	6			
Allocation Requested for FY 2001		100,000	6			
Programmed Balance to Complete after FY 2001		66,560,000				
Unprogrammed Balance to Complete after FY 2001		0				

PHYSICAL DATA

Relocations:
U.S. Highway 61 Bridge and LA Parish Road 12
2 Railroad Bridges
2 Power lines, 9 pipelines, 1 waterline,
4 fiber optic cables
Fish and Wildlife Facilities:
6 box culverts 18 feet by 18 feet
30,000 cubic feet per second
Channels: 6.0 miles with a depth of about 30 ft
Levees: 0.4 miles

JUSTIFICATION: The productivity of fish and wildlife is being adversely affected by wetland loss. The natural processes of subsidence, compaction, erosion, and saltwater intrusion, which have been accelerated by channel dredging and levee building are major contributors to the land loss. The project area includes Lakes Maurepas, Pontchartrain, and Borgne, Mississippi Sound and adjacent wetlands that are influenced by these water bodies. The estuaries and wetlands, which are among the most productive in the nation in terms of fish and wildlife resources, make a significant contribution to the overall economies of Louisiana and Mississippi. Historically, a large portion of Louisiana's $500 million and Mississippi's $68 million commercial fish and wildlife harvests have been from the project area. The contribution that the project area makes to commercial fish and wildlife harvest has declined due to increased salinities and land loss. The project would reduce saltwater intrusion and significantly increase the production of oyster, white shrimp, blue crabs, croakers and menhaden.

[1] Not creditable to the State's share of the project costs since utility relocations are the responsibility of the utility owners.

[2] Reflects $4,000 reduction assigned as savings and slippage.

About 10,500 acres of marsh and wooded swamps adjacent to Lakes Maurepas and Pontchartrain would be saved over the 50-year project life since the freshwater nutrients and sediments would result in a healthier marsh and reduce land loss. Oyster production is estimated to be increased by 5.7 million pounds annually in Louisiana and 1.9 million pounds annually in Mississippi. The average annual benefits, all commercial fish and wildlife enhancement, resulting from environmental restoration, are $9,123,000.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Planning, Engineering and Design	$ 100,000
Total	$ 100,000

NON-FEDERAL COST: Based on the cost sharing concept adopted for similar projects, the non-Federal sponsor will contribute 25 percent of the first cost of the project, as well as the required 25 percent of operating, maintaining, repairing, rehabilitating, and replacing the project after completion. The non-Federal costs will be shared between the states of Louisiana (20 percent) and Mississippi (5 percent), based on the estimated benefits to accrue to each state.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation and Replacement Costs
Pay 25 percent of the first costs allocated to fish and wildlife restoration, and pay 25 percent of the costs of operation, maintenance, repair, rehabilitation, and replacement of fish and wildlife facilities.	$24,800,000	$246,000
Total Non-Federal Costs	$24,800,000	$246,000

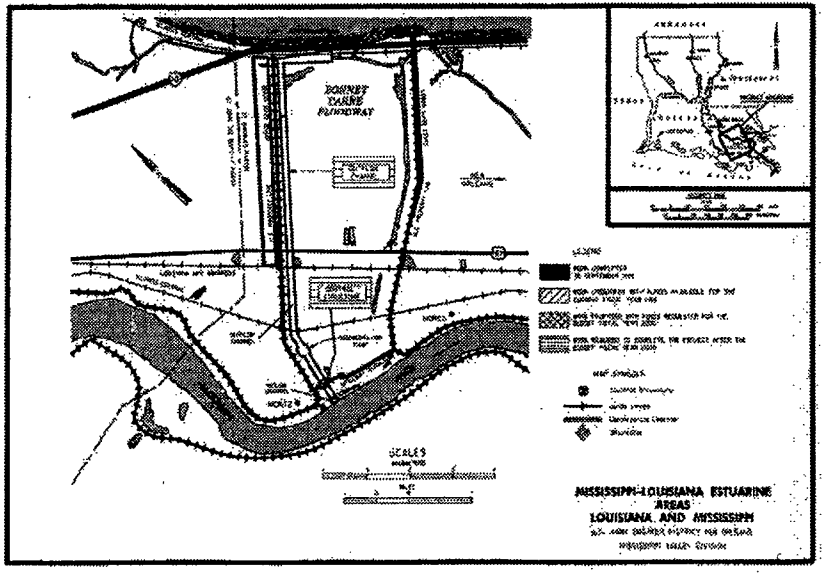
STATUS OF LOCAL COOPERATION: A two and a half year reanalysis of the project was led by the Environmental Protection Agency in response to a January 1994 letter from Representative Robert Livingston. The reanalysis involved representatives of the Environmental Protection Agency, the Corps of Engineers, the States of Louisiana and Mississippi, and two environmental groups. Despite the fact the reanalysis led to a Corps recommendation that negotiations resume on the Project Cooperation Agreement, the State of Louisiana withdrew its support of the project in July 1996. The State of Mississippi continues to support the project. In the House Conference Report 104-782, the Conference Committee directed the Corps of Engineers to submit a report on the project status to Congress, and to provide its assessment of whether the project, as currently formulated, would achieve its goals. This report was submitted to Congress on 5 May 1997. Based on the findings of all the various studies to date, the Corps of Engineers has determined that the project, as authorized, would achieve its objectives in a timely and cost effective manner.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $74,600,000 is an increase of $7,700,000 from the latest estimate ($66,900,000) presented to Congress (Fiscal Year 2000). This change includes the following item.

Item	Amount
Price Escalation on Construction Features	+ $7,700,000
Total	+ $7,700,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed with the Environmental Protection Agency on 27 April 1985. The Finding of No Significant Impact was signed on 11 July 1996.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in Fiscal Year 1985, and funds to initiate construction were appropriated in Fiscal Year 1990.


MISSISSIPPI-LOUISIANA ESTUARINE
AREAS
LOUISIANA AND MISSISSIPPI

APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, Arkansas, Illinois, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee - Construction

PROJECT: Yazoo Basin, Mississippi (Continuing)

LOCATION: The project is located in Mississippi and extends generally from Memphis, Tennessee, southward to Vicksburg, Mississippi, and from the escarpment at Greenwood, westward to the Mississippi River. The counties included are DeSoto, Tunica, Tate, Coahoma, Quitman, Panola, Bolivar, Sunflower, Tallahatchie, Yalobusha, Leflore, Grenada, Carroll, Washington, Humphrey, Holmes, Issaquena, Sharkey, Yazoo, and Warren.

DESCRIPTION: The project provides for protection against headwater floods of streams in the basin; against backwater floods of the Mississippi; and for major drainage in the delta area. The Yazoo Basin can be readily divided into three major flood control components (the Yazoo Headwater, the Yazoo Backwater, and the Big Sunflower River, etc., including Steele Bayou), the Streambank Erosion Control Evaluation and Demonstration Program, which has been completed, and the Demonstration Erosion Control Program. All of the work in the project is programmed except for remaining recreation facilities at Grenada Lake pending development of cost sharing agreements with local interests for construction and non-Federal operation and maintenance consistent with projects for which recreation facilities are being constructed under the provisions of the Federal Water Project Recreation Act of 1965 (Public Law 89-72), as amended; remaining work on Rocky Bayou pending a decision to continue construction in accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986; and remaining work on the Yazoo Backwater Pumping Plant pending development of cost sharing agreements with local interests for construction and non-Federal operation and maintenance in accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986; and in accordance with the definition of initiation of physical construction reflected in WRDA 1996.

AUTHORIZATION: Flood Control Acts of 1936, 1937, 1938, 1941, 1944, 1946, 1950, 1962, 1965, and the Water Resources Development Acts of 1974, 1986, and 1996.

REMAINING BENEFIT-REMAINING COST RATIO: 3.5 to 1 at 2-1/2 percent.

TOTAL BENEFIT-COST RATIO: 3.5 to 1 at 2-1/2 percent.

INITIAL BENEFIT-COST RATIO: 2.1 to 1 at 2-1/2 percent (FY 1967).

BASIS OF BENEFIT-COST RATIO: Benefits and costs for the Yazoo Backwater Pumping Plant are from the latest evaluation approved in July 1983 at 1974 price levels. Benefits for the remaining features of the Yazoo Basin project are based on "Upper Steele Bayou Project Reformulation Study," December 1992; and "Upper Yazoo Projects Reformulation Study," December 1993. Costs are based on October 1996 costs deflated to 1974 price levels.

SUMMARIZED FINANCIAL DATA

Estimated Federal Cost		$1,799,987,000
Programmed Construction	$1,781,463,000	
Unprogrammed Construction	18,524,000	
Estimated Non-Federal Cost		5,576,000
Programmed Construction	882,000	
Cash Contributions	798,000	
Other Costs	84,000	
Estimated Non-Federal Cost		
Unprogrammed Construction	4,694,000	
Cash Contributions	1,583,000	
Other Costs	3,111,000	
Total Estimated Programmed Construction Cost		1,782,345,000
Total Estimated Unprogrammed Construction Cost		23,218,000
Total Estimated Project Cost		1,805,563,000

STATUS (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULED
Yazoo City	100	—
Belzoni	100	—
Will M. Whittington Auxiliary Channel	99	Indefinite
Sardis Lake	100	—
Arkabutla Lake	100	—
Enid Lake	100	—
Grenada Lake	98	Indefinite
Greenwood	100	—
Streambank Erosion Control Evaluation and Demonstration	100	—
Upper Yazoo Projects	23	Being determined
Main Stem	73	Being determined
Tributaries	62	Being determined
All Work Except Ascalmore-Tippo and Opossum Bayous	62	Being determined
Ascalmore-Tippo and Opossum Bayous	71	Being determined
Demonstration Erosion Control	99	September 2000
Big Sunflower River, Etc., Including Steele Bayou	85	Being determined

SUMMARIZED FINANCIAL DATA (Continued)		ACCUM PCT OF EST FED COST
Allocations to 30 September 1999	$902,790,000	
Conference Allowance for FY 2000	41,150,000	
Allocation for FY 2000	36,000,000 1/	
Allocations Thru FY 2000	938,790,000	52
Allocations Requested for FY 2001	11,195,000	53
Programmed Balance to Complete After FY 2001	831,478,000	
Unprogrammed Balance to Complete After FY 2001	18,524,000	

STATUS (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULED
PHYSICAL DATA		
Yazoo Backwater	23	Being Determined
Yazoo Backwater Including Muddy Bayou Control Structure	51	Being Determined
Rocky Bayou Separable Element	27	Indefinite
Backwater Pumping Plant Separable Element	5	Indefinite
Yazoo Backwater Mitigation Separable Element	100	September 1998
Reformulation Study	59	Being Determined
Entire Project	65	Being Determined

PHYSICAL DATA

Yazoo City:
- Lands and Damages: 361 acres
- Relocations: 1.1 miles roads
- Levees: 4.1 miles
- Channels: 1.6 miles
- Pumping Plant: One 540 cubic feet per second (cfs)

Belzoni:
- Lands and Damages: 3.3 acres
- Levees: 0.6-mile levee and 0.5-mile floodwall

Will M. Whittington Auxiliary Channel:
- Lands and Damages: 11,996 acres
- Relocations:
  - Roads: 3.0 miles and 12 bridges
  - Railroads: 0.4 mile and 1 bridge
- Fish and Wildlife Facilities:
  - 1 water control structure
- Channels: 30.8 miles
- Levees: 61.3 miles

1/ Reflects $1,850,000 reduction for savings and slippage and $3,300,000 reprogrammed from the project.

Sardis Lake:
Lands and Damages: 98,584 acres
Relocations:
Roads: 3.2 miles and 1 bridge
Railroads: 3.2 miles and 1 bridge
Reservoir: 58,500-acre pool area
Dam: Earthfill, 15,300 feet long; 97 feet average height
Roads, Railroads, and Bridges: 7.6 miles roads and 8 bridges
Recreation Facilities: 19 sites
Buildings: 4

Arkabutla Lake:
Lands and Damages: 52,629 acres
Relocations:
Roads: 5.5 miles and 5 bridges
Railroads: 5.8 miles and 2 bridges
Reservoir: 33,400-acre pool area
Dam: Earthfill, 11,500 feet long; 67 feet average height
Roads: 4 miles
Channel and Canals: 1.5 miles
Recreation Facilities: 11 sites
Buildings: 4

Enid Lake:
Lands and Damages: 43,870 acres
Relocations:
Roads: 19.1 miles and 9 bridges
Reservoir: 28,000-acre pool area
Dam: Earthfill, 8,400 feet long; 85 feet average height
Roads: 1 mile
Recreation Facilities: 10 sites
Buildings: 4

Grenada Lake:
Lands and Damages: 90,356 acres
Relocations:
Roads: 83.2 miles and 47 bridges
Railroads: 21.6 miles and 21 bridges
Cemetery: 1
Reservoir: 64,600-acre pool area
Dam: Earthfill, 13,900 feet long; 80 feet average height
Roads: 4.5 miles and 1 bridge
Recreation Facilities: 20 sites
Buildings: 4

Greenwood:
Lands and Damages: 1,435 acres
Relocations:
Roads: 0.5 mile and 4 bridges
Bank Stabilization: 0.8 mile
Channels: Big Sand Creek Diversion (2.9 miles)
Levees and Floodwalls: 28.4 miles, height 4-6 feet
Pumping Plants: Storm Water: 3-capacity 67, 89, and 675 cfs

Upper Yazoo Projects:
Lands and Damages: 24,171 acres
Relocations:
Roads: 8.0 miles and 1 bridge
Utilities:
16 pipelines
20 power lines
9 telephone lines
Channels: 2 cutoffs, 197.4 miles; bottom width of 75 feet to 150 feet
Levees: 26.6 miles levees and 0.2-mile floodwall, average height 3.5 feet
Flood Control and Diversion Structure: One control structure with three 32-foot-wide gate bays, 66 water control structures, and 2 sedimentation structures
Bank Stabilization: 6.8 miles

Main Stem:
Lands and Damages: 16,560 acres
Relocations:
Roads: 28.9 miles and 10 bridges
Railroads: 1.2 miles
Channels: 43 cutoffs, 251 miles channel clearing and 21 miles channel enlargement (total miles 288.3)
Levees: 156.1 miles; variable height, 3 to 28 feet
Bank Stabilization: 1.8 miles

Tributaries:
All Work Except Ascalmore-Tippo and Opossum Bayous
Lands and Damages: 40,177 acres
Relocations:
Roads: 7.3 miles and 57 bridges
Railroads: 2.2 miles and 6 bridges
Channels: 442.6 miles
Levees: 147.8 miles, variable height, 3 to 25 feet
Pumping Plant: 1 storm water (McKinney Bayou) 250 cfs second; 3 Pelucia Creek Pumping Plants, 75, 15, and 10 cfs
Bank Stabilization: 8.2 miles
9 Grade Control Structures

Ascalmore-Tippo and Opossum Bayous:
- Lands and Damages: 2,601 acres
- Relocations:
  - Roads: 11 bridges
  - Railroads: 1 bridge
- Channels: 50.6 miles
- Levees: 12.6 miles; average height 7 feet

Demonstration Erosion Control:
- Abiaca Creek Watershed:
  - Bank Stabilization 1.0 miles
  - Levees 9.5 miles
  - Major Grade Control Structures 3
  - Minor Grade Control Structures 9
- Batupan Bogue Watershed:
  - Bank Stabilization 15.5 miles
  - Major Grade Control Structures 29
  - Minor Grade Control Structures 42
- Black Creek Watershed:
  - Bank Stabilization 28.4 miles
  - Levees 1.5 miles
  - Floodwater Retarding Structures 2
  - Major Grade Control Structures 9
  - Minor Grade Control Structures 130
- Burney Branch Watershed:
  - Channel Improvement 0.3 mile
- Cane-Mussacuna Watershed:
  - Minor Grade Control Structures 11
  - Major Grade Control Structures 4
  - Bank Stabilization 0.8 mile

Demonstration Erosion Control:
- Coldwater River Watershed:
  - Bank Stabilization 9.7 miles
  - Major Grade Control Structures 26
  - Minor Grade Control Structures 204
- Hickahala-Senatobia Watershed:
  - Bank Stabilization 2.8 miles
  - Channel Improvement 13.9 miles
  - Major Grade Control Structures 28
  - Minor Grade Control Structures 73
- Hotophia Creek Watershed:
  - Bank Stabilization 4.0 miles
  - Major Grade Control Structures 9
  - Minor Grade Control Structures 20
- Hurricane-Wolf Watershed:
  - Bank Stabilization 3.2 miles
  - Major Grade Control Structures 3
  - Minor Grade Control Structures 37
- Long Creek Watershed:
  - Bank Stabilization 7.2 miles
  - Major Grade Control Structures 8
  - Minor Grade Control Structures 11
- Otoucalofa Creek Watershed:
  - Bank Stabilization 7.5 miles
  - Channel Improvement 0.8 mile
  - Major Grade Control Structures 3
  - Minor Grade Control Structures 17
  - Channel Improvement 0.8 mile
- Pelucia Creek Watershed:
  - Major Grade Control Structures 1
  - Bank Stabilization 1.4 miles
- Yalobusha Watershed:
  - Technical Work Plan under Preparation
  - Major Grade Control Structures 5
  - Minor Grade Control Structures 40

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Big Sunflower River, Etc., Including Steele Bayou:
- Lands and Damages: 34,974 acres
- Relocations:
  - Roads: 2.0 miles and 68 bridges
  - Railroads: 1 bridge
  - Fish and Wildlife Facilities: 9 water control structures

- Channels: (miles)

Big Sunflower River	216
Quiver River	81
Steele Bayou	100
Deer Creek	7
Bogue Phalia	95
Little Sunflower River	28
Hushpuckena River	28
Tributaries	172
Gin and Muddy Bayous	12.3
Total	739.3

  - 1 channel weir
- Levees: 9.0 miles, average height 7 feet; 4 gated culverts and 4 fixed crest spillways
- Bank Stabilization: 1.0 mile

Yazoo Backwater Including Muddy Bayou Control Structure:
- Lands and Damages: 30,203 acres
- Relocations:
  - Roads: 24.3 miles and 2 bridges
  - Railroads: 0.8 mile and 1 bridge
- Fish and Wildlife Facilities:
  - 2 Water Control Structures
  - 7 Greentree Reservoirs
  - 5 Slough Control Areas
  - 4 Pumping Stations
- Channels: 38.9 miles, average depth, 25 feet
- Levees: 78.5 miles levees, variable height, 5 to 30 feet; 5 floodgates, openings vary in size from 72 square feet to 2,700 square feet

Yazoo Backwater Including Muddy Bayou Control Structure:
- Recreation Facilities: 2 boat-launching ramps
- Floodway Control and Diversion Structures:
  - Muddy Bayou Control Structure (opening size 480 square feet)

Rocky Bayou Area:
- Lands and Damages: 1,140 acres
- Relocations:
  - Roads: 7.0 miles
- Levees: 19.0 miles

Yazoo Backwater Pumping Plant:
Lands and Damages: 378 acres project lands
Relocations:
Roads: 1.0 mile and 1 bridge
Channels: 1.9 miles
Levees: 0.5 miles, variable height 7 to 30 feet
Pumping Plant: One 10,000 cfs

Yazoo Backwater, Fish and Wildlife Mitigation:
Lands and Damages: 8,807 acres

Streambank Erosion Control Evaluation and Demonstration:
Bank Stabilization: 65.0 miles

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JUSTIFICATION: The Yazoo Headwater feature will protect 1,209,000 acres against overflow, substantially benefit 303,000 acres and protect Greenwood, Belzoni, Yazoo City and numerous smaller communities. Channel improvement work on the Big Sunflower River and its tributaries will protect 195,000 acres against the design flood and an additional 395,000 acres will be benefited because of improved drainage conditions. Also, approximately 368,000 acres in the Yazoo Backwater Area will be protected against all but the larger floods and substantial benefits will accrue to an additional 224,000 acres from improved drainage. Had there been no protection in 1958, the floods of April-June and September would have caused damages amounting to $22,821,000. Should these floods recur under present conditions, but with the flood control works assumed complete, damages amounting to $181,779,000 would be prevented. In addition, the four Yazoo Basin lakes are being used extensively for recreation. A continual expansion of facilities is required to meet public demand for recreation opportunities. Visitor-day attendance increased from 2,857,000 in calendar year 1958 to 12,002,000 visitor days in FY 1996. Average annual benefits are as follows:

Annual Benefits	Amount
Flood Control	$113,791,000
Fish and Wildlife	7,142,000
Recreation	18,557,000
Area Redevelopment	1,234,000
Bank Stabilization Works	1,478,000
Total	$142,202,000

In recent years, considerable opposition developed to the Upper Yazoo Basin projects based on environmental concerns and concerns of landowners regarding land takings. To respond to these concerns and because the project plans were developed in the 1960's, a decision was made in December 1988 to reanalyze the remaining unconstructed portions of the project in accordance with the current Principles and Guidelines for planning water resources. This is necessary to determine the current advisability of the remaining work with respect to environmental effects and economic justification. Concurrently, former Governor Ray Mabus formed an Advisory Committee to advise him on how the controversial issues might be resolved. As a result of these two actions, the Corps has undertaken a reformulation study of the remaining unconstructed features of the Yazoo Basin project. This study will identify alternative plans for achieving greater levels of environmental and urban flood protection. Funds were provided in FY 1991 to continue the study. The purpose of the study is to reformulate the project in accordance with the Principles and Guidelines. The study assumes all features scheduled to be placed under contract in FY 1990 were in place. The study will be completed in phases, and interim reports were prepared beginning in FY 1992 so that construction of the project could proceed as expeditiously as possible.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Upper Yazoo Projects:	
Continue:	
Lands and Damages	1,500,000
Channel Item 4B	1,586,000
Reforestation Phase II, Sky Lake	150,000
Complete:	
Channel Item 4A	1,550,000
Planning Engineering and Design	1,500,000
Supervision and Administration	500,000
Subtotal	6,786,000
Main Stem:	
Planning Engineering and Design	25,000
Subtotal	25,000

Tributaries:	
Planning Engineering and Design	$ 84,000
Subtotal	84,000
Big Sunflower, Etc., Including Steele Bayou:	
Continue:	
Lands and Damages	539,000
Complete:	
Item 66A/B Swan Lake Phase V	342,000
Black Bayou Item 3, Relocations	346,000
Reforestation Phase II	93,000
Black Bayou Item 3	1,577,000
Planning Engineering and Design	330,000
Supervision and Administration	273,000
Subtotal	3,500,000
Yazoo Backwater Pumping Plant	
Planning Engineering and Design	500,000
Subtotal	500,000
Reformulation Study:	
Reformulation Studies	300,000
Subtotal	300,000
TOTAL	$11,195,000

NON-FEDERAL COST: In accordance with the cost-sharing and financing concepts reflected in the initial authorization and subsequent authorized modifications of the Yazoo Basin project including the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Will M. Whittington:		
Pay 25 percent of the first costs allocated to fish and wildlife enhancement and pay 25 percent of the costs of operation, maintenance, repair, rehabilitation, and replacement of fish and wildlife facilities	$ 211,000	$70,000
Subtotal Non-Federal Costs	$ 211,000	$70,000
Big Sunflower River, Etc., Including Steele Bayou:		
Provide 25 percent of lands allocated to fish and wildlife enhancement.	$ 43,000	
Pay 25 percent of the first costs allocated to fish and wildlife enhancement and pay 25 percent of the costs of operation, maintenance, and maintain and operate fish and wildlife facilities and perform minor maintenance on the project.	$ 450,000	$46,185
Provide lands, easements, rights-of-way, and borrow and excavated or dredged material disposal areas	$ 30,000	
Subtotal Non-Federal Costs	$ 523,000	$46,185

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Main Stem:		
Provide lands, easements, rights-of-way, and dredged material disposal areas	$ 11,000	
Subtotal Non-Federal Costs	$ 11,000	
Yazoo Backwater Including Muddy Bayou Control Structures:		
Pay 25 percent of the first costs allocated to fish and wildlife enhancement and pay 25 percent of the costs of operation, maintenance, repair, rehabilitation, and replacement of fish and wildlife facilities	$ 137,000	$29,092
Subtotal Non-Federal Costs	$ 137,000	$29,092
Rocky Bayou:		
Provide lands, easements, rights-of-way, and dredged material disposal areas	$1,411,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project	$1,700,000	
Rocky Bayou:		
Pay 8.4 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of flood control facilities.	$ 1,583,000	$ 37,404
Subtotal Non-Federal Costs	$ 4,694,000	$ 37,404

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Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Total Non-Federal Costs	$5,576,000	$ 182,681

STATUS OF LOCAL COOPERATION:

Flood Control:

Local cooperation is not required for the Yazoo Headwater Unit.

Assurances to operate the Big Sunflower River Unit and perform minor maintenance have been accepted from the Yazoo-Mississippi Delta Levee District and the Board of Mississippi Levee Commissioners. Formal assurances for work in the Steele Bayou Basin were accepted 8 June 1972 without the requirement that local interests "construct or have constructed by others, the necessary associated interior drainage works." The requirements of PL 91-646 are a Federal responsibility.

For the Yazoo Backwater unit, assurances of local cooperation have been accepted from the Board of Mississippi Levee Commissioners and the Yazoo-Mississippi Delta Levee District. Supplemental assurances covering the requirements of local cooperation as provided for in the "Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970" (PL 91-646), were accepted 7 August 1972. The Board of Levee Commissioners for the Yazoo-Mississippi Delta, non-Federal sponsor for the Rocky Bayou, and the Board of Levee Commissioners for the Mississippi Levee District, non-Federal sponsor for the Backwater Pumping Plant, have been notified of the cost-sharing requirements of the Water Resources Development Act of 1986. The Board of Commissioners for the Mississippi Levee District indicated by letter dated 3 November 1988 they cannot agree to any form of cost sharing for the Yazoo Backwater Pumping Plant. However, they have recently agreed to pay up to 5 percent toward the remaining construction cost and operating cost as per 16 July 1990 letter from Senator Thad Cochran to Senator J. Bennett Johnston, Chairman, Subcommittee on Energy and Water Development. WRDA of 1996 contained language (in Section 202(a)(2) Physical Construction Defined) which relieved the Local Sponsor from cost sharing the pumping plant based on redefinition of when physical construction began. Cost for constructing a pumping plant will be 100 percent Federal.

Recreation:

The State of Mississippi, which provided formal assurances in 1967 that it would operate and maintain Corps constructed recreation facilities at the Yazoo Basin lakes, notified the Vicksburg District in the early 1980's that it was unable to fully comply with the assurances and to continue the operation and maintenance function for some of the sites. Under the terms of an escape clause in the leases, the state was allowed to withdraw their operation and maintenance support at some sites.

Fish and Wildlife:

Local cooperation agreements will be obtained when planning is more advanced.

COMPARISON OF FEDERAL COST ESTIMATES: The current cost estimate of $1,799,987,000 is an increase of $58,741,000 from the latest estimate ($1,740,246,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	$-53,854,000
Price Escalation on Real Estate Features	- 851,000
Design Changes	+113,446,000
Total	$58,741,000

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STATUS OF ENVIRONMENTAL IMPACT STATEMENT: Final Environmental Impact Statements have been filed with the Council on Environmental Quality or with the Environmental Protection Agency as follows:

Project Unit	Date
Upper Yazoo Project	16 January 1976
Main Stem	16 January 1976
Tributaries (Except Ascalmore-Tippo and Opossum Bayou)	16 January 1976
Ascalmore-Tippo and Opossum Bayou	6 June 1975
Demonstration Erosion Control	1/
Big Sunflower	16 January 1976
Yazoo Backwater	16 January 1976

OTHER INFORMATION: Funds to initiate construction were appropriated in FY 1936. The scheduled completion date of September 2000 for Demonstration Erosion Control unit reflects a one year change in project completion.

1/ The appropriate National Environmental Policy act documentation will include preparation of an Environmental Impact Statement if environmental impacts are determined to be significant.

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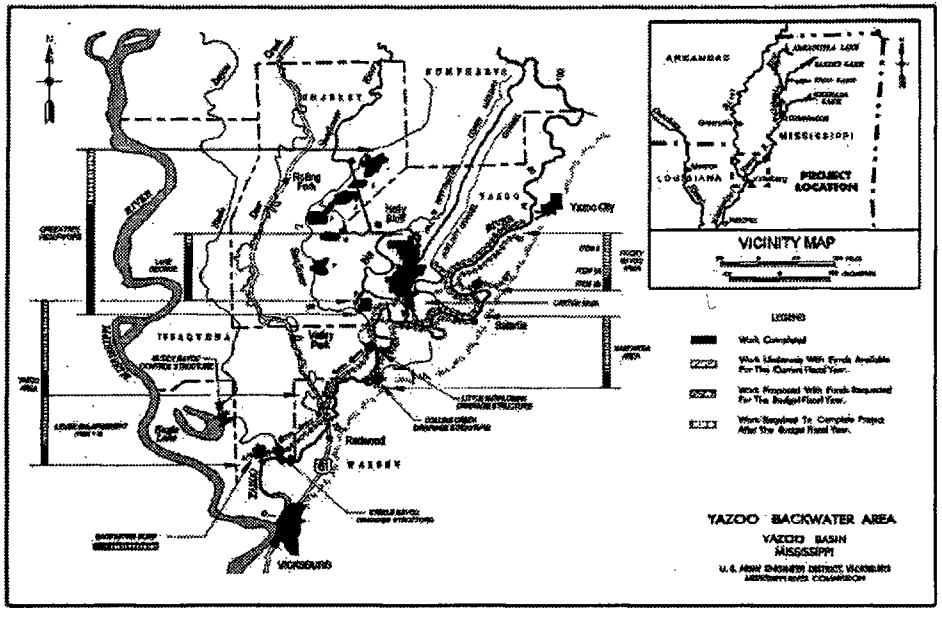
HUMPHREYS
YAZOO
Yazoo City
SHARKEY
Rolling Fork
ISSAQUENA
Satartia
Redwood
WARREN
VICKSBURG
ARKANSAS
LOUISIANA
MISSISSIPPI
PROJECT LOCATION
VICINITY MAP
Work Completed
Work Underway With Funds Available For The Current Fiscal Year.
Work Proposed With Funds Requested For The Budget Fiscal Year.
Work Required To Complete Project After The Budget Fiscal Year.
YAZOO BACKWATER AREA
YAZOO BASIN
MISSISSIPPI

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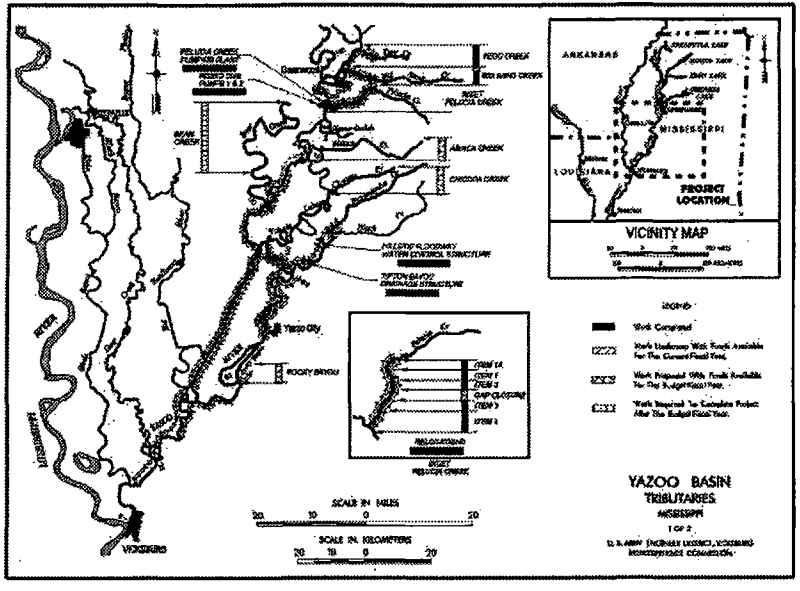
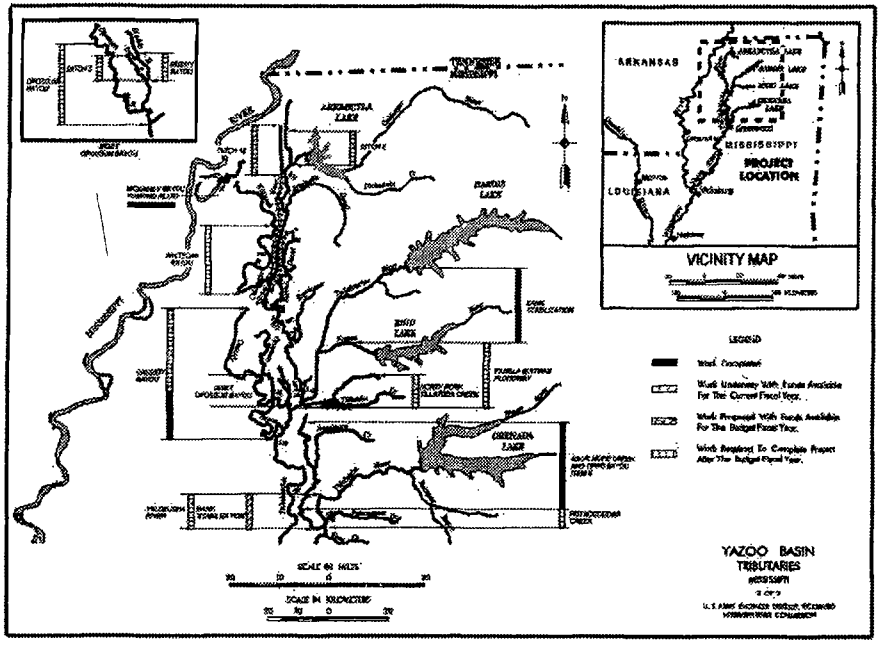

ARKANSAS
MISSISSIPPI
LOUISIANA
PROJECT LOCATION
VICINITY MAP
Work Completed
Work Underway With Funds Available For The Current Fiscal Year
Work Proposed With Funds Available For The Budget Fiscal Year
Work Required To Complete Project After The Budget Fiscal Year
YAZOO BASIN
TRIBUTARIES
MISSISSIPPI
SHEET 1 OF 2
SCALE IN MILES
SCALE IN KILOMETERS
VICKSBURG
YAZOO CITY
ROCKY BRAKE
DELTA HEADWATERS PROJECT
MISSISSIPPI COUNTY, ARKANSAS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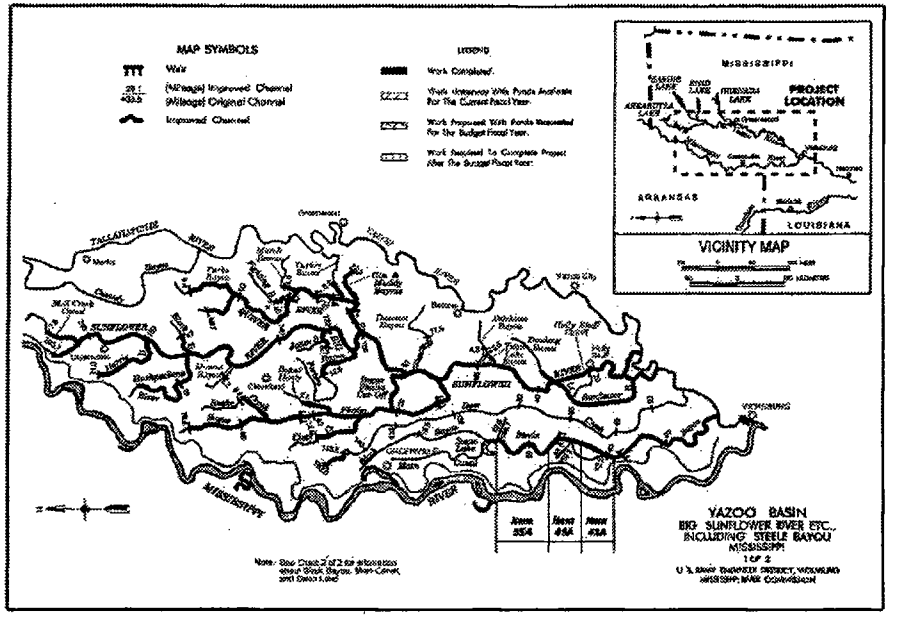
LOUISIANA
PROJECT LOCATION
VICINITY MAP
LEGEND
YAZOO BASIN
TRIBUTARIES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Weir
(Mileage) Improved Channel
(Mileage) Original Channel
Improved Channel
LEGEND
Work Completed.
Work Underway With Funds Available For The Current Fiscal Year.
Work Proposed With Funds Requested For the Budget Fiscal Year.
Work Required To Complete Project After the Budget Fiscal Year.
MISSISSIPPI
PROJECT LOCATION
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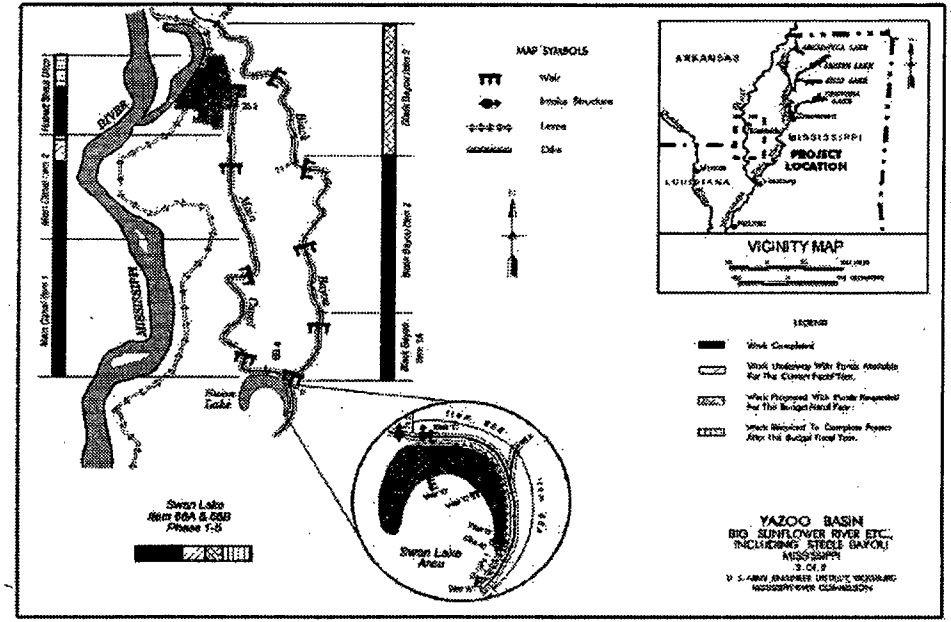
LOUISIANA
VICINITY MAP
YAZOO BASIN
BIG SUNFLOWER RIVER ETC., INCLUDING STEELE BAYOU
MISSISSIPPI
1 OF 2


MAP SYMBOLS
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Intake Structure
Levee
Dike
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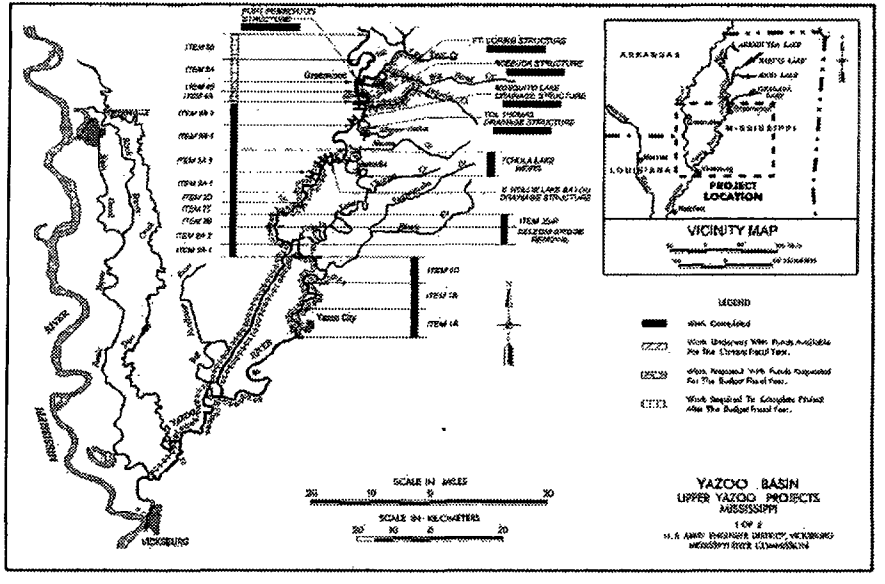
LOUISIANA
PROJECT LOCATION
VICINITY MAP
Legend
Work Completed
Work Underway With Funds Available For The Current Fiscal Year.
Work Proposed With Funds Requested For The Budget Fiscal Year.
Work Required To Complete Project After the Budget Fiscal Year.
Swan Lake Item 56A & 56B Phase 1-5
Swan Lake Area
YAZOO BASIN
BIG SUNFLOWER RIVER ETC.
INCLUDING STEELE BAYOU
MISSISSIPPI


ARKANSAS
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LOUISIANA
PROJECT LOCATION
VICINITY MAP
LEGEND
Work Completed
Work Underway With Funds Available For The Current Fiscal Year.
Work Requested With Funds Requested For The Budget Fiscal Year.
Work Required To Complete Project After The Budget Fiscal Year.
SCALE IN MILES
SCALE IN KILOMETERS
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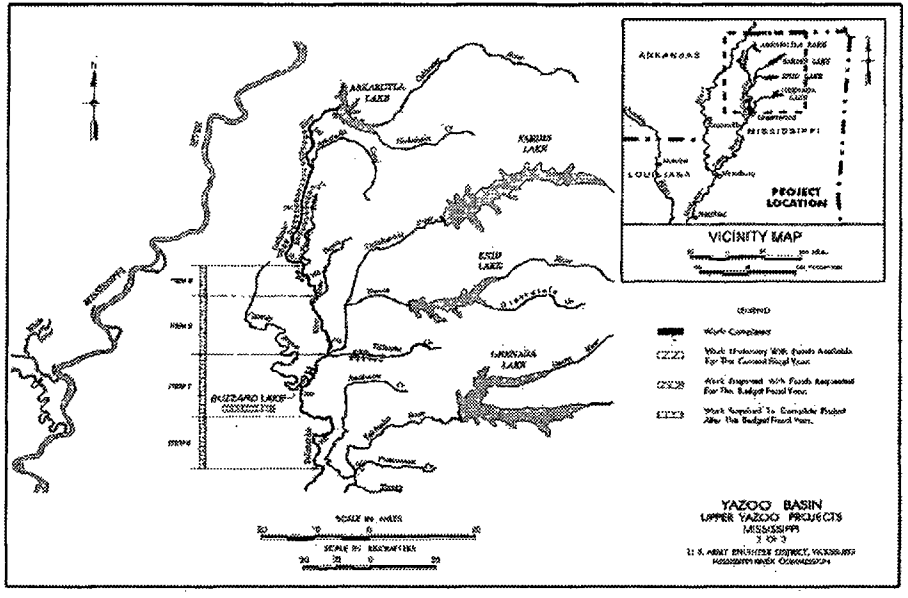
UPPER YAZOO PROJECTS
MISSISSIPPI
Yazoo City
VICKSBURG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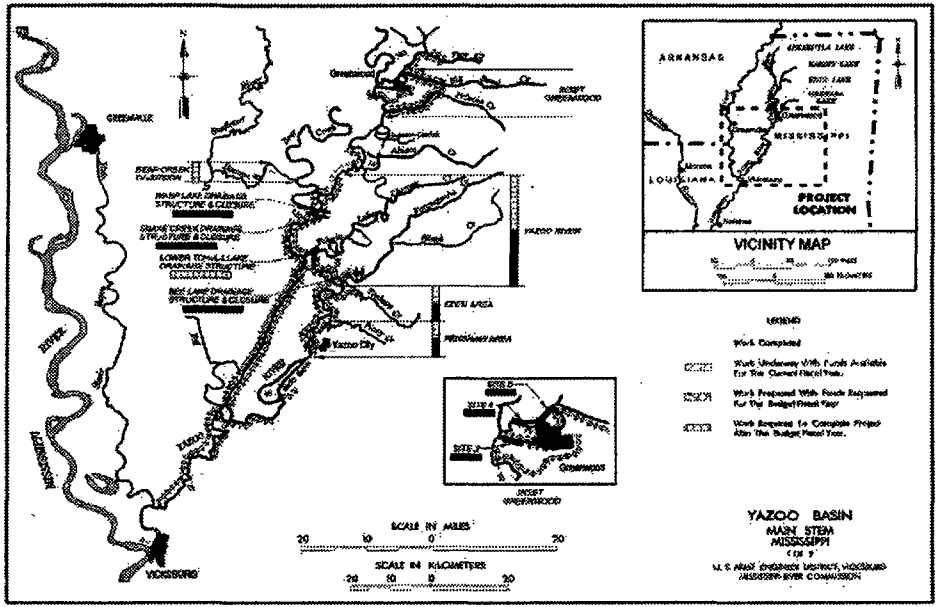
LOUISIANA
PROJECT LOCATION
VICINITY MAP
ARKABUTLA LAKE
SARDIS LAKE
ENID LAKE
GREENWOOD LAKE
BUZZARD LAKE
LEGEND
Work Completed
Work Underway With Funds Available For The Current Fiscal Year
Work Proposed With Funds Requested For The Budget Fiscal Year
Work Required To Complete Project After The Budget Fiscal Year
YAZOO BASIN
UPPER YAZOO PROJECTS
MISSISSIPPI
3 OF 3
U.S. ARMY ENGINEER DISTRICT, VICKSBURG
MISSISSIPPI RIVER COMMISSION


ARKANSAS
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MISSISSIPPI
PROJECT LOCATION
VICINITY MAP
YAZOO BASIN
MAIN STEM
MISSISSIPPI
SCALE IN MILES
SCALE IN KILOMETERS
VICKSBURG
GREENVILLE
Yazoo City
INSET GREENWOOD

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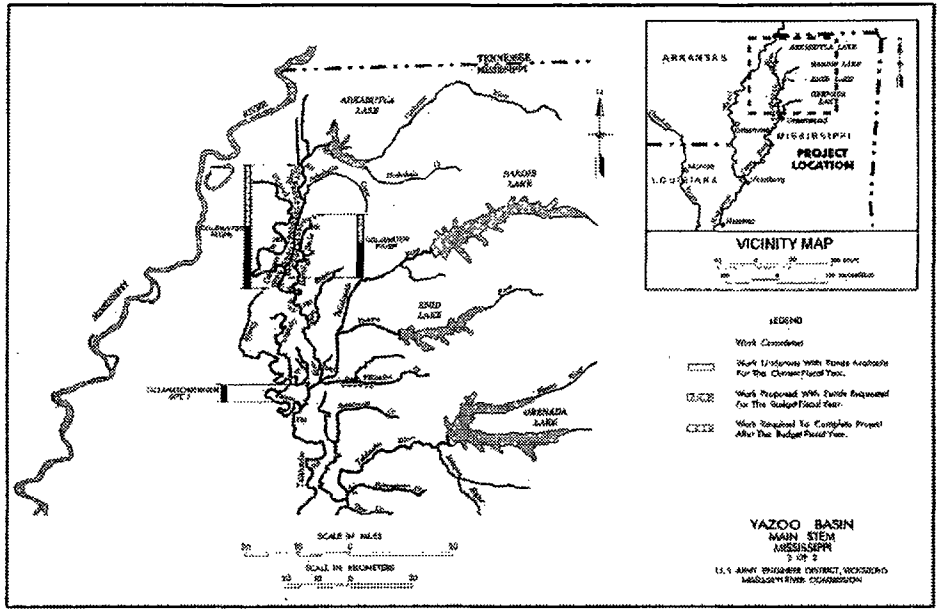
TENNESSEE
MISSISSIPPI
ARKABUTLA LAKE
SARDIS LAKE
ENID LAKE
GRENADA LAKE
ARKANSAS
MISSISSIPPI
LOUISIANA
PROJECT LOCATION
VICINITY MAP
LEGEND
Work Completed
Work Underway With Funds Available For The Current Fiscal Year.
Work Proposed With Funds Requested For The Budget Fiscal Year.
Work Required To Complete Project After The Budget Fiscal Year.
SCALE IN MILES
SCALE IN KILOMETERS
YAZOO BASIN
MAIN STEM
MISSISSIPPI
3 OF 3

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APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO, and TN – Construction

PROJECT: St. John's Bayou – New Madrid Floodway, Missouri (Continuing)

LOCATION: The project area is located in southeast Missouri in New Madrid, Scott, and Mississippi Counties.

DESCRIPTION: The authorized project consists of 137 miles of rural channel improvement, 6.7 miles of urban channel improvement, a 1,000 cfs pumping station, and a 1,500 cfs pumping station, including mitigation features, and will be constructed in three phases. Work for the First Phase of the project is programmed. This phase includes the two pumping stations, 27.6 miles of channel improvements and appropriate mitigation features. The remaining St. John's Bayou work consists of 91 miles of channel improvements, including the 6.7 miles of urban channel. The remaining New Madrid floodway work consists of 25 miles of rural channel improvements. Both the St. Johns Bayou and New Madrid Floodway remaining work are unprogrammed due to the lack of local sponsor financing capability.

AUTHORIZATION: Water Resources Development Acts of 1986 and 1996.

REMAINING BENEFIT-REMAINING COST RATIO: 2.4 to 1 at 7-3/8 percent.

TOTAL BENEFIT-COST RATIO: 1.5 to 1 at 7-3/8 percent.

BASIS OF BENEFIT-COST RATIO: Benefits are from St. Johns Bayou-New Madrid Floodway, MO, Phase II GDM 101 dated August 1986 and the March 1997 Limited Reevaluation Report revised April 1997 at 1996 price levels based on total project. An update of benefits and costs for the First Phase of the project in the Limited Reevaluation reflects current price levels and an incremental benefit-cost ratio of 1.3.

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SUMMARIZED FINANCIAL DATA			
Estimated Federal Cost			$59,609,000
Programmed Construction		$39,209,000	
Unprogrammed Construction		$20,400,000	
Estimated Non-Federal Cost			$39,780,000
Programmed Construction		$12,050,000	
Cash Contributions	$ 5,500,000		
Other Costs	$ 6,550,000		
Estimated Non-Federal Cost			
Unprogrammed Construction		$27,730,000	
Cash Contributions	$ 2,430,000		
Other Costs	$25,300,000		

STATUS (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
First Phase	3	Being Determined
St. Johns Phase	0	Indefinite
New Madrid Phase	0	Indefinite
Entire Project	0	Indefinite

PHYSICAL DATA	
Lands and Damages:	
Flood Control	6,467 acres
F&WL Mitigation	2,500 acres
Restrictive Easements	2,450 acres
Seasonal Sump Pond Easements	4,900 acres
Relocations:	
Roads	38 bridges/1 road
Railroads	3 bridges
Utilities	103 facilities

SUMMARIZED FINANCIAL DATA (cont.)		ACCUM PCT OF EST FED COST	PHYSICAL DATA (cont.)	
Total Estimated Programmed Construction Cost	$51,259,000			
Total Estimated Unprogrammed Construction Cost	$48,130,000			
Total Estimated Project Cost	$99,389,000		Channels:	
Allocations to 30 September 1999	$ 8,248,000		Enlargement	143.6 miles
Conference Allowance for FY 2000	$ 9,800,000			
Allocations for FY 2000	$ 960,000[1]		Pumping Plants:	
Allocations through FY 2000	$ 9,208,000	15	1000 cfs	
			1500 cfs	
Allocations Requested for FY 2001	$ 700,000[2]	17		
Programmed Balance to Complete After FY 2001	$29,301,000			
Unprogrammed Balance to Complete After 2001	$20,400,000			

JUSTIFICATION: The project area is subject to flooding by accumulation of runoff in channels not having sufficient flow capacity. Runoff is also impounded in the lower end of the area during high Mississippi River stages. The lower end of the New Madrid Floodway is flooded by backwater from the Mississippi River. Construction of the authorized levee closure (Mississippi River Levee Project item) in the lower end of the Floodway will eliminate Mississippi River backwater; however, local runoff during high Mississippi River stages will be impounded. The two pumping stations and attendant channel improvements are needed to alleviate the flood problems. Total average annual benefits are as follows (1996 price levels):

Annual Benefits	Amount
Urban	$ 2,628,000
Agricultural Inundation Reduction	$ 6,477,000
Agricultural Intensification	$ 2,443,000
Advanced Replacements	$ 244,000
Betterments	$ 14,000
Wildlife and Aquatic Gains	$ 170,000
Total	$11,976,000

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[1] Reflects $440,000 reduction assigned as savings and slippage and $8,400,000 reprogrammed from the project. Of this amount, $5,400,000 is associated with contracts that cannot be awarded until completion of the NEPA process. These amounts are not expected to be needed during FY 2000.

[2] The FY 2001 allocation will be revisited after completion of NEPA compliance.

FISCAL YEAR 2001: The requested amount will be applied as follows and will be revisited after completion of NEPA compliance.

Planning, Engineering and Design	$ 700,000
Total	$ 700,000

NON-FEDERAL COST: In accordance with the cost sharing and financial concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, right-of-way, and borrow and excavated or dredged material disposal areas.	$16,581,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	$15,269,000	
Pay 5 percent of the costs allocated to flood control in cash to bring the total non-federal share of flood control cost to 25 percent and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	$ 7,930,000	$725,600
Total Non-Federal Costs	$39,780,000	$725,600

STATUS OF LOCAL COOPERATION: The St. John Levee and Drainage District is the cost-sharing local sponsor for the First Phase of the St. Johns Bayou and New Madrid Floodway Project. A Limited Reevaluation Report (LRR) to separate the engineering, economic, and environmental data for the First Phase from the overall project was approved 7 August 1997. The Project Cooperation Agreement was signed 18 August 1997 and the first item of construction was completed in October 1997. Subsequent work items as covered in the PCA are on hold pending NEPA compliance.

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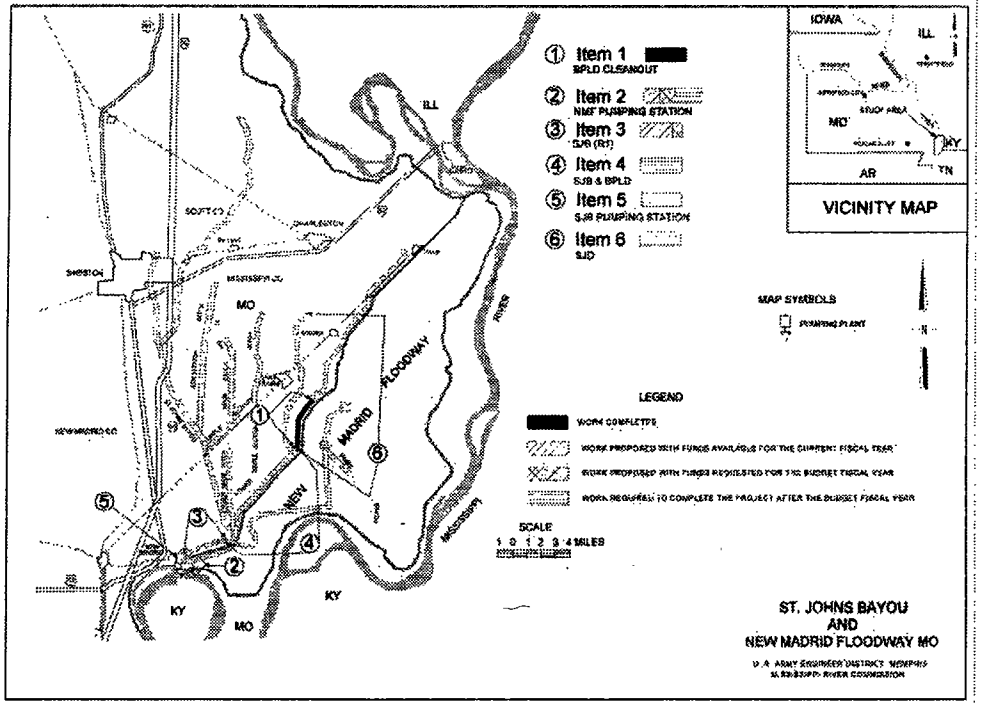
COMPARISION OF FEDERAL COST ESIMATES: The current Federal cost estimate of $59,609,000 is an increase of $809,000 from the latest estimate ($58,800,000) presented to Congress (Fiscal Year 2000). This change includes the following:

Item	Amount
Price Escalation on Construction Features	$761,000
Price Escalation on Real Estate	3,000
Post contract Award and Other Estimating Adjustments	45,000
Price Escalation on Real Estate	
Total	$809,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Environmental Impact Statement (EIS) for the St. Johns Bayou and New Madrid Floodway project was filed with the Council on Environmental Quality in June 1974, and a Supplement to the EIS was filed with the U.S. Environmental Protection Agency in July 1982. The project for which both the EIS and Supplement to the EIS were prepared provided sufficient mitigation to offset fish, wildlife, and other environmental losses. Project changes resulting from Phase II General Design Memorandum (GDM) studies were evaluated in 1987. Environmental analysis conducted in conjunction with the preparation of the Phase II GDM reflected no substantive change in environmental impacts, and concluded that mitigation approved in prior reports remained sufficient to offset project losses. Environmental analyses conducted in conjunction with the preparation of the First Phase Limited Reevaluation Report (LRR, approved 7 August 1997) determined that further environmental impact studies would be required to fully disclose first phase project impacts. Preparation of this supplemental EIS is underway with completion scheduled for Spring 2000. The proposed Budget for this project and for related work funded under "Mississippi River Levees, Construction" is contingent upon a decision by the Army to recommend proceeding with the project as planned following review of the public comments and final NEPA documentation.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1982. Funds to initiate construction were appropriated in FY 1997. Local interests have expressed a desire to implement the First Phase portion of the St. Johns Bayou and New Madrid Floodway project to provide regional flood control and remove the physical and economic barriers caused by frequent flooding. East Prairie has received Federal recognition by the President and the U.S. Department of Agriculture for its Enterprise Community Plan, thus making the Community eligible to receive Federal grant funds. Accordingly, USDA will provide those funds necessary to reduce the local share of project costs to five percent.


① Item 1
BPLD CLEANOUT
② Item 2
NMF PUMPING STATION
③ Item 3
SJB (RI)
④ Item 4
SJB & BPLD
⑤ Item 5
SJB PUMPING STATION
⑥ Item 6
SJD
IOWA
ILL
MO
KY
TN
AR
STUDY AREA
VICINITY MAP
MAP SYMBOLS
PUMPING PLANT
LEGEND
WORK COMPLETE
WORK PROPOSED WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR
SCALE
1 0 1 2 3 4 MILES
SCOTT CO
SIKESTON
MISSISSIPPI CO
NEW MADRID CO
MADRID
FLOODWAY
NEW
MISSISSIPPI
RIVER
ST. JOHNS BAYOU
AND
NEW MADRID FLOODWAY MO
U.S. ARMY ENGINEER DISTRICT, MEMPHIS
MISSISSIPPI RIVER COMMISSION

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APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO and TN - Construction

PROJECT: Nonconnah Creek, Tennessee and Mississippi (Continuing)

LOCATION: The Nonconnah Creek Basin is located in portions of Shelby and Fayette Counties in southwest Tennessee and extends into DeSoto and Marshall counties in northwest Mississippi. Approximately half of the city of Memphis, Tennessee, is located within the drainage area.

DESCRIPTION: The plan provides for 7.7 miles of channel enlargement, 10.5 miles of channel clearing, 8.8 miles of bike/hike trails, 0.8 miles of nature trails, and a 33-acre nature area. All flood control work is programmed.

AUTHORIZATION: Water Resources Development Act of 1986.

REMAINING BENEFIT-REMAINING COST RATIO: 3.6 to 1 at 8-7/8 percent (Flood Control only).

TOTAL BENEFIT-COST RATIO: 1.02 to 1 at 8-7/8 percent (Flood Control only).

INITIAL BENEFIT-COST RATIO: 1.4 to 1 at 8-5/8 percent (FY 1990) (Total Project).

BASIS OF BENEFIT-COST RATIO: Benefits for the flood control feature are from the latest available evaluation approved in June 1990 at October 1987 price levels. Benefits for the environmental and recreation features are from the latest available evaluation awaiting approval at October 1995 price levels.

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SUMMARIZED FINANCIAL DATA		
Estimated Federal Cost		$18,400,000
Estimated Non-Federal Cost		6,600,000
Cash Contribution	$1,200,000	
Other Costs	5,400,000	
Total Estimated Project Cost		$25,000,000

STATUS (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Flood Control	58	Being Determined
Environmental Enhancement	0	Indefinite
Recreation Facilities	0	Indefinite
Entire Project	56	Being Determined

SUMMARIZED FINANCIAL DATA (Continued)

		ACCUM PCT OF EST FED COST
Allocations to 30 September 1999	$10,477,000	
Conference Allowance for FY 2000	2,500,000	
Allocation for FY 2000	2,388,000[1]	
Allocations through FY 2000	12,865,000	70
Allocation Requested for FY 2001	2,000,000	
Balance to Complete after FY 2000	3,535,000	81

PHYSICAL DATA

Land and Damages:	
Flood Control	600 acres
F&WL Enhancement	33 acres
Relocations:	
Roads	1 bridge
Utilities	36 facilities
Channels:	
Enlargement	7.7 miles
Vegetation Clearing	10.5 miles
Recreation:	
Bike/Hike Trails	8.8 miles
Nature Trails	0.8 miles

JUSTIFICATION: Flood protection is needed for 7,400 homes, businesses, and public buildings on 12,000 acres of urban and urbanizing lands located within the Nonconnah Creek flood plain inundated by the Standard Project Flood. The present value of these properties subject to flood damage is equal to $1,752,700 (1999 price levels).

Major floods occurred in the basin on 21 November 1934, when 10.48 inches of rain fell in 24 hours, and on 9 May 1958, when 4.76 inches of rain fell in approximately eight hours. The most recent significant flood occurred on 3 December 1978, when 4.9 inches were recorded at the Memphis International Airport. The 1978 storm appears to be between the 5-year and 10-year frequency events. Under present day conditions, the 1934 and 1958 flood levels would cause considerably higher damages due to increased urbanization. When completed, the Nonconnah Creek project will prevent approximately $494,600,000 (1999 price levels) in flood damages during the Standard Project Flood. Remaining average annual benefits (1987 price levels) are as follows:

Annual Benefits	Amount
Flood Damage Prevention (Urban)	$1,923,000
Other Flood Control Benefits	203,000
Total	$2,126,000

[1] Reflects $112,000 assigned as savings and slippage.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue:	
Lands and Damages	10,000
Item 1, Mile 0.0-2.0	1,830,000
Planning, Engineering and Design	60,000
Supervision and Administration	100,000
Total	$2,000,000

NON-FEDERAL COST: In accordance with the cost sharing and financial concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction And Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, And Replacement Costs
Provide lands, easements, rights-of-way, and dredged material disposal areas.		
-Flood Control	$2,024,000	
-Environmental Enhancement	46,000	
-Recreation Facilities	27,000	
Modify or relocate building, utilities, roads, bridges (except railroad bridges) and other facilities where necessary in the construction of the project.	2,991,000	
Pay one-half of the separable costs allocated to recreation and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of recreation facilities.	312,000	$16,600
Pay not less than 5 percent of the cost allocated to flood control to bring the total non-Federal share of the flood control costs to 25 percent; and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of flood control facilities.	1,200,000	$13,000
Total Non-Federal Costs	$6,600,000	$29,600

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STATUS OF LOCAL COOPERATION: The Local Cooperation Agreement for the flood control features was executed on 23 July 1990, with the City of Memphis, Tennessee, serving as the local sponsor. The local sponsor has reviewed a draft Project Cooperation Agreement amendment to include the added recreation and environmental enhancement features and the local sponsor is ready to execute an agreement. The local sponsor has provided letters stating their financial and legal capabilities to sponsor these features, which are currently unfunded. The Non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $18,400,000 is the same as the latest estimate ($18,400,000) presented to Congress (FY 2000). However, the estimate includes changes to the following items:

Item	Amount
Price Escalation on Construction Features	$ 253,000
Price Escalation on Real Estate	7,000
Price Contract Award and Other Estimating Adjustments (Including Contingency Adjustments)	-260,000
Total	$ 0

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final supplemental Environmental Impact Statement was filed with the Environmental Protection Agency on 22 July 1982. Environmental assessments were made during Phase II General Design Memorandum studies, and changes were not of significant magnitude to warrant modifying the project Environmental Impact Statement.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1986, and funds to initiate construction were appropriated in FY 1990.

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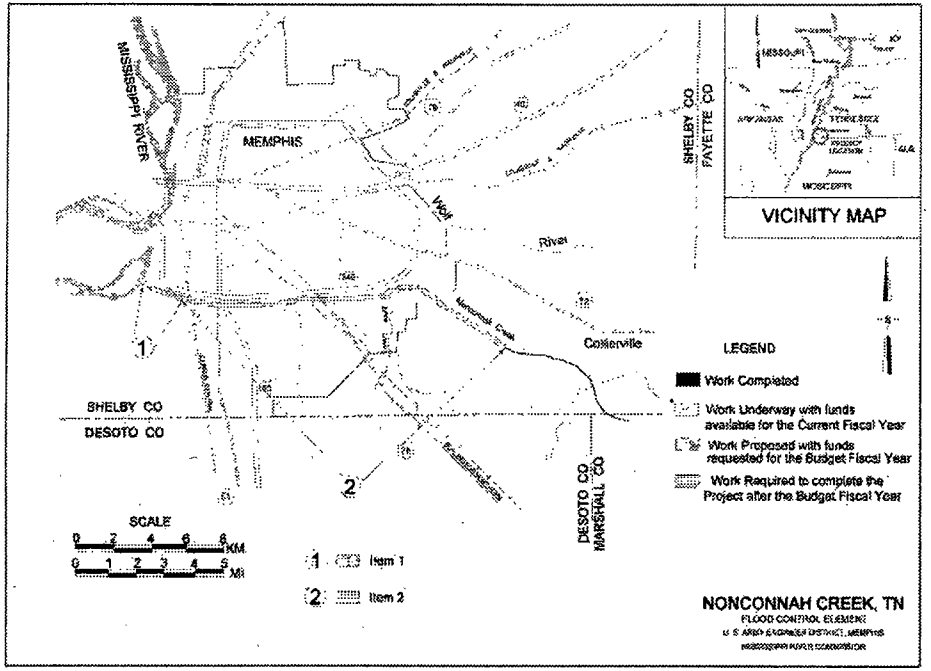
MISSISSIPPI RIVER
MEMPHIS
SHELBY CO
FAYETTE CO
VICINITY MAP
River
Collierville
LEGEND
Work Completed
Work Underway with funds available for the Current Fiscal Year
Work Proposed with funds requested for the Budget Fiscal Year
Work Required to complete the Project after the Budget Fiscal Year
SHELBY CO
DESOTO CO
DESOTO CO
MARSHALL CO
SCALE
0 2 4 6 8 KM
0 1 2 3 4 5 MI
1 Item 1
2 Item 2
NONCONNAH CREEK, TN
FLOOD CONTROL ELEMENT

APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO and TN - Construction

PROJECT: West Tennessee Tributaries, Tennessee (Continuing)

LOCATION: The project is located along the Obion and Forked Deer Rivers and their forks in West Tennessee, in Weakley, Madison, Gibson, Obion, Dyer, Crockett, Lauderdale and Haywood Counties, Tennessee.

DESCRIPTION: The project consists of improving 119 miles of channels of the Obion River and its principle tributaries, the North, South, Middle and Rutherford Fork; and improving 106 miles of channels of the Forked Deer and its North, South, and Middle Forks to provide adequate drainage outlets and reduce the frequency, depth, and duration of overflow. The work consists of clearing, cleanout, enlargement, and realignment of channels and construction of 7.6 miles of levee from Porter Gap to Island 25 on the Obion River. The project also includes the acquisition of 32,000 acres of fish and wildlife mitigation lands. Approximately 93 miles of channel improvement have been completed and 13,527 acres of land have been purchased for mitigation. Construction on the remaining channel items of the authorized project is now not implementable due to the denial of water quality certification by the State of Tennessee. The project is now being shut down. Shutdown work includes project management and project planning; continued coordination with the State of Tennessee on any problems that may arise during the shutdown process; real estate and environmental activities required in the turnover of the acquired mitigation lands to the State of Tennessee; stability analyses to determine required protection work for bridge and utility crossings in the uncompleted portions of the project; preparation of plans and specifications for the required protection work; and construction of the protection work. In 1992, the State of Tennessee requested that the West Tennessee Tributaries project be reactivated by incorporating environmentally sensitive guidelines into its design. The state subsequently set up a steering committee composed of representatives from state and Federal agencies and local interest groups. The objective of the steering committee was to develop a consensus plan for reformulation of the project. A consensus plan, (known as the Mission Plan), was completed in April 1994. A limited evaluation of the Stokes Creek and the Middle Fork Forked Deer River, including Buck Creek, Demonstration Projects, included in the Mission Plan has been completed. The demonstration projects were found to be feasible and were approved in September 1996 as minor modifications to the authorized project. Approval was also given to reformulate the remaining project in accord with the mission plan principles. Only shutdown work, the demonstration projects, and reevaluation activities are programmed.

AUTHORIZATION: Flood Control Acts of 1948 and 1966 and the Water Resources Development Acts of 1974 and 1976.

REMAINING BENEFIT-REMAINING COST RATIO: 1.9 to 1 at 2-1/2 percent.

TOTAL BENEFIT-COST RATIO: 2.2 to 1 at 2-1/2 percent.

INITIAL BENEFIT-COST RATIO: 2.6 to 1 at 2 at 2-1/2 percent (FY 1960).

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluation approved in August 1983 at 1983 price levels.

SUMMARIZED FINANCIAL DATA

			ACCUM PCT OF EST FED COST
Estimated Federal Cost		$147,000,000	
Programmed Construction	$ 79,868,000		
Unprogrammed Construction	$ 67,132,000		
Estimated Non-Federal Cost		$ 4,900,000	
Programmed Construction	$ 1,833,000		
Cash Contributions	$ 0		
Other Costs	$ 1,833,000		
Estimated Non-Federal Cost			
Unprogrammed Construction	$ 3,067,000		
Cash Contributions	$ 0		
Other Costs	$ 3,067,000		
Total Estimated Programmed Construction Cost		$ 81,701,000	
Total Estimated Unprogrammed Construction Cost		$ 70,199,000	
Total Estimated Project Cost		$151,900,000	
Allocations to 30 September 1999		$ 53,760,000	
Conference Allowance for FY 2000		$ 2,398,000	
Allocation for FY 2000		$ 290,000[1]	
Allocations through FY 2000		$ 54,050,000	67
Allocation Requested for FY 2001		$ 500,000	68
Programmed Balance to Complete after FY 2001		$ 25,318,000	
Unprogrammed Balance to Complete after FY 2001		$ 67,132,000	

STATUS (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Project Shutdown	90	Being Determined
Current Approved Plan	45	Indefinite
Entire Project	61	Being Determined

PHYSICAL DATA

Lands and Damages.	32,000 acres
Relocations	
Roads	13 bridges
Railroads	7 bridges
Channels:	
Obion River	56 miles
Obion River Forks	65 miles
Forked Deer River	5 miles
Forked Deer River Forks	101 miles
Total	225 miles
Levees and Floodwalls	7.6 miles

[1] Reflects $108,000 reduction assigned as savings and slippage and $2,000,000 reprogrammed from the project.

JUSTIFICATION: The project is a flood control and drainage project and is a unit of the Comprehensive Plan for Flood Control, Mississippi River and Tributaries. The floods of record in 1935 and 1937 overflowed 455,000 acres of cleared and wooded area. This entire area will receive benefits from project construction due to improved flood control, drainage, and environmental restoration. Project construction will also eliminate overflow during the crop season on about 239,221 acres (162,644 cleared and 76,577 wooded). The principle population centers of the drainage basin include Jackson, Dyersburg, Union City, Humboldt, Trenton, and Milan, all in Tennessee, and Fulton, Kentucky. Farming, including truck farming, stock raising and dairying, is the principal occupation throughout the basin. Construction of the project will tend to stabilize the area's predominately agricultural economy. The project is credited with redevelopment benefits, benefits from flood damages prevented and benefits from a higher land use made possible by reducing flooding. Haywood and Lauderdale Counties within the project area are subject to substantial and persistent unemployment. Total average annual benefits (1983 price levels) are as follows:

Annual Benefits	Amount
Flood Control	$ 2,007,000
Area Redevelopment	$ 23,000
Advance Replacement	$ 30,000
Betterments	$ 8,000
Fish and Wildlife Oriented Recreation	$ 1,164,000
Timber	$ 605,000
Stokes Creek	$ 44,000
Total	$ 3,881,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Planning, Engineering and Design	$ 500,000
Total	$ 500,000

NON-FEDERAL COST: In accordance with the Flood Control Acts of 1948 and 1966 and the Water Resources Development Acts of 1974 and 1976, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction And Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, And Replacement Costs
Provide lands, easements, rights-of-way, and dredged material disposal areas.	$4,655,000	---
Modify or relocate roads not crossing the project channels where necessary for the construction of the project.	$ 245,000	---
Pay all costs of operation, maintenance, and replacement of flood control facilities.		$ 509,000
Total Non-Federal Costs	$4,900,000	$ 509,000

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STATUS OF LOCAL COOPERATION: Necessary assurances were furnished by the Obion-Forked Deer Basin Authority on 2 June 1972 and were accepted on 14 June 1972. Section 221 of the Flood Control Act of 1970 (PL 91-611) is not applicable to other items of work but is required by Section 3 of the Water Resources Development Act of 1974 (PL 93-251) for the mitigation lands and for the levees authorized by the Water Resources Development Act of 1976 (PL 94-587). Assurances have not been furnished for the levees.

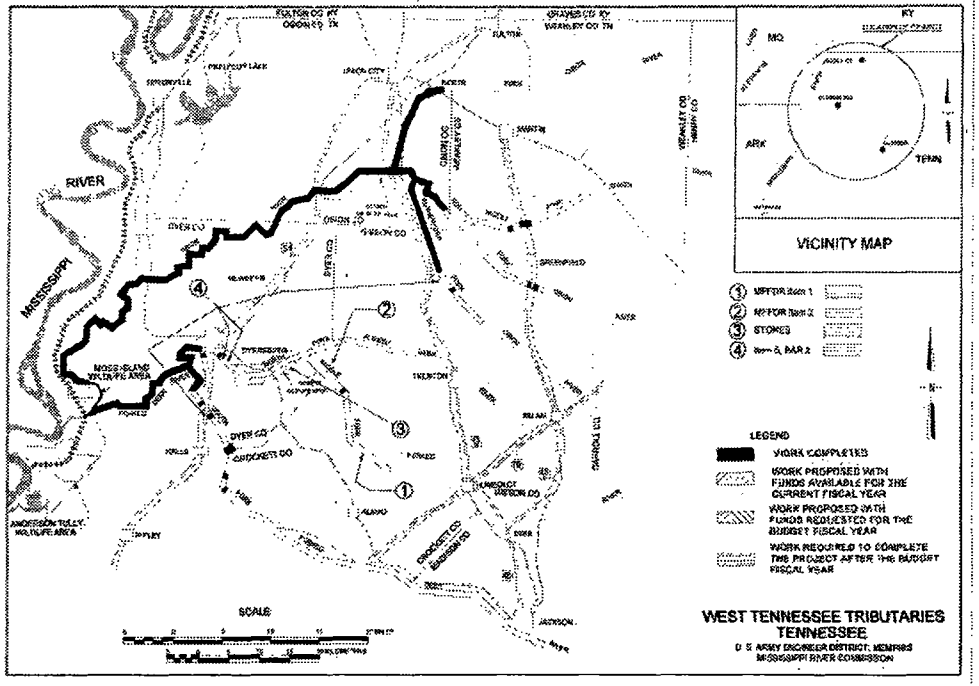
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $147,000,000 is an increase of $4,000,000 from the latest estimate ($143,000,000) presented to Congress (FY 2000). This change includes the following:

Item	Amount
Price Escalation on Construction Features	$2,998,000
Post Contract Award and other Eliminating Adjustments	$ 36,000
Price Escalation on Real Estate	$ 966,000
Total	$4,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: A fully coordinated Environmental Impact Statement (EIS) in final form was forwarded to the Council on Environmental Quality on 4 May 1971. Court action on 2 March 1973 rejected the EIS directed revision of the EIS, and stated that the revised EIS was subject to District Court review. A final Environmental Impact Statement was submitted to the Council on Environmental Quality on 21 July 1975 and published in the Federal Register on 1 August 1975. The EIS was determined inadequate, and the injunction was continued by court decision dated 27 January 1978. A supplement to the EIS has been prepared to eliminate the deficiencies identified in the Memorandum Decision of 27 January 1978. The draft supplement to the EIS was provided to the public for review and to the Environmental Protection Agency for filing and review on 29 April 1982. The final supplement to the EIS was forwarded to the Environmental Protection Agency on 9 February 1983. The notice appeared in the Federal Register on 25 February 1983. The Record of Decision was signed by President, Mississippi River Commission on 8 August 1983.

OTHER INFORMATION: Funds to initiate preconstruction planning were appropriated in Fiscal Year 1959 and for construction in Fiscal Year 1960.

In 1973, as a result of a lawsuit, the District court found the Environmental Impact Statement to be inadequate, and enjoined any further construction. The injunction was lifted in 1985. Another suit was filed that same year, which challenged the Environmental Impact Statement. The District Court denied the request for a temporary restraining order and preliminary injunction. The Corps filed a Motion to dismiss the case which was granted by the Court. A Notice of Appeal was filed by the Plaintiff in 1986, but the U.S. Sixth Circuit Court of Appeals dismissed the appeal as an impermissible collateral attack. Chester McConnell and Tennessee Environmental Council filed in Chancery Court of Davidson County an appeal and request for judicial review of Water Quality Control Board's final decision and order on Fowlkes Items 1-1 and 1-2 dated 8 May 1986. The Chancery Court affirmed the Board's decision and final order in 1987. Petitioners appealed and the case was remanded to the Tennessee Water Quality Control Board for further findings of facts and conclusions of law in relation to the issue of "issuance of permits for projects involving a portion of the subject river without considering the effect of such projects and/or any other contemplated projects upon the entire river." Finding of Facts and Conclusions of Law were issued by the Board after affirming their previous decision. Water quality certification for the next planned construction item, Sidonia, was denied by the Tennessee Department of Health and Environment. The Corps appealed this decision, but after numerous meetings and discussions with the State in an attempt to arrive at a mutually agreeable plan of improvement for the Sidonia item, and with no apparent resolution forthcoming, the Corps withdrew the appeal in May 1989. The Corps will not proceed with further construction or acquisition of related mitigation lands for the authorized project until the State of Tennessee provides water quality certification and necessary rights-of-way for construction of the project.


RIVER
MISSISSIPPI
VICINITY MAP
MO
KY
ARK
TENN
LEGEND
WORK COMPLETED
WORK PROPOSED WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR
SCALE
WEST TENNESSEE TRIBUTARIES
TENNESSEE
U S ARMY ENGINEER DISTRICT, MEMPHIS
MISSISSIPPI RIVER COMMISSION

MISSISSIPPI RIVER COMMISSION
JUSTIFICATION OF ESTMATE

APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO and TN, Maintenance, FY 2001

The program request of $139,105,000 provides for the day-to-day operation and ordinary maintenance, and repairs and dredging of the major features of the comprehensive project. It also consists of the revision and publication of alluvial valley maps and navigation charts. The fund requirements are based upon the normal recurring annual expenses determined from experience records during the past years, and the repair and dredging work necessary to maintain the projects in operable condition.

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Mississippi River Levees, AR, IL, KY, LA, MS, MO, & TN	6,209,000 (1,425,000) (4,784,000)	6,160,000 (1,471,000) (4,689,000)	1. None. 2. Repair levee slides at various locations.
Bonnet Carre, LA	1,020,000 (638,000) (382,000)	1,340,000 (931,000) (409,000)	1. Reduction in water management activities. 2. None.
Mississippi Delta Region Caemarvon, LA	416,000 (416,000) (0)	916,000 (916,000) (0)	1. Increase Operational Cost for New Freshwater Diversion structure at Davis Pond. 2. None.
Revetments and Dikes	31,543,000 (1,628,000) (29,915,000)	41,928,000 (1,710,000) (40,218,000)	1. None. 2. Repairs to revetments and dikes.
Dredging	15,597,000 (4,239,000) (11,358,000)	17,026,000 (3,905,000) (13,121,000)	1. Variation in survey requirements. 2. Dredging.

MISSISSIPPI RIVER COMMISSION
JUSTIFICATION OF ESTMATE

APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO and TN, Maintenance, FY 2001

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Memphis Harbor	1,114,000	1,085,000	
(McKellar Lake), TN	(100,000)	(110,000)	1. None.
	(1,014,000)	(975,000)	2. Dredging.
Greenville Harbor, MS	318,000	626,000	
	(19,000)	(19,000)	1. None
	(299,000)	(607,000)	2. Dredging.
Helena Harbor, AR	271,000	421,000	
	(30,000)	(33,000)	1. None.
	(241,000)	(388,000)	2. None.
Vicksburg Harbor, MS	190,000	480,000	
	(25,000)	(25,000)	1. None.
	(165,000)	(455,000)	2. None.
Baton Rouge Harbor	150,000	210,000	
(Devil's Swamp), LA	(12,000)	(12,000)	1. Additional surveys.
	(138,000)	(198,000)	2. None.
Mapping	1,067,000	1,129,000	
Arkansas	(281,000)	(295,000)	1. None
Illinois	(5,000)	(6,000)	1. None.
Kentucky	(20,000)	(22,000)	1. None.
Louisiana	(455,000)	(476,000)	1. None.
Missouri	(52,000)	(57,000)	1. None.
Mississippi	(161,000)	(174,000)	1. None.
Tennessee	(93,000)	(99,000)	1. None.

MISSISSIPPI RIVER COMMISSION
JUSTIFICATION OF ESTMATE

APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO and TN, Maintenance, FY 2001

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
St. Francis Basin, AR & MO	4,352,000	7,000,000	
Wappapello Lake, MO	(2,665,000)	(2,892,000)	1. None.
	(1,687,000)	(4,108,000)	2. Relocate State and County Roads.
St. Francis River &	8,309,000	6,775,000	
Tributaries, AR & MO	(3,150,000)	(3,245,000)	1. None.
	(5,159,000)	(3,530,000)	2. Cleanout Below Hwy. 90, AR and Ditch 251.
White River	3,456,000	1,070,000	
Backwater, AR	(620,000)	(640,000)	1. None.
	(2,836,000)	(430,000)	2. None.
Lower Arkansas River, AR	63,000	407,000	
North Bank	(16,000)	(16,000)	1. None.
	(47,000)	(391,000)	2. None.
South Bank	103,000	10,000	
	(41,000)	(10,000)	1. Reduction Water Control Management.
	(62,000)	(0)	2. None.
Tensas Basin, AR & LA	2,240,000	2,384,000	
Boeuf and Tensas Rivers	(2,240,000)	(2,286,000)	1. None.
	(0)	(98,000)	2. None.
Red River Backwater	2,822,000	3,048,000	
	(2,785,000)	(2,893,000)	1. None.
	(37,000)	(155,000)	2. None.

MISSISSIPPI RIVER COMMISSION
JUSTIFICATION OF ESTMATE

APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO and TN, Maintenance, FY 2001

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Yazoo Basin, MS			
Sardis Lake	6,095,000	5,180,000	
	(3,958,000)	(3,981,000)	1. None.
	(2,137,000)	(1,199,000)	2. Dredging Shady Cove.
Arkabutla Lake	4,074,000	6,242,000	
	(3,146,000)	(3,121,000)	1. None.
	(928,000)	(3,121,000)	2. Repairs to Gate and Dam.
Enid Lake	4,025,000	3,376,000	
	(3,032,000)	(2,994,000)	1. None.
	(993,000)	(382,000)	2. None.
Grenada Lake	5,044,000	4,232,000	
	(4,047,000)	(3,970,000)	1. None.
	(997,000)	(262,000)	2. None.
Greenwood	903,000	1,007,000	
	(903,000)	(882,000)	1. None.
	(0)	(125,000)	2. None.
Yazoo City	808,000	806,000	
	(808,000)	(806,000)	1. None.
	(0)	(0)	2. None.
Main Stem	1,012,000	1,254,000	
	(1,012,000)	(1,053,000)	1. None.
	(0)	(201,0000)	2. None.

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MISSISSIPPI RIVER COMMISSION
JUSTIFICATION OF ESTMATE

APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO and TN, Maintenance, FY 2001

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Tributaries	1,243,000 (1,243,000) (0)	1,162,000 (1,162,000) (0)	1. None. 2. None.
Will M. Whittington Auxiliary Channel	471,000 (421,000) (50,000)	358,000 (358,000) (0)	1. None. 2. None.
Big Sunflower	2,484,000 (200,000) (2,284,000)	137,000 (137,000) (0) [1]	1. Reduced survey requirements. 2. None.
Yazoo Backwater	535,000 (436,000) (99,000)	431,000 (431,000) (0)	1. None. 2. None.
Old River, LA	3,846,000 (2,588,000) (1,258,000)	4,720,000 (3,486,000) (1,234,000)	1. Scheduled Periodic Inspections. 2. Dredging.
Atchafalaya Basin, LA	12,234,000 (4,832,000) (7,402,000)	9,482,000 (4,373,000) (5,109,000)	1. Reduction in Water Control Activities. 2. Dredging.
Lower Red River, LA	440,000 (27,000) (413,000)	5,739,000 (27,000) (5,712,000)	1. None. 2. Repair Bayou Rapides Drainage Structure.

[1] Funds to continue Item 2 contract will be reprogrammed from FY 2000 carryover.

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MISSISSIPPI RIVER COMMISSION

JUSTIFICATION OF ESTMATE

APPROPRIATION TITLE: Flood Control, Mississippi River and Tributaries, AR, IL, KY, LA, MS, MO and TN, Maintenance, FY 2001

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for Change in Operations from FY 2000 to FY 2001 (10%+/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000).
Bayou Cocodrie & Tributaries, LA	96,000 (96,000) (0)	56,000 (56,000) (0)	1. Reduction in Water Management Activities. 2. None.
Atchafalaya Basin Floodway System, LA	615,000 (615,000) 0	1,499,000 (750,000) (749,000)	1. Increase in field personnel operation. 2. Repair of Facilities, Roads and Public use areas.
Inspection of Completed Works	1,333,000	1,409,000	
Arkansas	(422,000)	(442,000)	1. None
Illinois	(38,000)	(45,000)	1. None.
Kentucky	(23,000)	(25,000)	1. None.
Louisiana	(357,000)	(389,000)	1. None.
Missouri	(200,000)	(202,000)	1. None.
Mississippi	(183,000)	(193,000)	1. None.
Tennessee	(110,000)	(113,000)	1. None.
TOTAL	124,498,000 (49,813,000) (74,685,000)	139,105,000 (51,239,000) (87,866,000)	

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U.S. ARMY CORPS OF ENGINEERS
CIVIL WORKS PROGRAM

CONGRESSIONAL SUBMISSION
FISCAL YEAR 2001

(799)

NORTH ATLANTIC DIVISION

Budgetary information will not be released outside the Department of the Army until 7 February 2000

Justification of Estimate for Civil Functions Activities
Department of the Army, Corps of Engineers
Fiscal Year 2001

NORTH ATLANTIC DIVISION

Corps of Engineers

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Justification of Estimate for Civil Function Activities
Department of the Army, Corps of Engineers
Fiscal Year 2001

SUMMARY, NORTH ATLANTIC DIVISION

	FY 2000 Allocation $	FY 2001 Request $	Increase or Decrease $
General Investigations			
Surveys	10,261,000	13,148,000	2,887,000
Preconstruction Engineering and Design	6,323,000	4,552,000	-1,771,000
Subtotal General Investigations	(16,584,000)	(17,700,000)	(1,116,000)
Construction, General			
Construction	149,461,000	182,377,000	32,881,000
Major Rehabilitation	6,861,000	8,600,000	1,739,000
Dam Safety Assurance	0	0	0
Subtotal Construction, General	(156,322,000)	(190,977,000)	(34,620,000)
Operation and Maintenance, General			
Project Operations	59,982,000	56,624,000	-3,358,000
Project Maintenance	137,427,000	141,524,000	4,097,000
Subtotal Operations and Maintenance	(197,409,000)	(198,148,000)	(739,000)
GRAND TOTAL, NORTH ATLANTIC DIVISION	370,315,000	406,825,000	36,475,000

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
1. SURVEYS - NEW					
a. Navigation Studies: None					
b. Flood Damage Prevention Studies: None					
c. Shoreline Protection Studies: None					
d. Special Studies: The amount of $100,000 is requested in Fiscal Year 2001 to initiate and complete one special study.					
MASSACHUSETTS					
Massachusetts and Cape Cod Bays, Ecosystem Restoration	100,000	0	0	100,000	0

The study area encompasses the Massachusetts and Cape Cod Bays (MCCB) coastal shoreline and associated waters within the Commonwealth of Massachusetts, including the EPA designated national estuary of MCCB. The biologically diverse ecosystem created by the many natural salt marshes along the Massachusetts coast has historically provided exceptionally productive fish and wildlife habitat. Salt marshes provide significant economic and environmental benefits for the region by providing flood storage, filtering pollutants, supporting commercial fisheries as well as recreational fishing and tourism. Over the past century, many of these natural salt marshes have been lost or degraded by construction of transportation facilities and other coastal development. The Corps of Engineers has constructed 25 navigation and 11 beach erosion control projects in this region of Massachusetts. Several of these projects involved the disposal of dredged material in coastal wetlands or salt marshes such as the Green Harbor project. Dredged material was disposed of in the Town Marsh filling approximately 35 acres of productive salt marsh above mean high tide, resulting in a relatively unproductive upland habitat. Reconnaissance studies will evaluate this and other sites to determine measures to restore the ecological productivity of the MCCB coastline. This study is consistent with the objectives of Coastal America to restore all degraded salt marshes in the Commonwealth and is supported by the Executive Office of Environmental Affairs, Department of Transportation and numerous Federal agencies, as evidenced by their signing an MOU to restore Massachusetts wetlands. In April 1999, the Massachusetts Executive Office of Environmental Affairs expressed an interest in this study and is aware of the cost sharing requirements for the feasibility phase.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
MASSACHUSETTS					
Massachusetts and Cape Cod Bays, Ecosystem Restoration					
Fiscal Year 2001 funds will be used to initiate and complete a reconnaissance study at full Federal expense. Studies will identify areas of lost or degraded salt marshes and evaluate measures to restore the natural tidal exchange and ecological productivity of these areas. This restoration will increase the wetlands carrying capacity for fisheries (e.g. striped bass, scallops, etc.) and waterfowl nesting and forage habitat. The reconnaissance phase schedule is being determined.					
Subtotal Special Studies - New	100,000	0	0	100,000	0
e. Comprehensive Studies: None f. Project Review Studies: None					
TOTAL SURVEYS - NEW	100,000	0	0	100,000	0

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
2. SURVEYS - CONTINUING					
a. Navigation Studies: The amount of $1,989,000 is requested in Fiscal Year 2001 to continue four navigation studies and complete one navigation study.					
MASSACHUSETTS					
Boston Harbor	1,100,000	0	100,000	150,000	850,000

Boston Harbor is located along the eastern shoreline of Massachusetts and is New England's largest port serving as the principal distribution point for the commerce of Massachusetts, New Hampshire and Vermont. In 1996, waterborne commerce totaled 20.1 million tons, of which approximately 79 percent were liquid petroleum products. The inner harbor has been extensively developed for water transportation and is comprised of the Main Ship, Reserved, Chelsea River and Mystic River Channels. The Massachusetts Port Authority (Massport) has been upgrading facilities at Conley Terminal, which is located along the southerly side of the Reserved Channel, to accommodate larger vessels and improve operational efficiency of the harbor. In addition, Massport has plans to expand Conley Terminal onto the adjacent Coastal Oil Terminal property and to develop a bulk cargo terminal at nearby North Jetty Terminal, increasing the number of berths that would benefit from deeper channels. The Port of Boston Competitiveness Task Force Report, dated December 1998, concluded that the channels accessing Conley Terminal must be dredged to at least 45 feet for New England companies to remain competitive by receiving containerized cargo by direct ocean going service. This becomes increasingly important as the next generation of container ships, drawing 45 feet or more, come into service. Navigation improvements to deepen portions of Boston Harbor to at least 45 feet would increase the efficiency of harbor operations and reduce tidal delays for larger vessels. Massport expressed an interest in the Corps conducting a reconnaissance study by letter dated 17 December 1998, and is aware of the cost sharing requirements for the feasibility study. Massport is currently the non-Federal sponsor of ongoing improvement work at Boston Harbor, which includes deepening the Reserve Channel to 40 feet.

Fiscal year 2000 funds are being used to initiate and complete a reconnaissance study at full Federal expense to evaluate deepening the Main Ship, Reserved, and Entrance Channels to 45 feet. If the Section 905 (b) analysis is certified to be in accord with policy, funds requested for Fiscal Year 2001 will be used to continue into the feasibility phase. The preliminary cost of the feasibility phase is $2,000,000, which is to be shared on a 50-50 percent basis by the Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$2,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

The reconnaissance phase is scheduled for completion in April 2001. The feasibility study schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
NEW YORK					
Hudson River Habitat Restoration	2,399,000	1,213,000	86,000	50,000	1,050,000

The study area extends about 155 miles from the southern limit of the State Barge Canal at Waterford, New York to the Battery in New York City. The study will address the restoration of fish and wildlife resources.

The River and Harbor Act of 1910 authorized a 12-foot navigation channel for the Hudson River, New York -- New York City to Waterford. The project was modified by the River and Harbor Acts of 1935 and 1938, which authorized deepening of the channel to 32 feet to the Federal Lock at Troy New York, and 14 feet to the southern limit of the State Barge Canal at Waterford. Prior to this project, a series of low profile dikes were constructed by the Corps to create a stable channel for deep-draft navigation between New York City and the Port of Albany, and for barge traffic to the New York State Barge Canal System. Dredging the channels by the Corps over the past one hundred years has produced approximately 83,000,000 cubic yards of dredged material, which was disposed of in embayments, marshes, backwaters, and secondary channels behind islands. The dredged material was also used to construct new islands, extend and/or connect existing islands, filling in additional wetland and aquatic habitats. Since 1891, approximately 2,800 acres of wetland and aquatic habitat have been lost and 60 miles of shallow habitat deepened. Striped bass, Shad, Atlantic sturgeon and herring use the shallows and wetland habitat for spawning and as a primary nursery during their critical developmental stages. The river also contains a rare stable population of the endangered Shortnose sturgeon, and certain of the effected habitat are critical for its survival. The National Marine Fisheries Service, U.S. Fish and Wildlife Service, Museum of the Hudson Highlands, Nature Conservancy, Audubon Society, Scenic Hudson, Open Space Initiative, electric utilities and railroads support habitat restoration.

The reconnaissance report found that measures such as reestablishing wetlands and aquatic habitat, and removal of barriers to fish migration at the estimated implementation cost of $23,000,000 warranted further study for fourteen sites. These sites will be addressed in the following, The Combined Sites Interim Report will address Schodack Island Complex, Mill Creek Wetlands, and Manitou Marsh. The Upper Reach and Spuyten Duyvel Interim Report will address Hudson North Bay, Ramshorn Marsh, Imbought Bay, and Spuyten Duyvel. The Lower Reach Interim Report will address Cornwall Bay/Moodna Creek, Annsville Creek/Peekskill Bay, and Croton Point to New York Harbor. The National Estuarine Research Reserve Interim Report, which will be the final feasibility report, will address Tivoli North Bay, Iona Marsh, and Piermont Marsh. On 30 April 1996, the New York State Department of Environmental Conservation and New York State Department of State executed the feasibility cost-sharing agreement for the feasibility phase effort.

Fiscal Year 2000 funds are being used to complete the Combined Sites Interim feasibility report and initiate the Upper Reach and Spuyten Duyvel Interim feasibility report. The funds requested for Fiscal Year 2001 will be used to continue

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

Hudson River Habitat Restoration

the feasibility studies for the Upper Reach and Spuyten Dyvel (Interim 2) feasibility report. The estimated cost of the feasibility phase is $4,048,000, which is to be shared on a 50-50 percent basis between Federal and non-Federal interests. Up to one-half of the non-federal share may be in-kind services. A summary of the cost sharing is as follows:

Total Estimated Study Cost	$4,423,000
Reconnaissance phase (Federal)	375,000
Feasibility phase (Federal)	2,024,000
Feasibility phase (Non-Federal)	2,024,000

The reconnaissance phase was completed in April 1996. The interim feasibility study completion dates for the following interim studies are being determined: the Combined Sites Interim, the Upper Reach and Spuyten Duyvel Interim , the Lower Reach Interim, and the final feasibility report, the National Estuarine Research Reserve Interim.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
New York Harbor Anchorage Areas	1,200,000	591,000	25,000	259,000	325,000

The New York Harbor Anchorage Areas, a part of the New York Harbor and Adjacent Channels Project, includes three separate anchorage areas with current depths ranging from 10 to 45 feet below mean low water. The reconnaissance report recommended anchorage improvements for Red Hook Flats and Gravesend Bay at a cost of $56,000,000. Local interests desire that one of these areas, the Red Hook Flats, be considered for navigation improvements. The Red Hook Flats anchorage area is located west of Red Hook and Bay Ridge, Brooklyn, New York, and is approximately 3.6 miles long, 2,640 feet wide, and 35 to 45 feet deep. The major problems in the area is overcrowding in the anchorage as well as in navigation channels, caused by increasing vessel size, lack of space and, insufficient depth. The current design of the Red Hook Flats anchorage area was based primarily on vessels having a draft of 35 feet and a length of 525 feet. Recent investigations verify that there is a significant increase in vessels with drafts of 40 to 46 feet and lengths of approximately 1,000 feet. Thus, the existing anchorage areas can accommodate fewer ships. The feasibility study will investigate potential improvements that would reduce the risk of collisions and groundings, including resultant petroleum spills. The Port Authority of New York and New Jersey indicated their willingness to act as the non-Federal sponsor in a letter dated 29 October 1997. The feasibility cost-sharing agreement is scheduled to be executed in April 2000.

Fiscal Year 2000 funds are being used to complete reconnaissance phase and initiate the feasibility phase of study, including the economic analysis, public meetings and engineering and environmental data gathering. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study including the engineering design, environmental impact analysis and the selection of the recommended plan. The preliminary estimated cost of the feasibility phase is $1,400,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,900,000
Reconnaissance Phase (Federal)	500,000
Feasibility Phase (Federal)	700,000
Feasibility Phase (Non-Federal)	700,000

The reconnaissance phase is scheduled for completion in April 2000. The feasibility study schedule is being determined.

APPROPRIATION TITLE: General Investigations, Fiscal Year 2001 — North Atlantic Division

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
VIRGINIA					
Atlantic Intracoastal Waterway Bridge Replacement at Deep Creek	1,168,000	508,000	318,000	342,000	0

The Atlantic Intracoastal Waterway is a naturally protected navigation route that generally parallels the Atlantic coast between Massachusetts and Florida. The waterway's route intersects several existing highways. The construction, operation, and maintenance of these bridges are the responsibility of the Corps of Engineers. One of these bridges is located in the community of Deep Creek in Chesapeake, Virginia. Deep Creek is located approximately 150 miles southeast of Washington, D.C., in southeastern Virginia. The bridge was constructed in 1934 and is a Federally owned and operated facility over which U.S. Route 17 crosses the Dismal Swamp Canal, part of the Atlantic Intracoastal Waterway. In a letter dated 21 March 1996, the city of Chesapeake requested that the Norfolk District consider the need for and feasibility of modifying or replacing this structure in conjunction with city and Commonwealth of Virginia plans to improve the road system in this area. The city has already begun improvements to the area's roadways, and the Commonwealth of Virginia is planning to improve U.S. Route 17 south of the bridge. These improvements are needed to accommodate the rapidly increasing development in this area of Chesapeake. The letter also stated that, as with the replacement of the Atlantic Intracoastal Waterway bridge in Great Bridge, the city would be willing to serve as the local cost-sharing sponsor, including assuming ownership and subsequent operation and maintenance of a replacement bridge. In May 1996, an Initial Appraisal concluded that the bridge is functionally obsolete because of its narrow roadway and poor alignment with the connecting roads, compounded by increasing traffic volumes. The Initial Appraisal was approved on 1 October 1996.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study, including the completion of the formulation package, determining the recommended plan for number of lanes, bridge height, and approach tie-in requirements, cost sharing, and environmental and cultural impacts. In addition, the locally preferred plans for modifying or replacing the bridge are being considered. Fiscal Year 2001 funds will be used to complete the feasibility phase of the study. The feasibility study is scheduled to be completed in May 2001.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Norfolk Harbor and Channels, Craney Island	3,050,000	310,000	903,000	1,188,000	649,000

The Craney Island Dredged Material Management Area (CIDMMA) is a 2,500-acre man-made containment area located along the south bank of the James River in Portsmouth, Virginia. It was authorized by the River and Harbor Act of 1946 and constructed from 1956 through 1958. Craney Island is Federally owned and operated and is used by private interests, local municipalities, and Federal and Commonwealth Government agencies for disposal of dredged material from Norfolk Harbor and adjacent waterways. The main containment site consists of a diked area with six spillways. There is also a rehandling basin to the southeast of the containment area that is used by bottom-dump scows and other vessels that do not have pump-out capabilities. About every two years, the rehandling basin reaches its capacity. This material is then hydraulically dredged and pumped into the containment area. The containment area, divided into three cells, is part of a management plan for the effective operation of the area. The Virginia Port Authority, an agency of the Commonwealth of Virginia, has expressed interest to create a fourth cell at the CIDMMA by expanding the containment area to the east. The new cell will extend the useful life of the CIDMMA and provide an area that could be developed as a long-term berthing and port facility adjacent to the Norfolk Harbor Channel. The Virginia Port Authority and maritime officials claim that additional port facilities are needed based on increased vessel traffic projections through 2010-2015. In addition, the Commonwealth of Virginia has formed a Craney Island Study Committee to address issues regarding the future use and development of the CIDMMA. The Virginia Port Authority is the non-Federal sponsor and executed the feasibility cost-sharing agreement in April 1999.

Fiscal Year 2000 funds will be used to continue the feasibility phase of study, including preparation of the project study plan; and engineering, economic, cultural, environmental, and real estate investigations. Fiscal Year 2001 funds will be used to continue the feasibility phase of the study. The estimated cost of the feasibility phase is $5,900,000, which is being shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$6,000,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	2,950,000
Feasibility Phase (Non-Federal)	2,950,000

The reconnaissance phase was completed in April 1999. The feasibility study schedule is being determined.

Subtotal Navigation Studies Continuing	8,917,000	2,622,000	1,432,000	1,989,000	2,874,000

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

2. SURVEYS - CONTINUING

b. Flood Damage Prevention Studies: The amount of $3,354,000 is requested in Fiscal Year 2001 to continue 13 flood damage prevention studies and complete one flood damage prevention study.

MARYLAND

Anacostia River and Tributaries, Prince George's County Levee, MD & DC	1,453,000	438,000	516,000	455,000	44,000

The Anacostia River has a total drainage area of 170 square miles, of which 136 square miles are in Maryland, and 34 square miles are in the District of Columbia. The Northeast and Northwest Branches originate in Maryland and flow through several highly urbanized areas before forming the Anacostia River about nine miles upstream from its junction with the Potomac River. The Corps of Engineers' involvement in the basin dates back more than 115 years and includes projects and programs for navigation, flood control, debris removal, and aquatic vegetation control. Two major projects were undertaken. From 1902 through 1940, the District of Columbia portion of the river was channelized, seawalls were built, Kingman Lake and East Lake were constructed, and more than 1,000 acres of mudflats and wetlands were filled with dredged material. The primary purpose of this work was to provide a park for the eastern portion of the city. From 1952 to 1959, a flood control project was constructed in Prince George's County, Maryland, along the Northeast and Northwest Branches, and the Anacostia River. A total of 28,000 feet of levees and 14,000 feet of channels were constructed to solve critical flood problems. This effort was successful; however, the construction resulted in a further loss of wetlands and fish and wildlife habitat. A reconnaissance study for the Anacostia River and Tributaries, completed in December 1991, identified extensive potential Federal involvement in the Anacostia watershed restoration effort. This reconnaissance study recommended that additional feasibility studies be conducted at numerous sites in the Anacostia area. Prince George's County Levee is the third feasibility study from the reconnaissance effort, and will investigate improving the existing local flood protection levee in Prince George's County and restoring the environment through wetland creation and restoration. According to a recent County study, the levees do not currently provide 100-year level of protection under existing conditions nor do they have the required 3-foot freeboard above the 100-year flood elevation. The non-Federal sponsors for this third study are Prince George's County and the Maryland-National Capital Park and Planning Commission. The feasibility cost-sharing agreement was executed in January 1999.

Fiscal Year 2000 funds are being used to continue the feasibility study, including plan formulation and evaluation, development of detailed designs and preliminary cost estimates, environmental benefit analyses and public coordination. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase, including development of detailed designs and costs, preparation of the draft feasibility report and public coordination. The estimated cost of the feasibility phase is $2,706,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Anacostia River and Tributaries, Prince George's County Levee, MD & DC					

interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,806,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,353,000
Feasibility Phase (Non-Federal)	1,353,000

The reconnaissance phase for the Prince George's County Levee area was completed in January 1999. The Prince George's County Levee feasibility study schedule is being determined.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Baltimore Metropolitan Water Resources, Gwynns Falls	1,232,000	992,000	172,000	68,000	0

The study area includes portions of the Patapsco River basin plus several small tributaries to the Chesapeake Bay encompassing Baltimore City and portions of Baltimore, and Howard Counties in Maryland. The Patapsco River watershed has been identified by the State of Maryland as a high-priority tributary to the Chesapeake Bay, as part of its overall strategy to improve the Chesapeake Bay's water quality. There are numerous significant water resources-related problems in the study area which can be remedied by environmental restoration. One of these problems includes previous dredging of Federal navigation channels, specifically Baltimore Harbor and Channels, which has contributed to the loss and degradation of fish and wildlife habitat. The restoration analysis performed during the feasibility phase will take a watershed-based ecosystem approach. The intent of this approach is to propose feasible environmental restoration measures to address all water-related resource problems within a selected sub-basin watershed, including measures that could be undertaken by the Corps or other resource agencies and organizations. Restoration methods that will be considered include: stream and streambank restoration; stormwater management pond construction and retrofits; wetland creation; restoration of riparian vegetation; and removal of fish passage blockages. A reconnaissance report for the Baltimore Metropolitan Water Resources area was completed in October 1994. The report found that no improvements were warranted in the areas of flood damage reduction and shallow draft navigation. The report did find that environmental restoration was warranted and recommended that feasibility studies be undertaken at numerous sites within the study area. Gwynns Falls is the first feasibility study from the reconnaissance effort and was initiated in March 1996. Baltimore City and Baltimore County are the non-Federal sponsors for this study and executed the feasibility cost-sharing agreement in February 1996.

Fiscal Year 2000 funds are being used to continue the feasibility phase, including development of detailed project final designs, public coordination and preparation of the draft report. The funds requested for Fiscal Year 2001 will be used to complete the feasibility report, including public coordination. The estimated cost of the feasibility phase is $1,454,000, which is being shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,959,000
Reconnaissance Phase (Federal)	505,000
Feasibility Phase (Federal)	727,000
Feasibility Phase (Non-Federal)	727,000

The reconnaissance phase for the Gwynns Falls area was completed in February 1996. The Gwynns Falls feasibility study schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
NEW JERSEY					
Shrewsbury River and Tributaries	1,500,000	0	86,000	120,000	1,294,000

The Shrewsbury River and its tributaries flow north-northeastly in Monmouth County, New Jersey, and is a tidal estuary protected by the Sandy Hook peninsula and nearby barrier beaches. The river system drains into the Raritan and Sandy Hook Bays and is located about 35 miles southwest of the battery New York City. The area is suburban with several heavily populated towns along the Shrewsbury River and its tributaries.

Frequent flooding occurs along the Shrewsbury River and its tributaries in Monmouth County, New Jersey. The flooding is due to storm surges caused by hurricanes and northeaster that produce high tides that backs up the normal river flow. A major damage center is the Township of Monmouth Beach. A major storm occurred in December 1992, causing damage to residential, commercial, and municipal properties in Monmouth Beach with water levels reaching above the main floor levels in many structures. Structures in other towns along the river were similarly affected. In October 1996, the area was again flooded during a northeaster. In addition, wetlands exist along the Shrewsbury River and its tributaries, particularly at Drew Court in Monmouth Beach.

The reconnaissance study is assessing the flooding problems and potential solutions in the area as well as opportunities for environmental restoration, particularly at Drew Court in Monmouth Beach. The New Jersey Department of Environmental Protection is the potential non-Federal sponsor that will share equally in the feasibility phase cost that may follow the reconnaissance study. The feasibility cost sharing agreement is scheduled for execution in January 2001.

Fiscal Year 2000 funds are being used to initiate and complete the reconnaissance phase at full Federal expense. If the 905 (b) analysis is certified to be in accord with policy, the funds requested for Fiscal Year 2001 will be used to initiate the feasibility phase of the study, including data collection, economic, hydraulic, and environmental analyses necessary to establish baseline conditions and formulate alternatives. The preliminary estimated cost of the feasibility phase is $2,800,000 to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,900,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,400,000
Feasibility Phase (Non-Federal)	1,400,000

The reconnaissance phase is scheduled for completion in January 2001. The feasibility study schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
South River, Raritan River Basin	2,800,000	1,791,000	489,000	450,000	70,000

South River is a tributary to the Raritan River located in Middlesex County, New Jersey, draining a 132 square mile watershed, and flowing northerly into the Raritan River. The lower portion of the basin includes the communities of Sayreville, South River, Old Bridge and East Brunswick, and is highly developed and subject to tidal flooding.

The upper portion of the basin is experiencing rapid growth. Flooding from Hurricane Gloria in September 1985 resulted in property damage, evacuations of residents, and disruption of businesses and transportation systems. Recent coastal storms in December 1992 and March 1993 caused extensive damage to residential and commercial properties in Sayreville and South River. The December 1992 storm caused damages estimated at $6,100,000 in the entire basin. Historically, flood elevations have exceeded 6 feet above mean high water.

The reconnaissance study concluded that Federal interest exists for a levee plan expected to contain the one percent flood in the South River and Sayreville communities. The reconnaissance plan consists of 2 levees with environmental restoration of 250 acres of wetlands at an estimated cost of $40,000,000. In addition to flooding, the ecosystem of the South River and Washington Canal has been degraded due to past Corps of Engineers involvement. As part of this study, the salt marshes between the Washington Canal and old South River will be studied and plans developed to restore them. Restoration measures could include the removal and replacement of certain low value plants with more productive ones and regrading the marsh to create better water circulation and fish nursing areas. The feasibility cost-sharing agreement was executed on 7 March 1996 with the State of New Jersey Department of Environmental Protection.

Fiscal Year 2000 funds are being used to continue the feasibility study, including design of levees and floodwalls, investigation of nonstructural components, HTRW investigations and environmental restoration design. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study, including engineering, economic and environmental studies. The estimated cost of the feasibility phase is $4,600,000, which is cost-shared on a 50-50 percent basis by Federal and non-Federal interests. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$5,100,000
Reconnaissance Phase (Federal)	500,000
Feasibility Phase (Federal)	2,300,000
Feasibility Phase (non-Federal)	2,300,000

The reconnaissance phase was completed in March 1996. The feasibility study schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Stony Brook	1,500,000	0	86,000	120,000	1,294,000

The study area for the Stony Brook Basin is located in Princeton Township in Mercer County, New Jersey. Stony Brook is the largest tributary to the Millstone River, draining an approximate 56 square miles area. Other tributaries include Peters Brook, Woodsville Brook, Baldwin Brook, Lewis Brook, and Honey Branch. This area is suburban in nature and the population is expected to grow by 30 percent by the year 2010.

Frequent flooding occurs along the Stony Brook and its tributaries. From 1954 through 1996, 57 floods were recorded at the Stony Brook gauge station in Princeton, New Jersey. The largest flood occurred during Hurricane Doria in August 1971, which caused significant damages. Hurricane Floyd in September 1999 caused significant flooding downstream in the Millstone River at Manville, New Jersey.

The reconniassance study will assess the flooding problems and potential solutions in the area as well as an enhanced flood warning system, and environmental restoration. The potential non-Federal sponsor is the New Jersey Department of Environmental Protection, who understands the cost sharing requirements for the feasibility phase of the study. The feasibility cost sharing agreement is scheduled for execution in March 2001.

Fiscal Year 2000 funds are being used to initiate the reconnaissance phase at full Federal expense. If the Section 905 (b) analysis is certified to be in accord with policy, the funds requested for Fiscal Year 2001 will be used to initiate the feasibility phase of the study, including data collection, economic, hydraulic, and environmental analyses necessary to establish baseline conditions and formulate alternatives. The preliminary estimated cost of the feasibility phase is $2,800,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost-sharing is as follows:

Total Estimated Study Cost	$2,900,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,400,000
Feasibility Phase (Non-Federal)	1,400,000

The reconnaissance phase is scheduled for completion in March 2001. The feasibility study schedule is being determined.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Upper Passaic River and Tributaries	750,000	184,000	172,000	300,000	94,000

The Upper Passaic River and its tributaries are located in northeast Morris County, New Jersey, draining an approximate 100 square mile area. The study will focus on flood problems in several communities, including Long Hill Township, a 12.5 square miles township that is 97 percent developed with a population of 7500.

Major flooding occurred from storms in August 1971 and 1973, July 1984 and September 1999 in this area due to under sized culverts, sediment build-up in the river, and backwater flow from the Passaic River into its tributaries. The October 19, 1996 storm was a 25-year flood event causing over $1 million in damages to commercial and residential structures with water levels of four feet or higher in Long Hill Township. This storm also flooded many local roads, damaging many local residents' cars, and the township's roadways and bridges. The damage to the roadways and bridges caused transportation problems for several days. In addition, Long Hill Township's wastewater treatment plant was shut down. The study is evaluating potential flood damage prevention measures and opportunities for environmental restoration in the watershed. The feasibility cost-sharing agreement was executed on May 27, 1999 with the State of New Jersey Department of Environmental Protection.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study, including economic, hydraulic, and environmental analyses necessary to formulate alternative plans for structural and nonstructural flood control and environmental restoration. Fiscal Year 2001 funds will be used to continue the feasibility phase of study, including the engineering design and selection of the recommended plan. The estimated cost of the feasibility phase is $1,300,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,400,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	650,000
Feasibility Phase (Non-Federal)	650,000

The reconnaissance phase was completed in May 1999. The feasibility study schedule is being determined.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Upper Rockaway River	1,400,000	184,000	172,000	300,000	744,000

The Upper Rockaway River is located in Morris County, New Jersey, and is a tributary to the Passaic River draining an approximate 116 square mile area. Several Morris County townships are susceptible to flooding, including Jefferson, Wharton, Dover, Denville, and Boonton. These townships have combined population of about 100,000 people. In the townships of Denville and Boonton alone about 1,000 structures are subject to flooding.

Major flooding occurred in May 1968, September 1971, February and December 1973, March 1977, January 1979, April 1984 and September 1999 along the Upper Rockaway River. Downstream of Dover, flooding damaged many homes, commercial businesses, roads and bridges. The flooding is from low capacity in the river caused by siltation. In addition, recent stream bank erosion in the river has further increased the river's siltation problems. Local interests have attempted to remove the sediment build-up from the river but were unsuccessful. The October 1996 storm flooded about 200 homes and businesses. In the Township of Denville, many roads were under a foot of water or more. Several bridges, including Savage Road Bridge and Diamond Spring Road Bridge, were washed out and had to be repaired after the flood. In the Township of Boonton, water levels were several feet above the first floor of many residential properties and residents of six homes had to be evacuated. The upstream areas of the Rockaway River are being evaluated for environmental restoration including creation of new wetland sites. The feasibility study will develop plans to alleviate flood problems and develop opportunities for environmental restoration. The feasibility cost-sharing agreement was executed on May 27, 1999 with the State of New Jersey Department of Environmental Protection.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study including economic, hydraulic, and environmental analyses necessary to formulate alternatives for structural and nonstructural flood control and environmental restoration. Fiscal Year 2001 funds will be used to continue the feasibility phase of study, including the engineering design and selection of the recommended plan. The estimated cost of the feasibility phase is $2,600,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,700,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,300,000
Feasibility Phase (Non-Federal)	1,300,000

The reconnaissance phase was completed in May 1999. The feasibility study schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Woodbridge and Rahway River Basins	5,590,000	160,000	172,000	200,000	5,058,000

The study area encompasses the Woodbridge and Rahway River Basins located in northeastern New Jersey. The Woodbridge River and its tributaries flow easterly for about 5 miles through Middlesex County, New Jersey, discharging into the Arthur Kill near Perth Amboy. The Rahway River Basin is 81.9 square miles flowing through Essex, Union, and Middlesex Counties discharging into the Arthur Kill near Carteret, New Jersey. The area is entirely developed and is urban to suburban in nature.

Frequent flooding occurs along the Woodbridge and Rahway rivers in Essex, Union and Middlesex Counties. Flooding problems from fluvial and tidal storm surge have worsened due to extensive development in the area. Major storms of record occurred in July 1938, May 1968 (10 year flood), August 1971 (15 year flood), August 1973 (60 year flood), July 1975 (50 year flood), June 1992 (15 year flood), October 1996 (75 year flood), July 1997 (50 year flood), and most recently September 1999 Hurricane Floyd (100 year flood). Major damage centers include Woodbridge, Springfield, Cranford, Rahway, Maplewood, and Millburn. In addition to the flooding problems, ecological problems exist that include loss and degradation of tidal wetlands, pollution and sedimentation problems. Many denuded mud flats exist where phragmites has replaced spartina as the dominant plant. Numerous petroleum facilities align the Woodbridge and Rahway rivers in the vicinity of their confluence with the Arthur Kill. Past sediment analyses have shown that petroleum products and heavy metals are prevalent downstream of the both rivers. The reconnaissance study will assess the flooding problems and potential solutions in the area as well as opportunities for environmental restoration, particularly along the Arthur Kill streambank. The potential local sponsor for the feasibility cost-sharing agreements is the New Jersey Department of Environmental Protection, who understands the cost sharing required for the feasibility phases of both studies. Separate feasibility cost-sharing agreements are scheduled for execution in January 2000. If the Section 905 (b) analyses are certified to be in accord with policy, fiscal year 2000 funds will be used to initiate the feasibility studies. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study, including data collection, economic, hydraulic, and environmental analyses necessary to establish baseline conditions and formulate alternatives. The preliminary estimated cost of the Woodbridge River Basin feasibility phase is $2,500,000 and preliminary estimated cost for the Rahway River Basin feasibility phase is $8,360,000, which are to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost-sharing is as follows

Woodbridge River Basin		Rahway River Basin	
Total Estimated Study Cost	$2,580,000	Total Estimated Study Cost	$8,440,000
Reconnaissance Phase (Federal)	80,000	Reconnaissance Phase (Federal)	80,000
Feasibility Phase (Federal)	1,250,000	Feasibility Phase (Federal)	4,180,000
Feasibility Phase (Non-Federal)	1,250,000	Feasibility Phase (Non-Federal)	4,180,000

The reconnaissance phase for the Woodbridge River Basin is scheduled for completion in July 2000. The reconnaissance phase for the Rahway River Basin is scheduled for completion in August 2000. The feasibility study schedules are being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
NEW YORK					
Ausable River Basin	800,000	184,000	25,000	200,000	391,000

The study area encompasses the entire 450 square mile Ausable River Basin located in northeastern New York. Flooding occurred in February 1976, March 1978, November 1979, December 1983, October 1985, November 1996 and January 1996 along the Ausable River and its tributaries in Essex and Clinton Counties. The river and its tributaries carry large amounts of sediment that are deposited in the lower reaches at river bends and bridges which leads to flooding during high flow events. Ice jam flooding also occurs during winter causing backwater flood conditions in surrounding areas. Major damage centers are at Ausable Forks, Upper Jay, Keeseville, Keene, and Keene Valley. Clinton and Essex Counties sustained some $20 million in flood damages in November 1996 and were declared Federal Disaster Areas. In Keeseville, extensive flood damage threaten the stability of a 40 foot high by 1,400 foot long bedrock embankment that provides support for a portion of the town's business district. In addition, small towns in the area are cut off when the main roads become impassable restricting residents from receiving emergency aid. Clinton and Essex flooding in January 1996 and a sudden mid-winter thaw caused delays in emergency evacuation efforts as rising rivers again inundated bridges and roadways.

The feasibility study will assess the flooding problems in the area as well as opportunities for environmental restoration, particularly along streambank corridors. In a letter dated 27 May 1997, the New York State Department of Environmental Conservation expressed interest in becoming the non-Federal sponsor and their willingness to share equally in the feasibility phase cost. The feasibility cost-sharing agreement is scheduled to be executed in July 2000.

Fiscal Year 2000 funds are being used to initiate the feasibility phase of the study including economic, hydraulic, and environmental analyses necessary to establish baseline conditions and formulate alternatives. Fiscal Year 2001 funds will be used to continue the feasibility phase of study, including the engineering and design and selection of the recommended plan. The preliminary estimated cost of the feasibility phase is $1,400,000, which is shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,500,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	700,000
Feasibility Phase (Non-Federal)	700,000

The reconnaissance phase is scheduled for completion in July 2000. The feasibility study schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Boquet River Basin	800,000	184,000	25,000	200,000	391,000

The Boquet River and its tributaries flow northeast through Essex County, New York, draining an approximately 95 square mile watershed. Frequent flooding occurs along the Boquet River and its tributaries in Essex County, New York. The river and its tributaries carry large amounts of sediment that are deposited in the lower reaches at river bends and bridges which leads to flooding during high flow events. Ice jam flooding also occurs during winter causing backwater flood conditions in surrounding areas. Essex County has few main roads that can be cut off during flooding posing problems to residents in need a emergency services. Major damage centers are Elizabethtown, New York, and areas along New York State Route 9. Flood damages include basement and first floor flooding in commercial and residential structures, loss of bridges and deterioration of roads, and excessive stream bank erosion. Essex County sustained some $10 million in flood damages in November 1996 and was declared a Federal Disaster Area. Flooding in Elizabethtown damaged some 25 structures when water levels reached two feet above first floor elevations. In addition, several main bridges were damaged beyond repair and road washouts occurred due to high waters and stream bank erosion. A New York State Hydro-Plant was closed for several months to make needed repairs. Five deaths occurred near Elizabethtown in November 1979 when drivers tried to cross an inundated bridge. Other areas that have experienced flooding is the Hamlet of Whallonsburg where flood levels have reached up to 15 feet in the past.

The feasibility study will assess the flooding problems in the area as well as opportunities for environmental restoration, particularly along streambank. In a letter dated 27 May 1997, the New York State Department of Environmental Conservation expressed interest in becoming the non-Federal sponsor and expressed their willingness to share equally in the feasibility phase of the study. The feasibility cost-sharing agreement is scheduled to be executed in July 2000.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study, including economic, hydraulic, and environmental analyses necessary to establish baseline conditions and formulate alternatives. Fiscal Year 2001 funds will be used to continue the feasibility phase of study, including the engineering design and selection of the recommended plan. The preliminary estimated cost of the feasibility phase is $1,400,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,500,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	700,000
Feasibility Phase (Non-Federal)	700,000

The reconnaissance phase is scheduled for completion in July 2000. The feasibility study schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Bronx River Basin	800,000	100,000	50,000	250,000	400,000

The study area for the Bronx River is located in central Bronx County and lower Westchester County, New York, draining an approximate 56.4 square mile watershed. Communities affected in the watershed include the Towns of North Castle, Scarsdale, Mount Pleasant, and Greenburgh; and the Cities of Yonkers, White Plains, and Mount Vernon.

Frequent flooding occurs along the Bronx River in Bronx and Westchester Counties. In addition to flooding problems, environmental degradation of the Bronx River greatly affects the water quality, habitat conditions, and bio-diversity of the watershed.

The feasibility study will assess the flooding problems and potential solutions in the area as well as opportunities for environmental restoraion, particularly along streambanks. The potential local sponsor is the New York State Department of Environmental Conservation, who fully understands the cost-sharing requirements for the feasibility phase of the study. The feasibility cost-sharing agreement is scheduled to be executed in February 2000.

If the Section 905 b analysis is certified to be in accord with policy, Fiscal Year 2000 funds will being used to initiate the feasibility phase of the study, including data collection, economic, hydraulic, and environmental analyses necessary to establish baseline conditions. Funds requested for fiscal year 2001 will be used to continue the feasibility phase and formulate alternatives. The preliminary estimated cost of the feasibility phase is $1,400,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost-sharing is as follows:

Total Estimated Study Cost	$1,500,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	700,000
Feasibility Phase (Non-Federal)	700,000

The reconnaissance phase is scheduled for completion in July 2000. The feasibility study schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Clinton County, Great Chazy and Saranac River Basins	1,600,000	0	86,000	150,000	1,364,000

The study area includes the Great Chazy and the Saranac Rivers and their tributaries located in Clinton County, New York, about 160 miles north of Albany, New York. The Great Chazy River Basin drains an approximate 300 square miles watershed, flowing easterly through Clinton County and empties into Lake Champlain near Coopervville, New York. The Saranac River Basin drains an approximate 608 square miles watershed, flowing easterly through Clinton County and empties into Lake Champlain near Plattsburgh, New York. Clinton County has a population of about 86,000 people and is comprised of natural undisturbed woodlands, agricultural farmlands, mountain ranges; 46 percent of the county is included in the Adirondock State Park boundaries.

Frequent flooding occurs along both rivers and their tributaries in Clinton County. The rivers and their tributaries carry large amounts of sediment that are deposited in the lower reaches at river bends and bridges which leads to flooding during high flow events. Ice jam flooding also occurs during winter causing backwater flood conditions in surrounding areas. Major damage centers include Plattsburgh and Champlain, New York. Major floods occurred in November 1996 and January 1998. Clinton County sustained some $10 million in flood damage in November 1996 including road damage and was declared a Federal Disaster Area. In Champlain, New York, water levels caused first floor and basement flooding, reaching a height of three feet above many first floor building elevations. Clinton County flooding in January 1998 resulted in the loss of nine lives and the County was again declared a Federal Disaster area. In addition, thousands of people had to be sheltered due to an electrical power outage that lasted 23 days.

The reconnaissance study is assessing the flooding problems and potential solutions in the area as well as opportunities for environmental restoration, particularly along streambanks. In a letter dated May 27, 1997 the New York State Department of Environmental Conservation expressed interest in becoming the non-Federal sponsor and its willingness to share equally in the feasibility phase cost that may follow the reconnaissance study. The feasibility cost sharing agreement is scheduled to be executed in March 2001.

Fiscal Year 2000 funds are being used to initiate and complete the reconnaissance phase of the study at full Federal expense. If the Section 905 (b) analysis is certified to be in accord with policy, the funds requested for Fiscal Year 2001 will be used to initiate the feasibility phase of the study, including data collection, economic, hydraulic, and environmental analyses necessary to establish baseline conditions and formulate alternatives. The preliminary estimated cost of the feasibility phase is $3,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$3,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,500,000
Feasibility Phase (Non-Federal)	1,500,000

The reconnaissance phase is scheduled for completion in March 2001. The feasibility study schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Lindenhurst	800,000	174,000	0	100,000	526,000

The Village of Lindenhurst is located on the south shore of Long Island in Suffolk County, New York, and encompasses a total area of 3.8 square miles. The Village has a large shoreline along the Great South Bay and an extensive canal system. The bay is separated from the Atlantic Ocean by a barrier island that is divided by coastal inlets, the nearest of which is Fire Island Inlet.

Frequent tidal flooding occurs on the shoreline of the Village of Lindenhurst, where hundreds of residences are affected by moderate tidal storms. These structures experience basement and main floor flooding. During these events, submerged streets isolate homeowners and restrict access to emergency vehicles. The December 1992 northeaster caused some $10 million in damages to beaches, town properties and homes in Babylon and Lindenhurst. Tides were approximately 4 to 6 feet above normal during this storm.

The feasibility study will assess the flooding problems in the area and determine Federal interest. The New York State Department of Environmental Conservation is the potential non-Federal sponsor and understands the cost-sharing requirements for the feasibility phase of the study. The feasibility cost-sharing agreement is scheduled to be executed in August 2000.

If the reconnaissance report is certified to be in accord with policy, work in Fiscal Year 2000 will proceed with prior appropriated funds to initiate the feasibility phase of the study, including data collection, economic, hydraulic, and environmental analyses necessary to establish baseline conditions and formulate alternatives. The funds requested in Fiscal Year 2001 will be used to continue the feasibility phase of the study, including detailed alternative development, alternative plan analyses, concept and detailed designs, environmental impact analysis, and public coordination. The preliminary estimated cost of the feasibility phase is $1,400,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind service. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,500,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	700,000
Feasibility Phase (Non-Federal)	700,000

The reconnaissance phase is scheduled for completion in August 2000. The feasibility study schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
PENNSYLVANIA					
Bloomsburg	1,152,000	276,000	258,000	441,000	177,000

The Town of Bloomsburg is located about 50 miles southwest of Wilkes-Barre, Pennsylvania, in Columbia County and about 20 miles upstream of the Susquehanna's confluence with the West Branch Susquehanna River at Sunbury. The drainage area of the Susquehanna River at Bloomsburg is approximately 10,940 square miles including 336 square miles contiguous to Fishing Creek. Bloomsburg is subject to frequent flooding from both Fishing Creek and the Susquehanna River. Severe flooding has occurred in the past with the floods of 1936, 1972 and 1975 causing the most damage. The greatest flood of record in 1972 (Tropical Storm Agnes) was a 400-year event; a recurrence of a flood of this magnitude today would cause an estimated $60 million in damage to several large industries, hundreds of residences, and infrastructure within the town. Significant flood damages have occurred as recently as January 1996. The town lies within the increased flooding area downstream of the Wyoming Valley Levee Raising Project and is scheduled to receive funds under the mitigation plan of that project. However, these funds are limited and will not provide substantial flood protection for the community.

The non-Federal sponsors are the Town of Bloomsburg and Commonwealth of Pennsylvania. The Town of Bloomsburg provided a letter of support dated 18 May 1998 which outlines their understanding of the study cost-sharing requirements for the feasibility study and expressed a willingness to cost-share their portions of the feasibility study. The feasibility cost-sharing agreement was executed in June 1999.

Fiscal Year 2000 funds are being used to continue the feasibility study, including formulation and evaluation, environmental impact analyses and public coordination. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase, including detailed alternative development, alternative plan analyses, concept and detailed designs, environmental impact analysis, and public coordination. The estimated cost of the feasibility phase is $2,104,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$2,204,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,052,000
Feasibility Phase (Non-Federal)	1,052,000

The reconnaissance phase was completed in June 1999. The feasibility study schedule is being determined.

Subtotal Flood Damage Prevention Studies - Continuing	22,177,000	4,667,000	2,309,000	3,354,000	11,847,000

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
2. SURVEYS - CONTINUING					
c. Shoreline Protection Studies: The amount of $1,887,000 is requested in Fiscal Year 2001 to continue four shoreline protection studies and complete two shoreline protection studies.					
NEW JERSEY					
Raritan Bay and Sandy Hook Bay, Leonardo	1,375,000	100,000	193,000	550,000	532,000

The study area is located along the Raritan Bay and Sandy Hook Bay in Leonardo, Monmouth County, New Jersey. The area is bounded by the Raritan Bay to the north, Wagner Creek to the east, the US Naval Weapons Pier to the west, and the New Jersey State Route 36 to the south.

The Leonardo area is subject to tidal flooding from coastal storms and storm surges causing shoreline erosion and recession that affect the beach front. The downtown business and residential area, which surrounds a small harbor, is subject to significant main floor flooding from storm surges. In addition, these coastal storms and storm surges caused the recession of a short beach-front, which has eliminated any protection afforded to the area and is exposing existing coastal protection measures and drainage works to further damage. The purpose of the study for the Raritan Bay and Sandy Hook Bay Leonardo, New Jersey, area is to assess the feasibility of providing hurricane and storm damage protection measures.

The reconnaissance study for the overall Raritan Bay and Sandy Hook Bay Study, completed in February 1994, recommended that separate interim feasibility studies be conducted including the Leonardo area. Potential hurricane and storm damage protection measures being investigated include levees, tide gates, dunes, and beach fill. A supplemental feasibility cost-sharing agreement for Leonardo was executed in April 1999 with the New Jersey Department of Environmental Protection.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study, including data gathering and analysis, preliminary alternative solution screening efforts, projections of without project conditions, and environmental interagency coordination. Fiscal Year 2001 funds will be used to continue feasibility phase of the study, including preliminary design of alternatives, environmental assessments, public involvement and local coordination. The cost of the feasibility phase is $2,750,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$2,750,000
Reconnaissance Phase (Federal)	0
Feasibility Phase (Federal)	1,375,000
Feasibility Phase (Non-Federal)	1,375,000

The overall reconnaissance phase was completed in February 1994. The supplemental feasibility cost-sharing agreement for Leonardo was executed in April 1999. The interim feasibility study schedule for Leonardo is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Raritan Bay and Sandy Hook Bay, Union Beach	1,775,000	1,209,000	275,000	291,000	0

The study area is located along the Raritan Bay and Sandy Hook Bay in Union Beach, Monmouth County, New Jersey. This area is 1.8 square miles bounded by Raritan Bay to the north, East Creek to the east, the Township of Hazlet to the south, and Chingarora Creek to the west. The Flat Creek and East Creek flow through Union Beach subjecting the Borough to flooding during storms.

The Union Beach community is at a low elevation and experiences flooding of its densely developed residential, commercial and industrial structures from coastal storms, storm surges, and tidal flooding from the creeks and the bay shore. The recession of the beach-front has eliminated any protection afforded to the area and is exposing existing coastal protection measures and drainage works to further damage. Tidal surges often block existing storm drainage system compounding the flooding. The purpose of the study is to assess the feasibility of providing hurricane and storm damage protection measures. The reconnaissance study for the overall Raritan Bay and Sandy Hook Bay Study, completed in February 1994, recommended that separate interim feasibility studies be conducted including the Union Beach area. Potential hurricane and storm damage protection measures being investigated include levees, tide gates, dunes, and beach fill. The supplemental feasibility cost-sharing agreement for Union Beach was executed on 25 April 1997 with the New Jersey Department of Environmental Protection.

Fiscal Year 2000 funds are be used to continue the feasibility phase, including formulating and optimizing the selected plan, and initial preparation of draft feasibility report and draft Environmental Impact Statement. The funds requested for Fiscal Year 2001 will be used to complete the feasibility report. The cost of the feasibility phase is $3,550,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$3,550,000
Reconnaissance Phase (Federal)	0
Feasibility Phase (Federal)	1,775,000
Feasibility Phase (Non-Federal)	1,775,000

The overall reconnaissance phase was completed in February 1994. The supplemental feasibility cost-sharing agreement for Union Beach was executed on 25 April 1997. The interim feasibility study for Union Beach is scheduled for completion in May 2001.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
NEW YORK					
Jamaica Bay, Marine Park and Plumb Beach, Arverne	1,000,000	0	0	50,000	950,000

The Arverne study area is located on the Rockaway peninsula in Queens County, New York. It is bounded by the Atlantic Ocean to the south, Jamaica Bay to the north and is about 15 miles southeast of the Battery New York City.

The low ground elevation levels in Arverne subjects this area's 800 residential, commercial and public structures to damages from storm events and associated storm surges. The December 1992 northeaster flooded many of area's residences and street flooding damaged many private vehicles. Commercial business structures were also damaged forcing many businesses to close temporarily. Furthermore, the street flooding prevented emergency vehicles from reaching the area. The purpose of the feasibility study will be to determine the feasibility of providing hurricane and storm damage protection measures to Arverne.

The reconnaissance study for the overall Jamaica Bay, Marine Park and Plumb study, completed January 1994, recommended that separate interim studies be conducted including the Arverne area. Potential protection measures currently projected to cost about $8,500,000, include levees, floodwalls and other appurtenant works. The New York State Department of Environmental Conservation, by letter dated 19 November 1996, has indicated its willingness to cost-share the feasibility phase of the study. The feasibility cost-sharing agreement is scheduled to be executed in June 2001.

The funds requested for Fiscal Year 2001 will be used to initiate the feasibility phase of the study. The estimated cost of the feasibility phase is $2,000,000, which is cost shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total estimated study cost	$2,000,000
Reconnaissance Phase (Federal)	0
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

The reconnaissance phase is scheduled to be completed in June 2001. The interim feasibility study schedule for Arverne is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Jamaica Bay, Marine Park and Plumb Beach	1,850,000	1,411,000	143,000	296,000	0

Jamaica Bay is located in the Boroughs of Queens and Brooklyn in New York City and is about 8 miles long and 4 miles wide, covers 26 square miles, and opens to the Atlantic Ocean via Rockaway Inlet. Marine Park and Plumb Beach are located on the north side of Rockaway Inlet.

The study area constitutes a vital link in this region's coastal ecology. Over 300 species of birds utilize the bay, which represents a primary junction along the Atlantic Flyway, a major migratory route for east coast waterfowl. Various parts of the bay have been declared critical or important habitat for Federally protected species including piping plovers, sea turtles, and short nose sturgeons. The bay also serves as a spawning and nursery habitat for many species of anadromous and estuarine fish, including the commercially and recreationally important striped bass and bluefish. Jamaica Bay has undergone habitat degradation related to past and present Federal dredging and filling activities. Impacts to Jamaica Bay include extensive wetland/aquatic habitat losses, shoreline and bathymetry alterations and water quality degradation from adverse hydrological changes. The combination of degraded flushing and hydrology, and loss of pristine habitat has resulted in a decline in habitat diversity within the region. As a result, Jamaica Bay has been identified for significant environmental restoration.

The reconnaissance study for the interim environmental initiatives was completed in January 1994. Potential plans and goals to be considered in subsequent phases for ecosystem restoration at Jamaica Bay including wetland restoration for aquatic and terrestrial habitats, circulation and flushing pattern alterations and bay recontouring. Project costs will be refined in the feasibility phase and will vary depending upon site specific restoration measures.

The purpose of this interim feasibility study of the overall Jamaica Bay, Marine Park and Plumb Beach study area, is to determine the feasibility of environmental restoration projects to improve the native habitat and circulation patterns in Jamaica Bay. A Feasibility Cost Sharing Agreement for the environmental restoration portion of the Jamaica Bay feasibility phase effort was executed with the New York City Department of Environmental Protection on 16 February 1996.

Fiscal Year 2000 funds are being used to continue this interim feasibility phase of the study, including final data collection efforts, public involvement, development of restoration measures for selected sites, environmental assessments, preparation of cost estimates, preliminary report preparation activities, public involvement, and interagency scoping initiatives. Fiscal Year 2001 funds will be used to complete the feasibility phase of the study, including final site design, report preparation, public involvement, the development of agreed upon specific restoration measures for selected sites, environmental impact analyses and the preparation of detailed implementation cost and

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Jamaica Bay, Marine Park and Plumb Beach					

agency and public involvement. The estimated cost of the feasibility phase is $2,700,000, which is cost shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total estimated study cost	$3,200,000
Reconnaissance Phase (Federal)	500,000
Feasibility Phase (Federal)	1,350,000
Feasibility Phase (Non-Federal)	1,350,000

The reconnaissance phase for the interim environmental initiatives was completed in February 1996. The interim environmental initiatives feasibility study for Jamaica Bay is scheduled for completion in May 2001.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
North Shore of Long Island, Bayville	1,825,000	616,000	43,000	300,000	866,000

The study area is located on the North Shore of Long Island, New York, extending west from Orient Point on the north fork of Long Island in Suffolk County to the East River in Queens County in New York City, a distance of approximately 100 miles. The Village of Bayville is located in northeastern Nassau County on a narrow strip of land connecting the Centre Island peninsula and Long Island. Bayville faces Long Island Sound to the north and Oyster Bay to the south. Several communities, especially the Village of Bayville, have incurred major losses due to coastal erosion and flooding.

Hurricanes, tropical storms, and northeasters have frequently affected the study area. In December 1992, a northeaster inundated hundreds of residential and business properties with damages estimated at $12,000,000. Approximately 300 families were evacuated, and sections of Bayville were impassable for days. The potential plan of improvement outlined in the reconnaissance report consists of a combination buried seawall and setback flood wall, with appropriate interior drainage works to protect the Village of Bayville from Long Island Sound and Oyster Bay waters. The cost for this potential plan was estimated at approximately $30 million. The study will investigate the feasibility of improvements at Bayville to provide storm damage protection. The New York State Department of Environmental Conservation has indicated its support for the study by letter dated 20 October 1995. The feasibility cost-sharing agreement is scheduled to be executed in April 2000.

Fiscal Year 2000 funds are being used to initiate the feasibility phase of the study, including surveys and data gathering. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study, including data collection, economic, hydraulic, and environmental analyses necessary to establish baseline conditions and formulate alternatives. The estimated cost of the feasibility phase is $2,600,000 to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost-sharing is as follows:

Total Estimated Study Cost	$3,125,000
Reconnaissance Phase (Federal)	525,000
Feasibility Phase (Federal)	1,300,000
Feasibility Phase (Non-Federal)	1,300,000

The reconnaissance phase is scheduled for completion in April 2000. The feasibility study schedule is being determined.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
South Shore of Staten Island	2,000,000	965,000	301,000	400,000	334,000

The study area is located along the south shore of Staten Island, extending approximately 13 miles along the lower New York Bay and Raritan Bay from Fort Wadsworth to Tottenville. The area has a long history of storm damage. Recently, the shoreline experienced erosion and storm damage from the Northeaster of December 1992 and the March 1993 storm. These storms caused evacuations in several communities, damage to 40 structures from flooding, and loss of 30 structures from erosion. The December 1992 storm caused damages estimated at $5,000,000. The loss of beach front now leaves the area increasingly vulnerable to severe damages, even from moderate storms. The purpose of this study is to identify possible solutions to hurricane and storm damages in the area including alternatives consisting of seawalls, dunes, levees, beachfill, and necessary interior drainage measures, with pump stations. A reconnaissance study report was completed in June 1995. A potential plan of improvement outlined in this report consists of a design beach fill for the community of Annadale, and a combination beach fill, dune, levee, floodwall and pump stations for the area from Oakwood Beach and to Fort Wadsworth at an estimated cost of $51,000,000. The feasibility cost-sharing agreement was executed in May 1999 with the New York State Department of Environmental Conservation.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study, including continuation of data gathering, surveys, screening of protection alternatives, and initiation of environmental assessment scoping. Fiscal Year 2001 funds will be used to continue the feasibility phase of the study, including development of preliminary alternatives, environmental assessments, economic benefit analyses and local coordination. The estimated cost of the feasibility phase is $3,000,000, which is to be cost-shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$3,500,000
Reconnaissance Phase (Federal)	500,000
Feasibility Phase (Federal)	1,500,000
Feasibility Phase (Non-Federal)	1,500,000

The reconnaissance phase was completed in May 1999. The feasibility study schedule is being determined.

Subtotal Shoreline Protection Studies - Continuing	9,825,000	4,301,000	955,000	1,887,000	2,682,000

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
2. SURVEYS - CONTINUING					

d. Special Studies: The amount of $5,818,000 is requested in Fiscal Year 2001 to continue 17 special studies and complete four special studies.

CONNECTICUT

Coastal Connecticut Ecosystem Restoration	357,000	222,000	20,000	80,000	35,000

The study area encompasses all coastal shoreline and associated waters within the State of Connecticut, including the designated national estuary of Long Island Sound. Salt marshes provide significant economic and environmental benefits for the region by providing flood storage, filtering pollutants, and supporting fisheries. Salt marshes are among the most productive biological systems in the world. In Connecticut, salt marsh production, which enriches the surrounding estuarine aquatic food web, ranges from 3-7 tons per acre per year. Long Island Sound's fish and shellfish production, including winter flounder, which is currently in decline, is directly related to salt marsh production. Over the past century, many of Long Island Sound's salt marshes have been lost or degraded by construction of transportation facilities and other coastal development. The Corps of Engineers has constructed 30 navigation and 20 beach erosion control projects in Connecticut. Several of these projects involved the disposal of dredged material in coastal wetlands or salt marshes such as the New Haven Harbor project. Dredged material was disposed of in several locations filling productive salt marsh and reducing aquatic productivity. Reconnaissance studies will evaluate these and other sites to determine measures to restore the ecological productivity of the Connecticut coastline. This study is consistent with the objectives of Coastal America and is supported by the Connecticut Departments of Environmental Protection and Transportation and numerous Federal agencies, as evidenced by their signing an MOU to restore tidally constricted embayments along the Connecticut coast. The Connecticut Department of Environmental Protection (CTDEP) is interested in this study and is aware of the cost sharing requirements for the feasibility phase. CTDEP has previously cost shared Planning Assistance studies to investigate wetland restorations at specific sites. The feasibility cost-sharing agreement is scheduled for execution in March 2000.

Funds available in Fiscal Year 2000 are being used to complete the reconnaissance phase and, if the reconnaissance study is found to be in accord with policy, continue into the feasibility phase. Studies will identify areas of lost or degraded salt marshes and evaluate measures to restore the natural tidal exchange and ecological productivity of these areas. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $500,000, which is to be shared on a 50-50 percent basis by the Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$607,000
Reconnaissance Phase (Federal)	107,000
Feasibility Phase (Federal)	250,000
Feasibility Phase (Non-Federal)	250,000

The reconnaissance phase is scheduled for completion in March 2000. The feasibility study schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
MARYLAND					
Anacostia River Federal Facilities Impact Assessment, MD & DC	3,000,000	1,565,000	602,000	500,000	333,000

The Anacostia River watershed extends through portions of Maryland and the District of Columbia. The watershed is 170 square miles in size and is highly urbanized. As a result of the Federal Government's development in the Washington region, substantial lands in the Anacostia watershed are in Federal ownership. More than 15 Federal facilities, owned by numerous agencies, encompass about 25 square miles or 15 percent of the Anacostia watershed. Consequently, the Federal Government has the opportunity to play a major role in regional environmental initiatives. In Section 114(d) of the Water Resources Development Act of 1992, Congress directed the Secretary of the Army to carry out a comprehensive assessment of the adverse watershed impacts from Federal facilities and to review the current plans for reducing such adverse impacts in the Anacostia basin. This assessment will address the potential for several types of environmental restoration, including terrestrial habitat restoration, aquatic habitat restoration, creation of wetland habitat, and sediment/stormwater control, at the specific Federal facilities. It is expected that these projects would be creative, cost-effective measures that would be in consonance with other Federal, state, and local activities underway in the watershed. The authorizing legislation authorizes appropriations up to $3,000,000 to carry out a feasibility study to identify and recommend measures for implementation to eliminate adverse impacts identified in the assessment report.

There is a strong ongoing program in the Anacostia River watershed to restore fish and wildlife habitat, promote good environmental practices, and implement many environmental restoration projects. This program was initiated by a regional agreement in 1987 and is led by the multi-jurisdictional Anacostia Watershed Restoration Committee. Support for this study extends across local, state, and regional agencies, as well as at the national level. The initial assessment report was completed in August 1997 and identified the priority problem areas and potential solutions on Federal facilities in the watershed.

Fiscal Year 2000 funds are being used to complete the Paint Branch and Beaverdam Creek detailed sub-watershed analysis and begin the Lower Anacostia watershed analysis. The funds requested for Fiscal Year 2001 will be used to complete the sub-watershed analysis for the Lower Anacostia basin and continue development of the watershed plan for all the facilities in the upper and lower basins. The interim sub-watershed analysis for Paint Branch and Beaverdam Creek is scheduled for completion in May 2000 and the final analyses for the other priority sub-watersheds schedules are being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Eastern Shore, MD	1,200,000	100,000	86,000	400,000	614,000

The Eastern Shore of Maryland includes the counties of Cecil, Kent, Queen Annes, Caroline, Talbot, Dorchester, Somerset, Wicomico, and Worcester, Maryland. The Eastern Shore also includes 7 major watersheds; Sassafras River, Chester River, Eastern Bay, Choptank River, Nanticoke River, Wicomico River, and Pocomoke River. During a March 15, 1999 meeting between the Corps of Engineers, and the Maryland Departments of the Environment and Natural Resources, the focus of the study was changed from the Pocomoke river, as reported last year, to the Nanticoke and Choptank watersheds. Both Maryland Departments requested this change since similar study efforts were ongoing in the Pocomoke watershed.

The Nanticoke River is approximately 50 miles in length, has a drainage area of 827 square miles within Susex and Kent counties Delaware, and Wicomico, Dorchester, and Caroline Counties in Maryland, emptying into the Chesapeake Bay at Tangier Sound. The Nanticoke and its tributaries were once a major spawning area for shad and rockfish. The river is navigable to a depth of 12 feet from the Bay to Seaford, Delaware.

The Choptank River is approximately 70 miles in length, has a drainage area of 961 square miles within Caroline, Queen Annes, Dorchester, and Talbot Counties in Maryland, and Kent County in Delaware, emptying into the Chesapeake Bay. The river is navigable to a depth of 8 feet from the Bay to Greensboro, Maryland.

During the past two centuries, both watersheds have suffered significant degradation due to development; loss of forest and riparian habitat; and wetlands loss through drainage for agriculture. In recent years, high levels of nutrient runoff from poultry farms and other agricultural uses have caused further degradation to the environment. Other areas of concern include sedimentation, high volume of flow, and groundwater contamination. The study will investigate these problems, including agricultural drainage ditches, and if in the Federal interest recommend potential solutions. Potential sponsors for the feasibility phase of the study include the States of Maryland and Delaware and interested counties. These entities understand the cost-sharing requirements of the feasibility study and are scheduled to execute the feasibility cost-sharing agreement in July 2000.

If the reconnaissance study is certified to be in accord with policy, the Fiscal Year 2000 funds will be used to continue the feasibility phase of the study, including technical activities, environmental impact analysis, and public involvement. The funds requested for FY 2001 will be used to continue the feasibility phase, including alternative analyses, concept and detailed designs, environmental impact analyses, and public involvement. The preliminary estimated cost of the feasibility phase is $2,200,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$2,300,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,100,000
Feasibility Phase (Non-Federal)	1,100,000

The reconnaissance phase is scheduled for completion in July 2000. The feasibility study schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Lower Potomac Estuary Watershed, Mattawoman Watershed	460,000	175,000	129,000	100,000	56,000

The Lower Potomac Estuary is 150 miles in length, has a drainage area of about 1,850 square miles and empties into the Chesapeake Bay. There are several navigation projects on the lower Potomac River. The lower portion of the Potomac River watershed in Virginia and Maryland is stressed by increasing population and development that is degrading the environment. In addition, the construction of the Federal navigation projects contributed to the degradation and loss of the region's fish and wildlife habitats. The reconnaissance study focused on navigation, fish and wildlife restoration and creation, flood damage reduction and improvement of recreational opportunities. Completed in July 1997, the reconnaissance study recommended conducting feasibility studies in several watersheds in the study area for potential environmental restoration projects.

The Mattawoman watershed in Maryland, is the first feasibility study to be conducted from the Lower Potomac Estuary Watershed reconnaissance effort. The feasibility study will evaluate environmental restoration needs and opportunities that Federal, State and local entities can use to plan potential projects to protect or minimize degradation to existing fish and wildlife habitats. The potential non-Federal sponsors for this feasibility study are Charles and Prince George's counties, Maryland. These entities understand the cost-sharing requirements of the feasibility study and are scheduled to execute the feasibility cost-sharing agreement in March 2000.

Fiscal Year 2000 funds are being used to continue the feasibility study, including technical activities, environmental impact analyses, and public involvement. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study including alternative analyses, development of restoration and watershed management plan, public involvement and environmental impact analyses. The preliminary estimated cost of the feasibility phase is $600,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$760,000
Reconnaissance Phase (Federal)	160,000
Feasibility Phase (Federal)	300,000
Feasibility Phase (Non-Federal)	300,000

The reconnaissance phase for the Mattawoman Watershed, Maryland area is scheduled for completion in March 2000. The feasibility study schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Lower Potomac Estuary Watershed, St. Mary's Watershed	650,000	132,000	0	250,000	268,000

The Lower Potomac Estuary is 150 miles in length, has a drainage area of about 1,850 square miles and empties into the Chesapeake Bay. There are several navigation projects on the lower Potomac River. The lower portion of the Potomac River watershed in Virginia and Maryland is stressed by increasing population and development growth that is degrading the environment. In addition, the construction of the Federal navigation projects contributed to the degradation and loss of the region's fish and wildlife habitats. The reconnaissance study focused on navigation, fish and wildlife restoration and creation, flood damage reduction and improvement of recreational opportunities. Completed in July 1997, the reconnaissance study recommended conducting feasibility studies in several watersheds throughout the study area to evaluate potential environmental restoration projects.

St. Mary's watershed, Maryland, is the second feasibility study to be conducted from the Lower Potomac Estuary Watershed reconnaissance effort. The feasibility study will evaluate environmental restoration needs and opportunities that Federal, State and local entities can use to plan potential projects to protect or minimize degradation to existing fish and wildlife habitats. The potential non-Federal sponsors for this study include St. Mary's County, and the State of Maryland. These entities understand the cost-sharing requirements of the feasibility study and are scheduled to execute the feasibility cost-sharing agreement in July 2000. The Wicomico watershed was originally part of this feasibility study, however, the potential sponsor, Charles County, has requested that the Wicomico watershed feasibility study be deferred until the Mattawoman watershed feasibility study is completed.

Work in Fiscal Year 2000 for the feasibility study is proceeding with funds from prior appropriations, including technical activities, environmental impact analyses, and public involvement. The funds requested for Fiscal Year 2001 will be used to continue the feasibility study including alternative analyses, concept and detailed designs, public involvement and environmental impact analyses. The preliminary estimated cost of the feasibility phase is $1,200,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,250,000
Reconnaissance Phase (Federal)	50,000
Feasibility Phase (Federal)	600,000
Feasibility Phase (Non-Federal)	600,000

The reconnaissance phase for the St. Mary's watershed, Maryland area is scheduled for completion in July 2000. The St. Mary's watershed, Maryland, feasibility study schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
MASSACHUSETTS					
Blackstone River Watershed Restoration, MA and RI	1,627,000	783,000	105,000	310,000	429,000

The study area includes the entire Blackstone River Watershed, which originates in Worcester, Massachusetts and flows southward to the National Estuary of Narragansett Bay in Pawtucket, Rhode Island. The watershed is approximately 540 square miles and encompasses 30 cities and towns in south-central Massachusetts and northern Rhode Island. The Corps of Engineers has constructed one flood control reservoir and four local protection projects within this relatively small watershed to alleviate flooding in urban areas and protect major utilities and roadways. These projects consist of over 9 miles of channel improvements, dikes, floodwalls, tunnels and conduits which have decreased the value and diversity of fish habitat in the project areas and have altered the natural hydrologic regime of the watershed. The Blackstone River is also the largest single source of pollutants such as suspended solids, PCB's, metals and organics discharging into Narragansett Bay. One source of this pollution is the resuspension of contaminated sediments, which have collected behind existing impoundments along the river. The study will evaluate possible measures to correct the numerous problems of the Blackstone River Watershed and improve its overall resource value. A feasibility cost-sharing agreement was executed with the Massachusetts Executive Office of Environmental Affairs on 24 May 1999. Negotiations are continuing with the State of Rhode Island regarding their involvement in the feasibility study.

Fiscal Year 2000 funds are being used to continue the feasibility phase. Studies are evaluating measures to improve fish and wildlife habitat by regulating flows; restoring fish spawning habitat, wetlands, and waterfowl nesting areas (e.g. black duck, mallards and wood ducks); constructing fish passage facilities for the target Anadromous fish species (American shad and river herring) and remediating the resuspension of contaminated sediments. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase. The preliminary estimated cost of the feasibility phase is $2,400,000, which is to be shared on a 50-50 percent basis by the Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$2,827,000
Reconnaissance Phase (Federal)	427,000
Feasibility Phase (Federal)	1,200,000
Feasibility Phase (Non-Federal)	1,200,000

The reconnaissance phase was completed in May 1999. The feasibility study schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Somerset and Searsburg Dams, Deerfield River, MA and VT	382,000	82,000	0	100,000	200,000

The Deerfield River Watershed consists of approximately 664 square miles in southern Vermont and western Massachusetts. The Deerfield River originates in Stratton, Vermont flowing southerly to its confluence with the Connecticut River in the town of Greenfield, Massachusetts. The Deerfield River has some 45 separate impoundments in the watershed, 15 of which still generate power (8 in Massachusetts). Most of the dams are abandoned mill dams and are not in use; many are in disrepair. Historically, much of the Deerfield and its tributaries supported runs of several fish species. River impediments, primarily in the form of dams, block the migration of anadromous fish upstream to spawning areas and smolt movement to the ocean. Similarly, catadromous fish, which typically live in fresh water and spawn in the ocean, are not able to access their primary habitat as a result of these dams. The sectioning of the river has also impacted potamodromous fish, which are freshwater species that move to faster moving streams in the watershed to spawn. In addition, impounding the river causes the loss of spawning habitat for migrating fish (e.g., removal of pool-riffle pattern, elimination of in stream cover and riparian vegetation, and establishment of unsuitable flow regimes and water depths). The Massachusetts Executive Office of Environmental Affairs has expressed strong interest in this study and is aware of the cost sharing requirements for the feasibility phase. The feasibility cost sharing agreement is scheduled for execution in December 2000.

Work in Fiscal Year 2000 is being accomplished with prior appropriated funds to complete the reconnaissance phase. If the Section 905 (b) analysis is certified to be in accord with policy, the funds requested for Fiscal Year 2001 will be used to continue into the feasibility phase of the study and will examine restoration of degraded habitats at the following Massachusetts sites: Wiley & Russell Dam, Greenfield (Green River): Mill Street Dam, Greenfield (Green River); Town Swimming Pool Dam, Greenfield (Green River); Water Supply Dam, Greenfield (Green River); and the BBA Nonwovens Dam, Colrain (North River). The estimated cost of the feasibility study is $600,000, which is to be shared on a 50-50 percent basis by the Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$682,000
Reconnaissance Phase (Federal)	82,000
Feasibility Phase (Federal)	300,000
Feasibility Phase (Non-Federal)	300,000

The reconnaissance phase is scheduled for completion in December 2000. The feasibility study schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
NEW JERSEY					
New Jersey Intracoastal Waterway, Environmental Restoration	1,540,000	803,000	519,000	218,000	0

The 117 mile New Jersey section of the Intraacaostal Waterway start from the Manasquan River and ends in the Delaware Bay. It is a Federally maintained navigation channel used by commercial and recreational vessels. Maintenance dredging has been ongoing for several decades, accounting for the removal of many millions of cubic yards of dredged material. This material has been placed in upland and overboard disposal sites located in environmentally sensitive areas within the shallow bays, waterways, and wetlands along the New Jersey Intracoastal Waterway. Disposal of dredged material is becoming increasingly difficult as existing sites are filled to their capacity while more stringent areas have negatively impacted the local habitat, representing a considerable opportunity for ecosystem restoration. Existing and future dredging requirements also necessitate the re-evaluation of future dredging requirement of environmentally acceptable disposal options to ensure there is suitable capacity for future maintenance dredging. Further, dredged material often represents a valuable resource that could be utilized for a variety of beneficial uses such as habitat creation and erosion protection.

This study will identify opportunities for ecosystem restoration along the New Jersey Intracoastal Waterway while also investigating modifications to current dredging practices with an emphasis on techniques for the beneficial use of dredged material. Beneficial use options to be investigated include filling of anaerobic back-bay deep holes and wetland, upland, aquatic, and island habitat creation/restoration. The New Jersey Department of Environmental Protection executed the feasibility cost-sharing agreement in November 1998.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study, including investigation of ecosystem restoration alternatives, such as creation of wetland, upland, aquatic, and Island habitats for the beneficial use of dredged material. of the study. Fiscal Year 2001 funds will be used to complete the feasibility phase of the study, including investigation of ecosystem restoration alternatives, such as creation of wetland, upland, aquatic, and Island habitats for the beneficial use of dredged material. The estimated cost of the feasibility phase is $2,880,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimate Study Cost	$2,980,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,440,000
Feasibility Phase (Non-Federal)	1,440,000

The reconnaissance phase was completed in November 1998. The feasibility study schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
NEW YORK					
Flushing Bay and Creek	1,614,000	458,000	250,000	520,000	386,000

The project area is an embayment of the East River adjoining a portion of the northern coast of the Borough of Queens in New York City. An active navigation project exists in Flushing Bay and Creek since the 1870's. Past dredging activities have contributed to the degradation of the tidal wetlands. The existing Federal navigation project consists of a 15-foot channel into Flushing Bay and Creek and a 6-foot anchorage basin in the back bay. A 1,400-foot earthen dike, constructed in the 1960's, functions as a breakwater for the marina in the back bay. The earthen dike was deauthorized for Federal maintenance by Water Resources Development Act of 1992. The watershed is highly urbanized, however, continue development activities have further degraded the tidal wetlands that originally bounded Flushing Bay and Creek. The remaining wetlands are unsuitable for habitat. The purpose of this study is to determine the feasibility of providing environmental restoration to the Flushing Bay and Creek project vicinity. The New York City Department of Environmental Protection has also provided a letter of support for the feasibility study, dated 8 April 1996. The feasibility cost-sharing agreement is scheduled for execution in July 1999.

Fiscal Year 2000 funds are being used to continue the feasibility phase of study, including data collection, designing hydrodynamic models and environmental analyses. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility study is $2,728,000 to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost-sharing is as follows:

Total Estimated Study Cost	$2,978,000
Reconnaissance Phase (Federal)	250,000
Feasibility Phase (Federal)	1,364,000
Feasibility Phase (Non-Federal)	1,364,000

The reconnaissance phase was completed in September 1999. The feasibility study schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Hudson-Raritan Estuary NY & NJ	6,100,000	0	86,000	800,000	5,214,000

The study area includes the Port of New York and -New Jersey and includes the Ambrose and Anchorage Channel; New York and New Jersey Channels; Newark Bay Channel; Port Jersey Channel; Claremont Channel; Bay Ridge and Red Hook Channel; and Buttermilk Channel, the Upper and Lower New York Bays, the Raritan Bay and Jamaica Bay. The Port of New York-New Jersey is the largest port on the East coast with channels ranging depths of 35 to 45 feet. These waters and the surrounding shoreline, mudflats, intertidal marshes, and adjacent upland areas provide valuable habitat for fish, plant and wildlife resources, and accommodate migrating birds along the Atlantic flyway. The area is also utilized by a number of Federally threatened/endangered species including the shortnosed sturgeon, five species of sea turtles, peregrin falcons, piping plovers and rosette terns.

The reconnaissance study will assess the environmental problems and potential solutions in the Port. Restoration measures will assess hot spot clean-up of off channel contaminated sediments, contaminant reduction measures, creation of wetlands, water quality improvements, and alteration of hydrology/hydraulics to improve water movement and quality. Potential local sponsors for the feasibility phase of the study are the Port Authority of New York and New Jersey, the New York State Department of Environmental Conservation and the State of New Jersey Department of Environmental Protection, all of who understand the cost sharing requirements for the feasibility study. The feasibility cost sharing agreement is scheduled for execution in September 2001.

Fiscal Year 2000 funds are being used to initiate and complete the reconnaissance phase at full Federal expense. If the Section 905 (b) analysis is certified to be in accord with policy, the funds requested for Fiscal Year 2001 will be used to initiate the feasibility phase of the study, including data collection, economic, hydraulic, and environmental analyses necessary to establish baseline conditions and formulate alternatives. The preliminary estimated cost of the feasibility study is $12,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost-sharing is as follows:

Total Estimated Study Cost	12,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	6,000,000
Feasibility Phase (Non-Federal)	6,000,000

The reconnaissance phase is scheduled for completion in September 2001. The feasibility study schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Hudson River, Hudson, NY	1,500,000	0	86,000	120,000	1,294,000

The Hudson River channel is an authorized Federal navigation channel from New York City to Waterford, New York. The City Hudson, New York, is located approximately 35 miles south of Albany.

Due to insufficient channel depth ships transporting materials and products cannot enter docks in Hudson, New York, to unload goods necessitating the use of barges. The reconnaissance study will assess the navigation problems and potential solutions in the area as well as opportunities for environmental restoration, particularly in the wetlands. Local interests and industry have expressed a strong desire for navigation improvements for this reach of the Hudson River. The New York State Department of Environmental Conservation and the City of Hudson are the potential non-Federal sponsors who understands the cost sharing requirements for the feasibility phase of the study. The feasibility cost sharing agreement is scheduled for execution in February 2001.

Fiscal Year 2000 funds are being used to initiate and complete the reconnaissance phase at full Federal expense. If the Section 905 (b) analysis is certified to be in accord with policy, the funds requested for Fiscal Year 2001 will be used to initiate the feasibility phase of the study, including data collection, economic, hydraulic, and environmental analyses necessary to establish baseline conditions and formulate alternatives. The preliminary estimated cost of the feasibility phase is $2,800,000 to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost-sharing is as follows:

Total Estimated Study Cost	2,900,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,400,000
Feasibility Phase (Non-Federal)	1,400,000

The reconnaissance phase is scheduled for completion in February 2001. The feasibility study schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Saw Mill River Basin	800,000	100,000	50,000	50,000	600,000

The Saw Mill River Basin is located in the southwestern part of Westchester County, New York. The drainage area of the basin is approximately 26.5 square miles. The Saw Mill River begins in the town of New Castle and flows in a southwesterly direction passing through the City of Yonkers to the Hudson River.

Federal flood control projects have been completed along several sections of the Saw Mill River at Chappaqua, Ardsley, Nepera Park, and Yonkers, New York. Construction of the flood control projects has removed the natural material in the channel bed with varying riffles and pools and replaced it with a relatively uniform bottom lined with rock and concrete mat. This has changed the aquatic resources and habitat ecology. Erosion of the channel banks has resulted and many trees immediately along the improved channel were removed along with herbaceous vegetation. Additional vegetation would result in significant habitat improvement.

A favorable reconnaissance report, completed in November 1999, indicates Federal interest in ecosystem restoration throughout the basin. The feasibility study will consider measures such as reestablishment and creation of wetlands and aquatic habitat, removal of barriers to fish migration and streambank erosion control. The potential sponsor for the feasibility study is the New York State Department of Environmental Conservation, who fully understands the cost sharing requirements for the feasibility phase of the study. The feasibility cost sharing agreement is schedule to be executed in May 2000.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study, including data collection, economic, hydraulic, and environmental analyses necessary to establish baseline conditions. Funds requested for fiscal year 2001 will be used to continue the feasibility phase and formulate alternatives. The preliminary estimated cost of the feasibility study is $1,400,000 to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost-sharing is as follows:

Total Estimated Study Cost	$1,500,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	700,000
Feasibility Phase (Non-Federal)	700,000

The reconnaissance phase is scheduled for completion in May 2000. The feasibility study schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
South Shore of Long Island	2,150,000	182,000	43,000	90,000	1,835,000

The study area is the entire south shore of Long Island consisting of the embayment (back bay) areas between the Long Island mainland and its smaller barrier islands. The embayment areas, comprised of an area of approximately 155 square miles, are a critical ecosystem of salt marshes and waterways which provide habitat and spawning areas for a wide variety of species including Federally endangered shorebirds and sea turtles. The back bay system also provides substantial commercial value shellfish and fish resources. Within the northeastern United States, at least 50 percent of finfish either directly or indirectly utilize and benefit from estuarine wetlands and back bays. Generally, a loss of wetlands has contributed to a declining finfish population in the northeast.

This study will examine the past impacts of Corps projects on these important ecosystems, habitats and water quality. Impacts that may have affected the back bay ecosystem include the loss of wetlands and associated habitats that support the fish and wildlife resources of the back bay areas in addition to the alteration of tidal patterns and the degradation of water quality, which adversely affect the biological productivity of the surrounding area. Hundreds of acres have likely been adversely impacted due to actions associated with existing Federal navigation projects and the indirect usage and development related to them. A reconnaissance report was completed in June 1997. The report recommended further studies, including salt marsh restoration; seabird/shorebird habitat restoration; shellfish restoration; shoreline protection; submerged aquatic vegetation restoration; and estuarine pond restoration. The New York State Department of Environmental Conservation and Department of State, Suffolk County and the Town of Brookhaven strongly support this study and have indicated their willingness to execute a feasibility cost sharing agreement. The feasibility cost sharing agreement is scheduled for execution in July 2000.

Fiscal Year 2000 funds are being used to initiate the feasibility phase of the study, including plan formulation and data collection activities. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study, including habitat and wetlands evaluation analyses; preliminary site selection and alternative solutions. The estimated cost of the feasibility phase is $4,000,000, which is cost shared on a 50-50 percent basis by Federal and non-Federal sponsor. Up to one-half the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$4,150,000
Reconnaissance Phase (Federal)	150,000
Feasibility Phase (Federal)	2,000,000
Feasibility Phase (Non-Federal)	2,000,000

The reconnaissance phase is scheduled for completion in July 2000. The feasibility study schedule is being determined.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Upper Delaware River Watershed	1,300,000	50,000	0	776,000	474,000

The study area is located in southeastern New York, roughly 45 miles southwest of Albany, New York and drains about 2,360 square miles in New York State. The study area encompasses the main stem of the Delaware River and four major sub-basins: the East and West Branches of the Delaware River, the Neversink River, and the Mongaup River. The area includes portions of Sullivan, Delaware, Greene, Ulster, Orange, Broom, Chenango, and Schoharie Counties, including parts of the Catskill Mountains. The only existing Federal project in the watershed is an earthen levee and ponding area in the Village of East Branch, New York, that was completed in 1972.

The feasibility phase of the study will evaluate ecosystem restoration efforts, flood protection measures, including structural and non-structural solutions, flood plain management techniques, and other purposes such as streambank erosion control, water quality management, flow management, stream corridor management, and geographic information system (GIS) modeling. A Section 905 (b) analysis was completed in July 1997.

The Upper Delaware River Watershed in New York State is home to world famous trout fisheries. Ecosystem degradation has destroyed fish and wildlife habitats for some of the fisheries in the watershed from increased turbidity, streambank erosion, channel migration, flooding, and flood recovery efforts. The watershed also serves as the main source of potable water for the Greater New York City area. It provides about 700 million gallons per day from three reservoirs to nearly 9 million residents.

In addition, the January 19-20, 1996 and November 8-9, 1996 storms caused major flooding in the area with extensive damage. These storm events both resulted in a Federal disaster declaration. The January storm caused flooding in Stamford, New York, which damaged about 30 structures, and several roads and bridges at six locations estimated at $375,000. At Delhi, New York, flooding damaged over 40 structures with significant damage to roads, bridges, and retaining structures estimated at $1.8 million. The Town of Middletown, New York, sustained damage to over 800 residences and commercial structures. In Sullivan County, New York, damages to roads, bridges and culverts exceeded $5 million, and damages to about 400 homes, trailers and businesses, exceeded $2.5 million. Major flooding affected Delaware and Sullivan Counties again in June and July 1998. Local interests have expressed support for the feasibility study and a willingness to cost-share this effort. Potential sponsors include: the New York State Department of Environmental Conservation, New York City Department of Environmental Protection, and Delaware River Basin Commission. Each entity understands the cost-sharing requirements for the feasibility phase of the study. The feasibility cost-sharing agreement is scheduled for execution in July 2000.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

Upper Delaware River Watershed

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study, including engineering, economic, cultural, environmental and real estate investigations. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study, including existing and without-project conditions assessments and problem identification efforts. The preliminary estimated cost of the feasibility phase is $2,400,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in the form of in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$2,500,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	$1,200,000
Feasibility Phase (Non-Federal)	1,200,000

The reconnaissance phase is scheduled for completion in July 2000. The feasibility study schedule is being determined.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
RHODE ISLAND					
Rhode Island Ecosystem Restoration	1,200,000	200,000	86,000	191,000	723,000

The study area encompasses all coastal and riverine areas within the Pawcatuck, Pawtuxet, Moshassuck, Ten Mile and Woonasquatucket River Watersheds; and along the western shoreline of Narragansett Bay in Rhode Island. The biologically diverse ecosystems created by the many natural salt marshes and wetlands in the study area have historically provided exceptionally productive fish and wildlife habitat. Salt marshes and wetlands provide significant economic and environmental benefits for the region by providing flood storage, filtering pollutants, supporting commercial fisheries, recreational fishing and tourism. Over the past century, many of these natural salt marshes, eel grass beds and wetlands have been lost or degraded by development activities in the coastal and riverine floodplains and from the disposal of dredged material. The Corps of Engineers has constructed 8 navigation, 1 hurricane barrier and 2 shore and bank protection projects in the study area. Several of these projects involved the disposal of dredged material in coastal wetlands or salt marshes. Development of coastal and riverine floodplains has also impacted historic anadromous fish populations, along with the construction of dams. Reconnaissance studies will evaluate these and other sites to determine measures to restore the ecological productivity of the Rhode Island coastline. The Rhode Island Department of Environmental Management (RIDEM) has expressed strong interest in this study and is aware of the cost sharing requirements for the feasibility phase. The state is currently working to identify and prioritize potential salt marsh, eel grass and wetlands restoration sites. The feasibility cost-sharing agreement is scheduled for execution in March 2000.

Funds available in Fiscal Year 2000 are being used to complete the reconnaissance phase and if the reconnaissance study is found to be in accord with policy, continue into the feasibility phase of the study. Studies will identify areas of lost or degraded salt marshes, anadromous fisheries and freshwater wetlands, and evaluate measures to restore the natural hydrology and ecological productivity of these areas and improve overall fish and wildlife habitats. The funds requested for Fiscal Year 2001 will be used to continue the feasibility study. The preliminary estimated cost of the feasibility study is $2,000,000, which is to be shared on a 50-50 percent basis by the Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$2,200,000
Reconnaissance Phase (Federal)	200,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

The reconnaissance phase is scheduled for completion in March 2000. The feasibility study schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
RHODE ISLAND					
Rhode Island South Coast Habitat Restoration and Storm Damage Reduction	540,000	351,000	135,000	54,000	0

The study area encompasses the coastal shoreline and associated waters within the State of Rhode Island, from Westerly to Narragansett. Severe flooding occurred during the hurricanes of September 1938, September 1944, August 1954 and September 1985. The State of Rhode Island suffered heavily from the December 1992 storm. The March 1993 storm, while not as severe, caused extensive shoreline erosion thereby increasing the vulnerability of backshore roads, utilities, businesses and residences to coastal flooding. There are an estimated 7,500 structures in the communities of Westerly, Charlestown, South Kingstown and Narragansett prone to coastal flooding, and a repeat of the 1938 record tidal flood would cause damages in excess of $50 million. Salt marshes, ponds and estuaries along the Rhode Island coast provide significant economic and environmental benefits for the region by providing shore protection, flood storage, filtering pollutants, supporting commercial fisheries, recreational fishing, and tourism. Over the past century, many of these natural salt marshes, ponds and estuaries have been lost or degraded by sand infiltration due to storm events, construction of transportation facilities, and other development. Alterations in tidal flushing have changed the nature of these systems reducing or eliminating habitat for commercially important fish, shellfish and waterfowl. Two-thirds of major U.S. commercial fish depend on estuaries and salt marshes for nurseries and spawning. Rhode Island's salt ponds and salt marshes support a $70 million shellfish industry, provide habitat for commercially important fish including winter flounder which has suffered an 80 percent decline since a decade ago, and provide essential habitat for waterfowl and other migratory birds. The restoration element of the study is consistent with the objectives of the Coastal America partnership formed to address constricted coastal embayments along the Rhode Island coast, and is supported by those participants including the Rhode Island Coastal Resources Management Council (RICRMC). The feasibility cost-sharing agreement was executed with RICRMC on 6 May 1998.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study. Studies will identify areas of lost or degraded salt marshes, ponds and estuaries, and develop measures to restore the natural tidal exchange and ecological productivity of these areas. Funds requested for Fiscal Year 2001 will be used to complete the feasibility phase. The cost of the feasibility phase is $880,000, which is to be shared on a 50-50 percent basis by the Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$980,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	440,000
Feasibility Phase (Non-Federal)	440,000

The reconnaissance phase was completed in May 1998. The feasibility study is scheduled for completion in December 2000.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
PENNSYLVANIA					
Lower West Branch Susquehanna River Basin, Environmental Restoration, Buffalo Creek	1,030,000	601,000	0	250,000	179,000

The lower West Branch Susquehanna River extends 70 miles from Lock Haven to Sunbury and drains 3,350 square miles of central Pennsylvania. Streamflow in the watershed is impacted by three Corps of Engineers' reservoirs; Alvin R. Bush and Curwensville Lakes, and Foster Joseph Sayers Dam. In addition, one snagging and clearing project and three local flood protection projects have been built by the Corps in the lower West Branch Susquehanna River basin. Despite their positive benefits, the construction of these projects has contributed to the degradation and loss of the region's fish and wildlife habitats. An estimated 2,300 acres and 40 miles of river reach have been impacted by the existing Federal projects which were constructed prior to the consideration of environmental impacts and mitigation established by NEPA in 1969. Previous water resource management practices at the local level have fragmented ecosystems into component parts and neglected the reality that each fragmented part is a function of the whole. A wide range of water resources problems exist in the lower West Branch Susquehanna River basin, including residual flooding, degraded environmental and aquatic habitat, reduced water quality, and periodic low-flow drought conditions. These problems have been exacerbated by centuries of extensive development along the region's waterways and exploitation of water resources. During the reconnaissance phase more than 100 problem areas were identified. The first feasibility study, the Buffalo Creek Watershed, will focus on environmental restoration enhancement measures to restore fish and wildlife habitat. The Buffalo Creek drains a watershed area of approximately 134 square miles and is located in the central portion of Union County, Pennsylvania. The predominate land uses are forested land and agricultural land. Residential and commercial development is most concentrated in the vicinities of Mifflinburg and Lewisburg. Restoration activities could include stream stabilization measures and creation of wetland areas adjacent to the river to restore fish and wildlife habitat lost from previous construction activities, and as incidental benefits, would also provide flood overflow zones and filter out impurities in the water.

Potential non-Federal sponsors for the feasibility phase of the study include the Commonwealth of Pennsylvania and Union County, Pennsylvania. The Union County Commissioners provided a letter of support dated 19 January 1999 which outlines their understanding of the study cost-sharing requirements for the feasibility study and expressed a willingness to enter into negotiations for a feasibility study. The feasibility cost-sharing agreement is scheduled for execution in March 2000.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

Lower West Branch Susquehanna River Basin,
Environmental Restoration, Buffalo Creek

Work in Fiscal Year 2000 for the feasibility study is proceeding with funds from prior appropriations, including selecting project sites, developing concept designs, analyzing and evaluating designs, and public involvement. The funds requested for Fiscal Year 2001 will be used to continue the feasibility study, including alternative analyses, final site selection and detailed designs, public involvement, and draft report preparation. The preliminary estimated cost of the feasibility phase is $1,400,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,730,000
Reconnaissance Phase (Federal)	330,000
Feasibility Phase (Federal)	700,000
Feasibility Phase (Non-Federal)	700,000

The reconnaissance phase is scheduled for completion in March 2000. The feasibility study schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
VIRGINIA					
Elizabeth River Basin, Environmental Restoration, Hampton Roads	1,301,000	762,000	292,000	247,000	0

The study area encompasses the entire Elizabeth River Basin which includes Suffolk, Portsmouth, Chesapeake, Norfolk, and Virginia Beach, within the southside Hampton Roads area of southeastern Virginia. The Elizabeth River is approximately 20 miles in length and has a drainage area of about 165 square miles. The river is tidal and empties into the Hampton Roads Harbor in the lower Chesapeake Bay. There is an existing deep draft navigation project to 35 feet on the Southern Branch of the river which is tied to the existing Norfolk Harbor and Channels project. Urban, rural, industrial, and residential areas blend together along the Elizabeth River and its branches. More than 13,000 vessels, with a mix ranging from freighters and cargo ships to fishing boats and cabin cruisers use the Elizabeth River annually, many while navigating the Atlantic Intracoastal Waterway. Three hundred years of industry and commerce have made the river one of the nation's most contaminated waterways. Portions of the river have been dredged to twice its natural depth and narrowed to two-thirds its natural width. Only limited wetlands in the 20 mile reach remain to support wildlife and filter pollution. This sub-estuary of the Chesapeake Bay provides spawning grounds for fish, habitat for rare terns, peregrine falcons and great egrets, and mud flats for shellfish. In 1993 the Chesapeake Bay Program identified the Elizabeth River as a "Region of Concern" - targeting it as one of three sites in the Bay watershed where contaminants pose the greatest threat to natural resources.

The study objective is to determine the need for environmental and other interrelated activities required to clean up the Elizabeth River. The protection and restoration of the environmental qualities to support that objective will also be addressed. The remaining marine life is now threatened and needs a concentrated effort to improve the rapidly diminishing quality of the river to ensure preservation and restoration. The Section 905 (b) analysis for the study was approved in November 1997 and found there was a Federal interest to proceed into the feasibility phase of the study. The feasibility cost-sharing agreement was executed in July 1998 with the Commonwealth of Virginia and the cities of Chesapeake, Portsmouth, Norfolk, and Virginia Beach to cost-share the feasibility phase.

Funds requested for Fiscal Year 2000 will be used to continue the feasibility phase of the study. The preliminary estimated cost of feasibility phase is $2,402,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$2,502,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,201,000
Feasibility Phase (non-Federal)	1,201,000

The reconnaissance phase was completed in July 1998. The feasibility study is scheduled for completion in July 2001.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Lower Rappahannock River	700,000	0	86,000	300,000	314,000

The study area is comprised of 10 counties in the eastern and central portion of Virginia. The 10 counties include Northumberland and Westmoreland in the lower Potomac River Basin; Essex, Lancaster, Middlesex, and Richmond in the lower Rappahannock River Basin; Gloucester, King and Queen, and King William in the York River Basin; and Mathews on the Chesapeake Bay. Growth and development are placing an ever increasing and competitive demand on available water and related resources within the 10 counties. There are significant problems, needs, and opportunities in this complex resource-rich and rapidly growing region that need to be addressed to optimize and protect the use of these resources. The feasibility phase of the study will evaluate the impacts of development in the watershed and opportunities for ecosystem restoration. The study will focus on water conservation and control, water resources development, wetland protection, and environmental restoration. A watershed management plan will assist the Federal, state, counties, and local communities in providing an approach to watershed planning, management and regulation. The 10 county area east of Richmond, Virginia, and south of Washington D.C., is one of the fastest growing areas in the state placing enormous demands on existing water resources and ecosystems. The 10 counties understand the cost sharing requirements for the feasibility phase of the study and eight counties have provided letters of intent expressing strong support for the study. The feasibility cost sharing agreement is scheduled for execution in May 2001.

Fiscal Year 2000 funds are being used to initiate and complete the reconnaissance phase at full Federal expense. If the Section 905 (b) analysis is certified to be in accord with policy, the funds requested for Fiscal Year 2001 will be used to initiate the feasibility phase of the study including data collection, economic, hydraulic, and environmental analyses necessary to establish baseline conditions and formulate alternatives. The preliminary estimated cost of the feasibility phase is $1,200,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost-sharing is as follows:

Total Estimated Study Cost	$1,300,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	600,000
Feasibility Phase (Non-Federal)	600,000

The reconnaissance phase is scheduled for completion in May 2001. The feasibility study schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Prince William County	775,000	310,000	170,000	205,000	90,000

Neabsco Creek, Powells Creek, and Quantico Creek are adjacent watersheds located in Prince William County, Virginia. Neabsco Creek, the northernmost, is located 27 miles south of Washington, D.C. The three creeks flow easterly into the Potomac River approximately 80 miles above its mouth at the Chesapeake Bay. The three watersheds represent three distinctly different situations. The Neabsco Creek watershed is approximately 10 miles in length and covers a drainage area of about 22 square miles. It is almost completely developed as a suburb of Washington, D.C. The Powells Creek watershed covers 8 miles and a drainage area of 20 square miles. It is somewhat developed and is a watershed in transition from a rural to a developed area. The Quantico Creek watershed is 14 miles in length and covers a drainage area of 36 square miles. It is somewhat developed below U.S. Route 1, but the upper basin is almost entirely taken up by Prince William Forest.

Based on discussions with Prince William County officials and site visits by District design team members, the primary focus of the feasibility study will be the Neabsco watershed. The Neabsco watershed is almost fully developed and has many water resources problems that need to be addressed. Lessons learned during the development of the Neabsco watershed over the past three decades are being applied by the County in the Powells Creek watershed with the use of best management practices, and sediment control measures. The Quantico watershed is mostly preserved forest land and will not develop the problems seen in the Neabsco watershed. Of primary concern within the Neabsco watershed is severe bank erosion and sedimentation caused by flash stormwater discharge from large areas of impervious surface. A comprehensive approach will be used for the watershed to integrate planning, construction, management, and regulatory actions while giving consideration to a full range of economic and environmental values and purposes. Methods to be evaluated include wetland restoration or creation, retention structures, riparian corridor restorations, and fish and wildlife habitat restoration including related water quality improvements. Prince William County officials are aware of the cost-sharing requirements for the feasibility study. The feasibility cost-sharing agreement is scheduled for execution in April 2000.

Fiscal Year 2000 funds are being used to continue the feasibility phase, including alternative analyses, concept designs, public involvement and environmental impact analyses. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase, including concept and detailed design development, environmental impact analyses, report preparation, and public involvement. The preliminary estimated cost of the feasibility phase is $1,350,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$1,450,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	675,000
Feasibility Phase (Non-Federal)	675,000

The reconnaissance phase is scheduled for completion in April 2000. The feasibility study schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Rappahannock River, VA, Embrey Dam Removal	697,000	268,000	172,000	257,000	0

The study area encompasses the upstream limits of the Rappahannock River through the city of Fredericksburg, Virginia and Spotslyvania and Stafford counties, Virginia. This is in the vicinity of the river fall line. The city of Fredericksburg, Spotsylvania and Stafford counties, and state environmental agencies support the restoration of this beautiful river to its more natural state of a free flowing river. This would allow for the migration of fish to upstream areas. The study would include the evaluation of fish passage alternates such as fish ladders and either partial or total breaching of Embrey Dam located at river mile 109. In addition, the study will address issues, including sediment removal and placement; preservation of historic canals; water rights to adjacent counties that use the water; marshes, ponds, and downstream park preservation; and potential flood control for the city of Fredericksburg. The Section 905 (b) analysis for the study was certified to be in accord with policy, on 20 January 1999. The Commonwealth of Virginia, the City of Fredericksburg, Virginia, and Stafford County, Virginia, are the non-Federal sponsor for the feasibility phase of the study and executed the feasibility cost sharing agreement in May 1999.

Fiscal Year 2000 funds will be used to continue the feasibility phase of the study, including engineering, economic, environmental, cultural, and real estate investigations. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study, including completion of the draft feasibility report. The estimated cost of the feasibility phase is $1,194,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,294,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	597,000
Feasibility Phase (Non-Federal)	597,000

The reconnaissance phase was completed in May 1999. The feasibility study schedule is being determined.

Subtotal Special Studies Continuing	28,923,000	7,144,000	2,917,000	5,818,000	13,044,000

e. Comprehensive Studies: None
f. Project Review Studies: None

TOTAL SURVEYS - CONTINUING	69,842,000	18,734,000	7,613,000	13,048,000	30,447,000

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
3. PRECONSTRCTION ENGINEERING AND DESIGN ACTIVITIES (PED) - NEW:					
a. Watershed/Ecosystem: None					
b. Navigation: None					
c. Beach Erosion Control: None					
d. Flood Control: The amount of $700,000 is requested in Fiscal Year 2001 to initiate one flood control PED activity.					
MARYLAND					
Cumberland, Maryland, Flood Project Mitigation	750,000	0	0	700,000	50,000

The Cumberland, Maryland, and Ridgeley, West Virginia, flood control project is located at the junction of the North Branch of the Potomac River and Wills Creek along the panhandle borders of northwest Maryland and northeast West Virginia. The North Branch of the Potomac River drains an area about 1,492 square miles and Wills Creek drains an area about 254 square miles in the project vicinity. The flood control project, completed in 1959, protects Cumberland, Maryland, and Ridgeley, West Virginia, against a flood 28 percent greater than the maximum flood of record that occurred in March 1936. The project consists of about 1.6 miles of channel improvements along Wills Creek; 1.7 miles of channel improvement along the North Branch of the Potomac River; levees and floodwalls on the left and right banks of North Branch of the Potomac River; three pumping stations; eight pressure conduits; an industrial water-supply dam; a reconstructed railroad bridge; track relocations; and the reconstructed piers and abutments for three highway bridges. The Federal Government provides a portion of the project's annual maintenance along the Wills Creek and the Potomac River channels.

In the early 1950's during the construction of the Cumberland, Maryland, and Ridgely, West Virginia, project the terminus of the Chesapeake and Ohio Canal was filled in. The National Park Service requested the Corps of Engineers to prepare a design analysis to restore a portion of the historic canal. The Chesapeake and Ohio Canal National Historic Park, Cumberland Maryland, Rewatering Design Analysis, completed in February 1998, recommended a plan to restore about 1.1 miles of canal to a depth of 4 feet. The Water Resources Development Act of 1999 authorizes the Secretary of the Army to modify the project for flood control and other purposes at Cumberland, Maryland, to undertake, as a separate part of the project, restoration of the historic Chesapeake and Ohio Canal substantially in accordance with the design analysis. The estimated project cost is $15,000,000, with an estimated Federal cost of $9,750,000 and an estimated non-Federal cost of $5,250,000. The City of Cumberland, Maryland, fully understands the preconstruction engineering and design cost-sharing requirements and is expected to be the non-Federal sponsor for this effort.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Cumberland, Maryland, Flood Project Mitigation					
Total Estimated Preconstruction Engineering and Design Effort Costs	$1,000,000				
Initial Federal Share	750,000				
Initial Non-Federal Cost	250,000				
Total Estimated Preconstruction Engineering and Design Costs	$1,000,000				
Ultimate Federal Share	650,000				
Ultimate Non-Federal Cost	350,000				
Fiscal Year 2001 funds will be used to initiate the preconstruction engineering and design phase, including execution of a cost-shared design agreement and detailed designs. The preconstruction engineering and design effort completion date is being determined.					
Subtotal Flood Control (PED) Activities - New	750,000	0	0	700,000	50,000
e. Multiple Purpose Power: None					
TOTAL PRECONSTRUCTION ENGINEERING AND DESIGN ACTIVITIES (PED) - New	750,000	0	0	700,000	50,000

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
4. PRECONSTRUCTION ENGINEERING AND DESIGN ACTIVITIES (PED) - CONTINUING					
a. Watershed/Ecosystem: The amount of $400,000 is requested in Fiscal Year 2001 to continue five watershed/ecosystem PED activities.					
MARYLAND					
Patuxent River Water Resources, Prince George's County - Western Branch	300,000	0	43,000	100,000	157,000

The Western Branch, Patuxent River is located in central Prince George's County between the intense urban development of Baltimore, Maryland, and Washington, D.C. The water resources problems in the basin reflect the impact of increasing development through environmental degradation. The feasibility report, which is scheduled to be complete in October 2000 will recommend 11 projects, to include stream restoration, wetland creation, and stormwater management projects. The preliminary estimated project cost is $5,000,000 with an estimated Federal cost of $3,250,000 and an estimated non-Federal cost of $1,750,000. No benefit-cost ratio has been computed for this project because it is an environmental restoration project and benefits are not quantifiable in monetary terms. The Maryland Department of the Environment and Prince George's County, Maryland, fully understand the preconstruction engineering and design cost-sharing requirements and are expected to be the non-Federal sponsors for this effort. Preconstruction engineering and design will ultimately be cost shared at the rate for the project to be constructed but will be financed through the preconstruction engineering and design at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal construction in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Effort Costs	$400,000	Total Estimated Preconstruction Engineering and Design Costs	$400,000
Initial Federal Share	300,000	Ultimate Federal Share	260,000
Initial Non-Federal Cost	100,000	Ultimate Non-Federal Cost	140,000

Consistent with the cost-sharing and financing concepts exacted by the Water Resources Development Act of 1986 and 1996, local interests are required to provide all lands, easements, right-of-ways, relocations, and disposal areas; and pay 35 percent of all costs allocated to environmental protection and restoration.

Fiscal Year 2000 will be used to continue into the preconstruction engineering and design phase, including execution of a cost-shared design agreement and initiation of detailed engineering and design activities. The funds requested for Fiscal Year 2001 will be used to continue the preconstruction engineering and design phase, including preparation of the design memorandum and plans and specifications. The preconstruction engineering and design effort schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Smith Island Environmental Restoration	495,000	0	0	100,000	395,000

Smith Island is located on the eastern shore of Maryland near the Maryland-Virginia border in Somerset County. The island Maryland?s only inhabited offshore island having been settled in the mid 1600's. There are three towns on the island Ewell, Rhodes Point and Tylerton, with harbors that are used by the oystering and crabbing industries. In the past 100 years, 1,200 acres of Smith Island have eroded into the Chesapeake Bay, and future erosion will destroy the island if left unchecked. There are existing Federal navigation channels being maintained for the island, all of which were formulated and constructed prior to today's recognition of fish and wildlife values. The feasibility study is investigating fish and wildlife habitat restoration, wetlands restoration, SAV habitat restoration, navigation improvements, and storm protection. Areas of special concern, include Rhodes Point, Tylerton, and threatened and decreasing SAV beds in Big Thorofare and around the Martin Wildlife Refuge. The feasibility report is scheduled to be complete in May 2001. The recommended projects identified in the feasibility study include construction of environmental restoration measures including protection/restoration of SAV habitat and protection/creation of wetlands and navigation improvements. The preliminary estimated project cost is $7,000,000 with an estimated Federal cost of $4,550,000 and an estimated non-Federal cost of $2,450,000. No benefit-cost ratio has been computed for this project because it is an environmental restoration project and benefits are not quantifiable in monetary terms. Somerset County, Maryland and the Maryland Department of the Environment and the Maryland Department of Natural Resources, fully understand the preconstruction engineering and design cost-sharing requirements and are expected to be the non-Federal sponsors for this effort. Preconstruction engineering and design will ultimately be cost shared at the rate for the project to be constructed but will be financed through the preconstruction engineering and design at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal construction in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Effort Costs	$660,000	Total Estimated Preconstruction Engineering and Design Costs	$660,000
Initial Federal Share	495,000	Ultimate Federal Share	429,000
Initial Non-Federal Cost	165,000	Ultimate Non-Federal Cost	231,000

Consistent with the cost-sharing and financing concepts exacted by the Water Resources Development Act of 1986 and 1996, local interests are required to provide all lands, easements, right-of-ways, relocations, and disposal areas; and pay 35 percent of all costs allocated to environmental protection and restoration. The funds requested in Fiscal Year 2001 will be used to continue into the preconstruction engineering and design phase, including execution of a cost-shared design agreement and initiation of detailed engineering and design activities. The preconstruction engineering and design effort schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
NEW JERSEY					
Barnegat Bay	$750,000	0	0	50,000	700,000

Barnegat Bay, located in Ocean County, New Jersey, is a 75 square mile shallow water estuary situated between the mainland and barrier islands. The Barnegat Bay estuary is the largest bay complex along New Jersey's Atlantic coast supporting a variety of commercial and recreational fisheries. Barnegat Bay's open shallow water environment supports ecologically valuable eelgrass beds which when coupled with the surrounding wetlands, create a nutrient rich habitat for many species of juvenile and harvestable fish and shellfish. The estuary provides innumerable economic, aesthetic and recreational benefits to the region. Barnegat Bay was approved by EPA for inclusion into the National Estuary Program. Population within Ocean County has risen over 400 percent since 1960 causing extensive development pressures along the shorelines and watershed of Barnegat Bay. Extensive filling of wetlands, bulkheading, point and non-point source pollution, dredging and dredged material disposal and other natural and anthropogenic changes have all contributed to an overall decline in the vitality of the estuary. In addition to the environmental problems facing Barnegat Bay, flooding and erosion along the bay's shoreline continue to impact local residences during storm events. A study of Barnegat Bay sponsored by the New Jersey Department of Environmental Protection has confirmed the need for intensified management practices to offset the environmental degradation of the estuary. The feasibility report is scheduled to be complete in September 2001. The recommended projects to be identified in the feasibility study include restoration of dredged holes, creation of anadromous fish runs and tidal marshes, and protection of nesting sites. The preliminary estimated project cost is $10,000,000 with an estimated Federal cost of $6,500,000 and an estimated non-Federal cost of $3,500,000. No benefit-cost ratio has been computed for this project because it is an environmental restoration project and benefits are not quantifiable in monetary terms. The New Jersey Department of the Environment Protection fully understands the preconstruction engineering and design cost-sharing requirements and is expected to be the non-Federal sponsor for this effort. Preconstruction engineering and design will ultimately be cost shared at the rate for the project to be constructed but will be financed through the preconstruction engineering and design at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal construction in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	1,000,000	Total Estimated Preconstruction Engineering and Design Costs	1,000,000
Initial Federal Share	$750,000	Ultimate Federal Share	$650,000
Initial Non-Federal Share	$250,000	Ultimate Non-Federal Share	$350,000

Consistent with the cost-sharing and financing concepts exacted by the Water Resources Development Act of 1986 and 1996, local interests are required to provide all lands, easements, right-of-ways, relocations, and disposal areas; and pay 35 percent of all costs allocated to environmental protection and restoration. The funds requested in Fiscal Year 2001 will be used to continue into the preconstruction engineering and design phase, including execution of a cost-shared design agreement and initiation of detailed engineering and design activities. The preconstruction engineering and design effort schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
NEW YORK					
Hudson River Habitat Restoration, Combined Sites	375,000	0	86,000	50,000	239,000

The Combined Sites interim project area includes Schodack Island Complex area near Stuyvesant, New York; Mill Creek Wetlands area near Stuyvesant, New York; and Manitou Marsh area near Peekskill, New York. The River and Harbor Act of 1910 authorized a 12-foot navigation channel for the Hudson River, New York - New York City to Waterford. The project was modified by the Rivers and Harbors Acts of 1935 and 1938, which authorized deepening of the channel to 32 feet to the Federal Lock at Troy New York, and 14 feet to the southern limit of the State Barge Canal at Waterford. Prior to this project, a series of low-profile dikes were constructed by the Corps to create a stable channel for deep-draft navigation between New York City and the Port of Albany, and for barge traffic to the New York State Barge Canal System. Dredging the channels by the Corps over the past 100 years has produced approximately 83,000,000 cubic yards of dredged material, which was disposed of in embayments, marshes, backwaters, and secondary channels behind islands. The dredged material was also used to construct new islands, extend and/or connect existing islands, filling in additional wetland and aquatic habitats. Since 1891, approximately 2,800 acres of wetland and aquatic habitat have been lost and 60 miles of shallow habitat deepened. Striped bass, Shad, Atlantic sturgeon and herring use the shallows and wetland habitat for spawning and as a primary nursery during their critical developmental stages. The river also contains a rare stable population of the endangered Shortnose sturgeon, and certain of the effected habitat is critical for its survival. The National Marine Fisheries Service, U.S. Fish and Wildlife Service, Museum of the Hudson Highlands, Nature Conservancy, Audubon Society, Scenic Hudson, electric utilities and railroads desire habitat restoration.

This project consists of creation of fringe wetlands and restoration of interior marsh on Schodack Island; recreation of former back-bay marsh and shallow water habitat at Mill Creek; and restoration of hydrology and grade at Manitou Marsh. The feasibility report for the Combined Sites interim project is scheduled to be completed in November 1999. The recommended project is estimated to cost $8,000,000, with an estimated Federal cost of $6,000,000 and an estimated non-Federal cost of $2,000,000. No benefit-cost ratio has been computed for this project because it is an environmental restoration project and benefits are not quantifiable in monetary terms. The New York State Department of Environmental Conservation and New York State Department of State are the potential sponsors to cost-share the preconstruction engineering and design effort, who fully understand the cost sharing requirements and are expected to be the non-Federal sponsors for this effort. Preconstruction engineering and design will ultimately be cost shared at the rate for the project to be constructed but will be financed through the preconstruction engineering and design at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal construction in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$500,000	Total Estimated Preconstruction Engineering and Design Costs	$500,000
Initial Federal Share	375,000	Ultimate Federal Share	325,000
Initial Non-Federal Share	125,000	Ultimate Non-Federal Share	175,000

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Hudson River Habitat Restoration, Combined Sites					

The project is authorized for construction by the Water Resources Development Act of 1996, with the following cost-sharing requirements: local interests are required to provide all lands, easements, right-of-ways, relocations, and disposal areas; and pay 25 percent of all costs allocated to environmental protection and restoration. Fiscal Year 2001 funds will be used to initiate preconstruction engineering and design, including data collection and detailed model studies for the Combined Sites interim project. This preconstruction engineering and design effort schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Susquehanna River Basin Water Management, Whitney Point Lake, NY	375,000	0	52,000	100,000	223,000

The project is located at Whitney Point Lake, New York, near Binghamton, New York. Whitney Point Lake is on the Tioughnioga River a tributary to the Susquehanna River. This interim project was a recommendation from the Susquehanna River Basin Water Management study. The feasibility study for Whitney Point Lake, New York, is investigating alternatives for managing existing storage at Whitney Point Lake, New York, during low flow events for the purpose of environmental restoration of downstream reaches. The feasibility study is scheduled for completion in July 2000. The preliminary estimated project cost is $5,000,000, with an estimated Federal cost of $3,250,000 and an estimated non-Federal cost of $1,750,000 based on 65 percent Federal and 35 percent non-Federal cost-sharing. No benefit-cost ratio has been computed for this project because it is an environmental restoration project and benefits are not quantifiable in monetary terms. The Susquehanna River Basin Commission fully understands the cost sharing requirements and is expected to be the non-Federal sponsor for this effort. Preconstruction engineering and design will ultimately be cost shared at the rate for the project to be constructed but will be financed through the preconstruction engineering and design period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Effort Costs	$500,000	Total Estimated Preconstruction Engineering and Design Costs	$500,000
Initial Federal Share	375,000	Ultimate Federal Share	325,000
Initial Non-Federal Cost	125,000	Ultimate Non-Federal Cost	175,000

Consistent with the cost-sharing and financing concepts exacted by the Water Resources Development Act of 1986 and 1996, local interests are required to provide all lands, easements, right-of-ways, relocations, and disposal areas; and pay 35 percent of all costs allocated to environmental protection and restoration.

Fiscal Year 2000 funds will be used to continue into the preconstruction engineering and design phase including execution of a cost-shared design agreement and initiation of detailed engineering and design activities. The funds requested for Fiscal Year 2001 will be used to continue the preconstruction engineering and design phase, including topographical surveys and mapping, and preparation of the design memorandum. This preconstruction engineering and design effort schedule is being determined.

Subtotal Watershed/Ecosystem (PED) Activities - Continuing	2,295,000	0	181,000	400,000	1,714,000

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
4. PRECONSTRUCTION ENGINEERING AND DESIGN ACTIVITIES (PED) - CONTINUING					
b. Navigation: The amount of $3,452,000 is requested in Fiscal Year 2001 to continue three navigation PED activities and complete two navigation PED activities.					
DELAWARE					
Chesapeake and Delaware Canal, Baltimore Harbor Connecting Channels (Deepening), DE & MD	3,750,000	3,150,000	500,000	100,000	0

The existing Federal navigation project for the Chesapeake and Delaware Canal is 44 miles long, 35 feet deep and 450 feet wide from the Delaware River to the Chesapeake Bay off Pooles Island. The Baltimore Harbor Connecting Channels of Brewerton Eastern Extension and Tolchester have a length of 13 miles and are authorized at 35 feet deep and 600 feet wide. These projects provide deep draft commercial channels for ships calling at Baltimore, Maryland, with a shortcut to and from Philadelphia, Pennsylvania, the northeast United States and Europe. The present canal dimensions were authorized in 1954 and the connecting channels were authorized in 1958, based on vessel characteristics and traffic levels that are now significantly exceeded. Almost 7,000 vessels transport 14 million tons of cargo through the canal annually. The feasibility study addressed the need for improving the existing canal and connecting channel characteristics and was completed in August 1996. The estimated project cost is $103,000,000, with an estimated Federal cost of $77,300,000 and an estimated non-Federal cost of $25,700,000. The project includes deepening the existing 35-foot project to 40-feet mean low water, enlarging the flare at Reedy Point, widening a bend at Sandy Point, and an emergency anchorage at Howell Point. The average annual benefits amount to $8,880,000, all for transportation savings. The benefit-cost ratio was 1.2 to 1 based upon the latest economic analysis at October 1995 prices, contained in the Final Feasibility Report dated August 1996. The project sponsor is the Maryland Port Administration. The Maryland Port Authority executed the preconstruction engineering and design cost-sharing agreement in April 1997. Preconstruction Engineering and Design will ultimately be cost shared at the rate for the project to be constructed but will be financed through the Preconstruction Engineering and Design period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$5,000,000	Total Estimated Preconstruction Engineering and Design Costs	$5,000,000
Initial Federal Share	3,750,000	Ultimate Federal Share	3,250,000
Initial Non-Federal Share	1,250,000	Ultimate Non-Federal Share	1,750,000

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Chesapeake and Delaware Canal, Baltimore Harbor Connecting Channels (Deepening), DE & MD					

The project was authorized for construction by the Water Resources Development Act of 1996, with the following cost-sharing requirements: lands, easements, rights-of-way, and relocations necessary for the construction and subsequent maintenance including the prorated costs if using existing and future Federal disposal areas; pay 25 percent of costs allocated to deep draft navigation, presently estimated at $28,400,000; and pay an additional 10 percent of costs allocated to deep draft navigation, less a credit for the value of lands, easements, rights-of-way, and relocations (other than utility relocation) within the 30 years following completion.

Fiscal Year 2000 funds are being used to continue the preconstruction engineering and design phase, including preparation completion of the Supplemental Environmental Impact Statement, Design Memorandum and General Reevaluation Report. Fiscal Year 2001 funds will be used to complete the preconstruction engineering and design phase, scheduled for November 2000.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
NEW YORK					
Arthur Kill Channel, Howland Hook Marine Terminal, NY & NJ	6,600,000	5,125,000	1,128,000	347,000	0

The project area is located within the Port of New York and New Jersey. The Arthur Kill is a tidal strait connecting Raritan Bay with Newark Bay. The navigation channel depths inhibit full economy of existing deep ocean going vessels. Tankers arriving with drafts approaching the 45 foot Ambrose and Anchorage entrance channel depths must lighter off to barges in anchorages in order to reduce their drafts to safely transit the 35 foot deep inshore channels. Container vessels cannot lighter in anchorages and therefore must load to less than full depths for long ocean voyages at substantially increased cost. A public notice issued on 16 December 1985, recommended deepening the existing 35 foot navigation channel to 41 feet for 2.1 miles, thence 40 feet for 1.0 mile. These improvements will allow full loading and increased vessel efficiencies. There would also be selected widenings for safety. The 1998 Limited Reevaluation Report confirmed the findings of the feasibility study, however the need to utilize upland disposal rather than ocean disposal has increased the estimated project first cost significantly. The recommended project is estimated to cost $348,500,000, at Oct 1 1999 P.L., escalated to the midpoint of construction, with estimated Federal cost of $221,800,000 and a non-Federal cost of $126,700,000. The average annual benefits amount to $68,745,000 (Oct 98 P.L.), all for transportation savings. The benefit-cost ratio is 2.5 to 1. The local sponsor for the project is the Port Authority of New York and New Jersey.

The 41/40 foot project is authorized for construction by the Water Resources Development Act of 1986, as modified by the Water Resources Development Acts of 1996 and 1999, with the following cost sharing requirements: Local interests will be required to provide relocation of utilities, bear all costs of terminal facilities, and dredging in berthing areas, estimated at $52,800,000, pay 25 percent of costs allocated to general navigation features during construction, estimated at $73,900,000, and pay an additional 10 percent of costs allocated to general navigation, less a credit for the value of lands, easements, rights-of-way, and relocations, within a period of 30 years following completion.

The Water Resources Development Act of 1996 further authorized the project to a depth not to exceed 45 feet at a total cost of $83,000,000. The Water Resources Development Act of 1999 reauthorized the 41/40-foot project at a total cost of $315,700,000 at Oct 98 P.L.s. The Port Authority has also requested continuation of preconstruction engineering and design (PED) efforts on a 45-foot project and is willing to cost-share the additional PED effort. Preconstruction engineering and design for the 45-foot project will ultimately be cost shared at the rate for the project to be constructed but will be financed through the PED period at 25% non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Arthur Kill Channel, Howland Hook Marine Terminal, NY & NJ					
Total Estimated Preconstruction 41/40-Foot Project		Total Estimated Preconstruction 41/40-Foot Project			
Engineering and Design Costs	$5,000,000	Engineering and Design Costs			$5,000,000
Initial Federal Share	5,000,000	Ultimate Federal Share			3,750,000
Initial Non-Federal Share	0	Ultimate Non-Federal Share			1,250,000
45-Foot Project		45-Foot Project			
Engineering and Design Costs	$2,130,000	Engineering and Design Costs			$2,130,000
Initial Federal Share	1,600,000	Ultimate Federal Share			1,600,000
Initial Non-Federal Share	530,000	Ultimate Non-Federal Share			630,000

Fiscal year 2000 funds are being used to finalize the PMP for the 45-foot PED effort, execute a Design Agreement for the cost-shared PED effort, and initiate a Limited Reevaluation Report for the 45-foot project. In additional $400,000 of the Fiscal Year 2000 funds will be used to complete Plans and Specifications, finalize the Project Cooperation Agreement negotiations with the non-Federal sponsor, and complete pre-construction monitoring for the 41-foot project. The funds requested for Fiscal Year 2001 will be used to continue the preconstruction engineering and design for the 45-foot project. The preconstruction engineering and design effort schedule for the 41/40-foot project is being determined. The preconstruction engineering and design effort schedule for the 45-foot project is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
New York and New Jersey Harbor, NY & NJ	9,750,000	0	2,179,000	2,528,000	5,043,000

The Port of New York and New Jersey includes the Ambrose Channel, Anchorage Channel, New York and New Jersey Channels; Newark Bay Channel; Port Jersey Channel; Claremont Channel; Bay Ridge and Red Hook Channel; and Buttermilk Channel. The Port of New York-New Jersey is the largest port on the East Coast, providing more than 166,000 port related jobs, $20 billion in economic activity, and serves more than 17 million consumers in the States of New York and New Jersey. Through its intermodal links, the Port provides second day access to another 80 million consumers in the northeast and mid-western states. The Port annually receives and ships over 110 million long tons of waterborne general cargo to all parts of the United States and throughout the world and receives petroleum and related products from ports in the Atlantic, and Gulf Coasts, the Caribbean, Africa, and the Persian Gulf. Channels within the Harbor range in depths from 30 to 45 feet. Several shipping lines are constructing vessels with drafts exceeding 45 feet and have expressed a strong interest in entering the Port with these new vessels. The current channel depths are potentially unsafe for the newer generation of ships and prevents shipping lines from efficiently using the full capacity of these new ships. The feasibility report was completed in December 1999. The recommended project channel depths from the feasibility study are: 53 feet MLW for the Ambrose Channel; and 50 feet MLW or 52 feet MLW if in rock or otherwise hard material for the Anchorage Channel, Kill Van Kull-Newark Bay Channels, Port Jersey Channel, Bay Ridge Channel, and the Arthur Kill Channel to Howland Hook channel. The project cost is estimated to be $2,000,000,000, with an estimated Federal cost of $1,100,000,000 and an estimated non-Federal cost of $900,000,000. The average annual benefits amount to $238,500,000, all for transportation savings, based on the feasibility report approved in December 1999, at October 1999 prices. The benefit-cost ratio is 1.4 to 1. The project sponsors are the State of New York, the State of New Jersey and the Port Authority of New York and New Jersey, who fully understand the cost sharing requirements and are expected to be the non-Federal sponsors for this effort. Preconstruction engineering and design phase will ultimately be cost-shared at the rate for the project to be constructed but will be financed through the PED period at 25% non-Federal. Any adjustments that may be necessary to bring the non-Federal contributions in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$13,000,000	Total Estimated Preconstruction Engineering and Design Costs	$13,000,000
Initial Federal Share	9,750,000	Ultimate Federal Share	5,460,000
Initial Non-Federal Share	3,250,000	Ultimate Non-Federal Share	7,540,000

Consistent with the cost-sharing and financing concepts enacted by the Water Resources Development Act of 1986, local interests are required to provide all lands, easements, rights-of-way, relocations, and dredged material disposal areas, and bear all costs of terminal facilities and dredging in berthing areas; pay 50 percent of costs allocated to deep draft navigation; and pay an additional 10 percent of costs allocated to deep draft navigation, less a credit for the value of lands, easements, rights-of-way, relocations (other than utility relocation), and dredged material disposal areas within the 30 years following completion.

Fiscal Year 2000 funds will be used to continue preconstruction engineering and design, including data collection and detailed model studies. The funds requested for Fiscal Year 2001 will be used to continue preconstruction engineering and design, including data collection and detailed model studies, detailed engineering and design and environmental monitoring. The preconstruction engineering and design effort schedule is being determined.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
VIRGINIA					
Atlantic Intracoastal Waterway Bridge at Deep Creek	1,375,000	0	0	200,000	1,175,000

The Atlantic Intracoastal Waterway is a naturally protected navigation route that parallels the Atlantic coast between Massachusetts and Florida. The waterway's route intersects several existing highways that is the responsibility of the Corps of Engineers. One of these bridges is located in the Deep Creek community of Chesapeake, Virginia, about 150 miles southeast of Washington, D.C. The bridge, constructed in 1934, is a Federally owned and operated facility over which U.S. Route 17 crosses the Dismal Swamp Canal. The city of Chesapeake requested that the need to modify or replace the bridge be investigated in conjunction with City's plans to improve area's roadway and Commonwealth of Virginia plans to improve U.S. Route 17 south of the bridge. These improvements are needed to accommodate the increasing development in this area. In October 1996, the approved Initial Appraisal concluded that the bridge is functionally obsolete because of its narrow roadway and poor alignment with the connecting roads, compounded by increasing traffic volumes. The feasibility study is scheduled for completion in May 2001. The preliminary recommended plan is to replacement the bridge with a five lane, double leaf, rolling-lift bascule bridge. The preliminary project cost is estimated to be $16,000,000 with estimated Federal cost of $15,200,000 and an estimated non-Federal cost of $800,000. The average annual benefits amount to $3,500,000, all for transportation savings, based on the latest economic analysis dated 11 Janauary 2000. The benefit-cost ratio is 1.7 to 1. The project sponsor is City of Chesapeake, Virginia, who fully understand the cost sharing requirements and are expected to be the non-Federal sponsors for this effort. Preconstruction engineering and design phase will ultimately be cost-shared at the rate for the project to be constructed but will be financed through the PED period at 25% non-Federal. Any adjustments that may be necessary to bring the non-Federal contributions in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Cost	$1,375,000	Total Estimated Preconstruction Engineering and Design Cost	$1,375,000
Initial Federal Share	1,375,000	Ultimate Federal Share	1,375,000
Initial Non-Federal Share,	0	Ultimate Non-Federal Share	0

Consistent with the cost-sharing and financing concepts enacted by the Water Resources Development Act of 1986, local interests are required to provide all lands, easements, rights-of-way, relocations, approaches, and any costs associated with widening culvert or other structures, bear all costs of betterments to the project, and provide all costs of operation, maintenance of the bridge.

Fiscal Year 2001 funds will be used to initiate the preconstruction engineering and design. The preconstruction engineering and design effort schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
James River	671,000	120,000	168,000	277,000	106,000

The existing Federal navigation project on the James River extends from the mouth of the river at Hampton Roads to the City of Richmond locks, a distance of approximately 91 miles. Richmond is located in east central Virginia about 100 miles south of Washington, D. C. The study area includes one element of the project--a 25-foot deep and up to 600-foot wide, and 2,770-foot long turning basin adjacent to the Richmond Deepwater Terminal, about 5 miles downstream from the city locks. The terminal handles bulk, breakbulk, and container cargo. The turning basin is authorized up to a depth of 35 feet and width of 825 feet under the River and Harbor Act of 23 October 1962. As a result of recent improvements to the terminal that is used by several shippers, the size of vessels calling at that port has increased. The larger ships, some reaching a length of 559 feet and a width of 85 feet, frequently experience problems when existing the turning basin, particularly when other vessels are docked at the terminal?s wharf. Based on current operations there is a need to expand the width of the turning basin within the limits of the existing project authorization. Under these circumstances, when a ship now arrives at the terminal and makes its turn to prepare for docking, contact is sometimes made with the river channel bank. In order to complete the turn, the ship is then forced to back up and to swing around at a distance of only about 25 feet from the wharf. This presents a dangerous situation to both wharf and ship. The turning basin is also used by other large vessels including oil barges and large bulk ships that call at various wharves upstream and downstream from the Richmond Deepwater Terminal. These vessels cannot accomplish the turn necessary to make the return trip down the James since those sections of the river are too narrow. As a consequence, these vessels travel to the turning basin where they are able to make their turn. There is concern that there is potential for serious a accident that would cause damage to vessels or the wharf. The situation is worsened by the fact that there are no drydock repair facilities in Richmond to handle large vessels. The Section 905 (b) analysis, approved in September 1998, confirmed that there is a Federal interest for widening the turning basin within the current authorization. The recommended project is estimated to cost $1,900,000, with estimated Federal cost of $1,425,000 and a non-Federal cost of $475,000. The average annual benefits amount to $300,000, all for transportation savings, based on the Section 905 (b) analysis approved in September 1998, at August 1998 price levels. The benefit-cost ratio is 2.2 to 1. The potential local sponsor for the port is the City of Richmond, Virginia, who indicated its support for expanding the turning basin in a letter dated 3 November 1997. The preconstruction engineering and design cost-sharing agreement is schedule for execution in June 1999. Preconstruction engineering and design phase will ultimately be cost-shared at the rate for the project to be constructed but will be financed through the PED period at 25% non-Federal. Any adjustments that may be necessary to bring the non-Federal contributions in line with the project cost sharing will be accomplished in the first year of construction.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
James River					
Total Estimated Preconstruction Engineering and Design Cost	$895,000				
Initial Federal Share	671,000				
Initial Non-Federal Share	224,000				
Total Estimated Preconstruction Engineering and Design Cost	$895,000				
Ultimate Federal Share	671,000				
Ultimate Non-Federal Share	224,000				

The project was authorized for construction by the Rivers and Harbors Act of 1962. In accordance with the cost-sharing and financing concepts enacted by the Water Resources Development Act of 1986, local interest are required to provide all lands, easements, rights-of-way, and relocations necessary for the construction and subsequent maintenance including the prorated costs if using existing and future Federal disposal areas; pay 25 percent of costs allocated to deep draft navigation, presently estimated at $475,000; and pay an additional 10 percent of costs allocated to deep draft navigation, less a credit for the value of lands, easements, rights-of-way, and relocations (other than utility relocation) within the 30 years following completion.

Fiscal Year 2000 funds are being used to initiate the cost-shared preconstruction engineering and design effort, including the preparation a general reevaluation report. The funds requested for Fiscal Year 2001 will be used to continue the preconstruction engineering and design effort. The preconstruction engineering and design effort schedule is being determined.

Subtotal Navigation (PED) Activities - Continuing	22,146,000	8,395,000	3,975,000	3,452,000	6,324,000
c. Beach Erosion Control: None					
d. Flood Control: None					
e. Multiple Purpose Power: None					
TOTAL PRECONSTRUCTION ENGINEERING AND DESIGN ACTIVITIES (PED) - CONTINUING	24,441,000	8,395,000	4,156,000	3,852,000	8,038,000
GRAND TOTAL SURVEYS AND PRECONSTRUCTION ENGINEERING AND DESIGN	95,133,000	27,129,000	11,769,000	17,700,000	38,535,000

APPROPRIATION TITLE: Construction, General - Channels and Harbors (Navigation)

PROJECT: Baltimore Harbor Anchorages and Channels, MD (New)

LOCATION: The project area encompasses the 32-square mile area of the Port of Baltimore. The port area of Baltimore includes the navigable part of the Patapsco River below Hanover Street, the Northwest and Middle Branches, and Curtis Bay and its tributary, Curtis Creek.

DESCRIPTION: The recommended plan will widen and deepen two existing Federal anchorages; widen several connecting channels; provide a new turning basis near Fort McHenry; and provide a new branch channel within the Port of Baltimore. The estimated 4.4 million cubic yards of initial dredged material will be placed in the existing Hart-Miller Island upland placement site.

AUTHORIZATION: Water Resources Development Act of 1999.

REMAINING BENEFIT - REMAINING COST RATIO: 4.8 to 1 at 6 7/8 percent.

TOTAL BENEFIT - COST RATIO: 4.7 to 1 at 6 7/8 percent.

BASIS OF BENEFIT-COST RATIO: Benefits are based on the integrated feasibility report and environmental impact statement dated March 1997 at October 1997 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM. PCT. OF EST. FED COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$21,000,000				
Estimated Non-Federal Cost:		9,400,000		Entire Project	0	Being determined
Cash Contributions	$7,300,000					
Other Costs	2,100,000					
Total Estimated Project Cost		$30,400,000				

SUMMARIZED FINANCIAL DATA: (continued)		
Allocation to 30 September 1999	$ 675,000	
Conference Allowance for FY 2000	0	
Allocations for FY 2000	0	
Allocations through FY 2000	675,000	3
Allocation Requested for FY 2001	5,000,000	27
Scheduled Balance to Complete After FY 2001	15,325,000	
Unscheduled Balance to Complete After FY 2001	0	

PHYSICAL DATA

Channels: Widening the East Dundalk Channel to 400 feet, plus the bends and entrances; widening the Seagirt-Dundalk Connecting Channel to 500 feet; widening the West Dundalk Channel to 500 feet, plus the bends and entrances; providing cutoff angles at the intersection of the West Dundalk channel and the main shipping channel; providing cutoff angles at the intersection of the Connecting Channel and the west side of Dundalk Marine Terminal; constructing a new channel at South Locust Point in the area of the remnant Produce Wharf Channel

Anchorages: Deepening and widening a portion of Anchorage #3 to 2,200 feet by 2,200 feet, by 42 feet deep; deepening and widening a portion of Anchorage #4 to 1,800 feet by 1,800 feet, by 42 feet deep; deauthorization of Anchorage #1

Turning Basin: Constructing a 50-foot deep turning basin (1,200 feet by 1,200 feet) near the head of the Fort McHenry Channel.

JUSTIFICATION: Baltimore Harbor is one of the major seaports serving the North Atlantic Coast of the United States. It is equipped with excellent cargo handling facilities and is served by several railroads which connect the port with the Midwest States. The port is 50 to 200 miles nearer the Midwest States than other North Atlantic ports. The port includes, among its many industries, the free world's largest steel plant. Waterborne commerce through the port totaled 43,552,000 in 1996 and averaged 40,610,600 tons annually for the period 1986-1996. A large portion of the port's commerce moves in foreign trade, and a very high percentage consists of bulk commodities (grain, ores, petroleum and coal). These bulk commodities are moved most efficiently in large carriers, and the trend towards such carriers is clearly evident in the Port of Baltimore. The smaller vessels are being replaced by larger, more efficient ships.

The existing branch channel and anchorage system in Baltimore Harbor is of insufficient depth and width to accommodate these larger ships. Large vessels requiring anchorage must anchor 25 miles south of Baltimore in naturally deep water, resulting in delays and related costs to the shipping industry. In addition, some of the branch channels within the port are also insufficient to accommodate the types of vessels currently calling on Baltimore. Due to the narrow widths of the branch channels serving the Seagirt and Dundalk Marine Terminals, additional time is required for the pilots to safely maneuver ships to and from the berths. The average annual benefits, all navigation, are $10,000,000 based on 1 October 1997 prices.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate dredging of the anchorage and branch channels	$4,821,000
Planning, Engineering & Design	25,000
Construction Management	154,000
Total	$5,000,000

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the Non-Federal sponsor must comply with the requirements listed below:

	Payments During Construction and Reimbursements	Annual Operation, Maintenance and Replacement Costs
Requirements of Local Cooperation Provide lands, easements and rights of way, Disposal areas	$2,100,000	
Pay 25 percent of the costs allocated to general navigation facilities during construction and pay 50 percent of the costs of incremented maintenance below 45 feet below mean low water	$7,300,000	
Total Non-Federal Costs	$9,400,000	$0

STATUS OF LOCAL COOPERATION: The State of Maryland has agreed to furnish the required cooperation. In their January 1997 and November 1997 letters, the Maryland Port Administration indicated its intent to be the project's non-Federal sponsor and to utilize Hart-Miller Island for placement of the dredged material. The project cooperation agreement is scheduled for execution in October 2000.

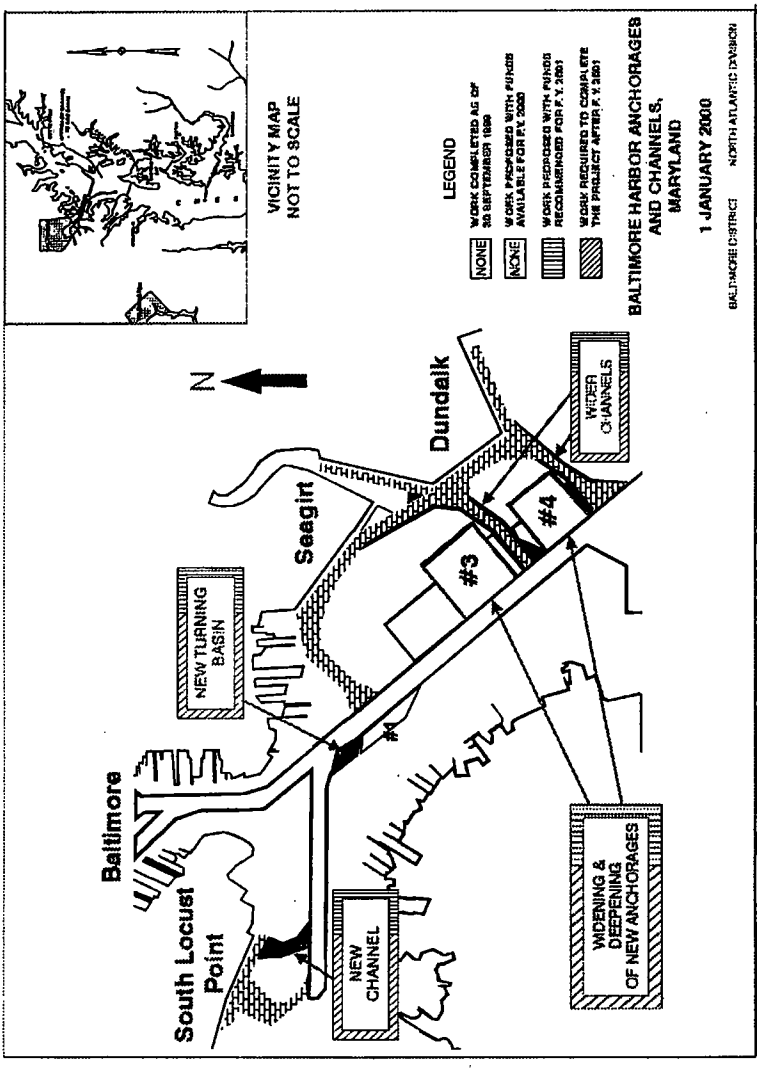
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $21,000,000 is an increase of $800,000 from the previous estimate ($20,200,000) submitted to Congress (FY 1999). This change includes the following item:

Item	Amount
Price Escalation on Construction Features	$800,000
TOTAL	$800,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final environmental impact statement for the Baltimore Harbor Anchorages and Channels, MD & VA project was filed in the Federal Register on 5 August 1997.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1997.

Division: North Atlantic District: Baltimore Baltimore Harbor Anchorages and Channels, MD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BALTIMORE HARBOR ANCHORAGES
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BALTIMORE DISTRICT
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NEW TURNING
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WIDEN
CHANNELS
WIDENING &
DEEPENING
OF NEW ANCHORAGES

APPROPRIATION TITLE: Construction, General - Channels and Harbors (Navigation)

PROJECT: Arthur Kill Channel, Howland Hook Marine Terminal, New York and New Jersey (New)

LOCATION: The project area is located in the Port of New York and New Jersey. The project area extends from the Arthur Kill confluence with the Kill Van Kull Channel, southwesterly about 3.1 miles on the Arthur Kill Channel to the Tosco Oil Terminal and GATX oil facilities, in New Jersey and New York respectively.

DESCRIPTION: Work consists of deepening the existing 35-foot Arthur Kill Channel to 41 feet MLW from its confluence with the Kill Van Kull Channel to Howland Hook Marine Terminal in Staten Island, New York, and to 40 feet MLW from the Howland Hook Marine Terminal to the Tosco Oil Terminal and GATX oil facilities, New Jersey. Also included are selected widenings and realignments of the channel.

AUTHORIZATION: Water Resources Development Act of 1986;Water Resources Development Act of 1996; Water Resources Development Act of 1999.

REMAINING BENEFIT-REMAINING COST RATIO: 2.5 to 1 at 6 7/8 percent

TOTAL BENEFIT-COST RATIO: 2.5 to 1 at 6 7/8 percent

BASIS OF BENEFIT-COST RATIO: Benefits are from the Limited Reevaluation Report approved in April 1998 at November 1996 prices, updated to October 1998 prices.

SUMMARIZED FINANCIAL DATA			ACCUM. PCT. OF EST. FED. COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Appropriation Requirement(CoE)		$ 221,700,000		Contract No. 1	0	Being determined
Estimated Appropriation Requirement(U.S.Coast Guard)		100,000		Contract No. 2	0	Being determined
Estimated Total Appropriation Requirement		221,800,000		Contract No. 3	0	Being determined
Future Non-Federal Reimbursement		19,600,000		Contract No. 4	0	Being determined
Estimated Federal Cost(Ultimate)		202,200,000		Entire Project	0	Being determined
Estimated Non-Federal Cost		146,300,000				
Cash Contribution	73,900,000					
Other Costs	52,800,000					
Reimbursements	19,600,000					
Total Estimated Project Cost		$348,500,000				
Allocations to 30 September 1999		$ 4,600,000				
Conference Allowance for FY 2000		400,000				
Allocation for FY 2000		400,000				
Allocation through FY 2000		5,000,000	2			
Allocation Requested for FY 2001		5,000,000	7			
Programmed Balance to Complete after FY 2001		211,700,000				
Unprogrammed Balance to Complete after FY 2001		0				

PHYSICAL DATA

Deepening channel to 41 feet mlw from confluence with KVK channel to Howland Hook Marine Terminal, and to 40 feet mlw from Howland Hook Marine Terminal to Tosco Oil Terminal and GATX Oil facilities in NJ and NY

JUSTIFICATION: Containerized general cargo at Howland Hook Marine Terminal consists of a current throughput capacity of 350,000 containers per year, which includes dry goods, electronics, manufacturing goods, and agricultural products. The top petroleum terminals which benefit from the channel deepening, Tosco Oil Refinery and GATX Terminal handle crude oil and petroleum products, such as distillate and residual fuel oil and gasoline. Petroleum products receipts and shipments for the New York and New Jersey Channels project in 1997 were about 23.5 million short tons. The present 35-foot channel in the Arthur Kill Channel precludes present generation containerships and oil tankers from fully loading and will further hamper future fleets of larger draft vessels. The average annual benefits, all commercial navigation, are $68,745,000 at October 1998 prices.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate Construction of 1st Construction Contract	$ 4,200,000
Planning, Engineering, and Design	250,000
Construction Management	550,000
Total	$ 5,000,000

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NON-FEDERAL COST: In accordance with the cost-sharing and financial concepts reflected in the Water Resources Development Act of 1986, as amended by WRDA 1996, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance Repair, Rehabilitation, and Replacement Costs
Dredge berthing areas, renovate bulkheads/piers and relocate utilities where necessary in the construction of the project.	$52,800,000	$193,000
Pay 25 percent of the costs allocated to deep draft navigation during construction.	73,900,000	
Pay an additional 10 percent of the costs allocated to deep draft navigation within a period of 30 years following completion of construction which is partially offset by a credit allowed for the value of lands, easements, rights of way, relocation, (Except utility relocations), and dredged material disposal areas.	19,600,000	
Total Non-Federal Costs	$146,300,000	$193,000

The non-Federal sponsor has also agreed to repay its share of construction costs during construction and reimburse its share of construction costs over a period of 30 years following completion of construction.

STATUS OF LOCAL COOPERATION: The Port Authority, by letter dated 28 May 1998, stated their intent to act as the non-Federal sponsor for the project. The PCA is scheduled to be executed in November 2000.

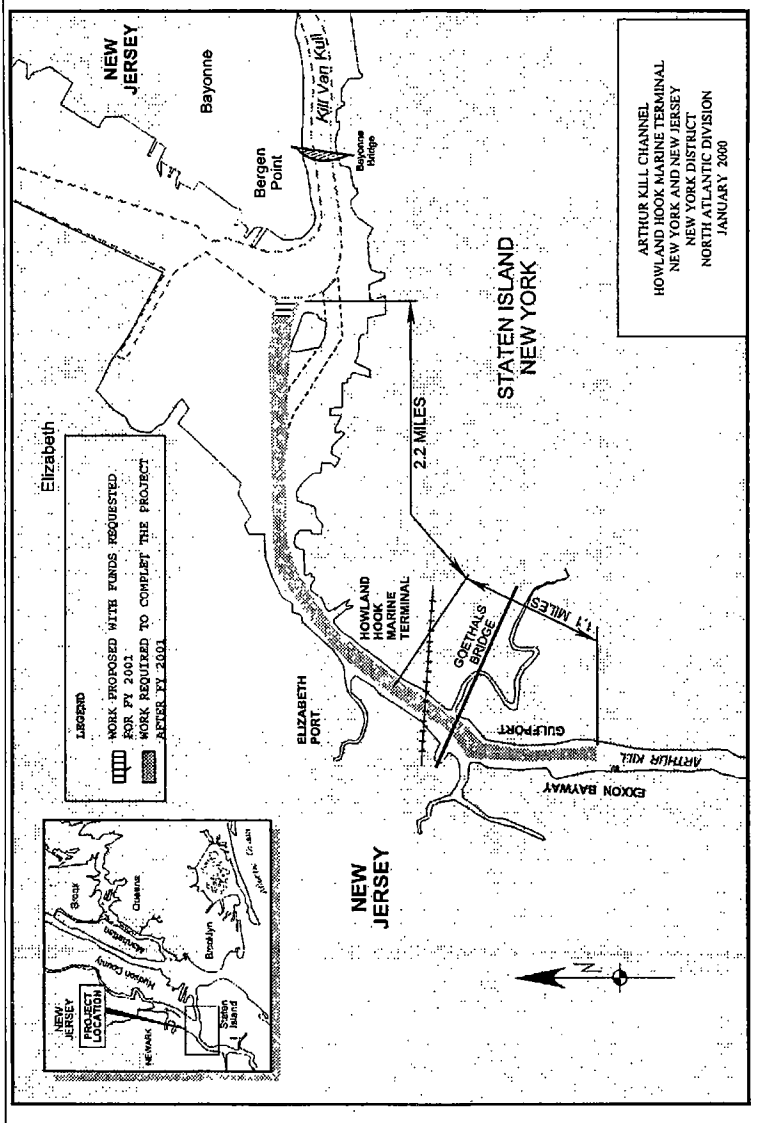
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps of Engineers) cost estimate of $221,700,000 is an increase of $5,700,000 over the latest estimate ($216,000,000) submitted to Congress (FY 2000). This change includes the following item:

ITEM	AMOUNT
Price Escalation on Construction Features	$ 5,700,000
Total	$ 5,700,000

Division: North Atlantic District: New York Arthur Kill Channel, Howland Hook Marine Terminal, NY & NJ

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: A Draft Supplemental Environmental Impact Statement (DSEIS), based on the findings of a Limited Reevaluation Report, was coordinated for public and agency review in December 1997. The Final Supplemental Environmental Impact Statement was incorporated into the Final Limited Reevaluation Report in April 1998.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1986.


NEW JERSEY
Bayonne
Bergen Point
Kill Van Kull
Bayonne Bridge
Elizabeth
LEGEND
WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
WORK REQUIRED TO COMPLET THE PROJECT AFTER FY 2001
2.2 MILES
STATEN ISLAND NEW YORK
HOWLAND HOOK MARINE TERMINAL
GOETHALS BRIDGE
1.1 MILES
ELIZABETH PORT
GULFPORT
ARTHUR KILL
EXXON BAYWAY
NEW JERSEY
PROJECT LOCATION
Staten Island
Brooklyn
ARTHUR KILL CHANNEL
HOWLAND HOOK MARINE TERMINAL
NEW YORK AND NEW JERSEY
NEW YORK DISTRICT
NORTH ATLANTIC DIVISION
JANUARY 2000
7 February 2000
79

APPROPRIATION TITLE: Construction, General - Beach Erosion Control

PROJECT: Assateague Island, Maryland (New)

LOCATION: The Town of Ocean City and adjacent areas of Worcester County comprise an area of 625 square miles including Assateague Island, Ocean City Inlet, and Chincoteague, Sinepuxent, Assawoman, and Isle of Wight Bays on the eastern shore of Maryland. Adjacent to Ocean City is the Assateague Island National Seashore and State Park.

DESCRIPTION: The project involves the short-term restoration of Assateague Island. Short-term work includes dredging of about 1.8 million cubic yards from Grant Gull Bank and placing it on the Island in the area between 1.6 miles and 7.2 miles south of the jetty. The project area is composed of 4.7 miles of National Park Service and 0.9 miles of State of Maryland land.

AUTHORIZATION: Water Resources Development Act of 1996

REMAINING BENEFIT - REMAINING COST RATIO: Not applicable.

TOTAL BENEFIT - COST RATIO: Not applicable.

BASIS OF BENEFIT-COST RATIO: Not applicable.

SUMMARIZED FINANCIAL DATA	ACCUM. PCT. OF EST. FED COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Appropriation Requirement (COE)	16,900,000			
Estimated Appropriation Requirement (OFA)	300,000	Initial construction (short-term)	0	Being determined
Total Estimated Construction Cost	$17,200,000			

PHYSICAL DATA:
Environmental Restoration
Assateague Island - 5.6 miles x 95 foot width

876

SUMMARIZED FINANCIAL DATA:(continued)

Allocations to 30 September 1999	0	
Conference Allowance for FY 2000	0	
Allocation for FY 2000	0	
Allocations through FY 2000	0	0
Allocation Requested for FY 2001	2,500,000	15
Programmed Balance to Complete after FY 2001	14,400,000	
Unprogrammed balance to Complete after FY 2001	0	

JUSTIFICATION: Existing Federal, state and local projects combined with development and agriculture have caused extensive degradation to the Ocean City and vicinity environment, particularly the coastal bays. It is estimated that nearly 2000 acres of tidal wetland habitat, and thousands of acres of non-tidal wetland habitat have been lost in the coastal bay watershed. Construction of Corps navigation channels through the inlet, harbor and back bays have contributed to the degradation of approximately 265 acres of benthic habitat. Construction of the jetties by the Corps of Engineers in 1934 to stabilize the Ocean City Inlet interrupted the natural longshore transport of sand from Ocean City to Assateague, starving the northern end of Assateague Island. The northern 1.5-7 miles of Assateague has eroded at an accelerated rate since 1933. It is estimated that the induced erosion rate for this section of the island was 10.8 feet per year. The island is now at severe risk of breaching which would change the dynamics of the area resulting in adverse physical, biological, and economic impacts in the area and threaten the habitat of several endangered species such as the piping plover.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initate Dredging/Beachfill at Assateague Island	$1,850,000
Planning, Engineering and Design	320,000
Construction Management	330,000
Total	$2,500,000

NON-FEDERAL COSTS: None.

STATUS OF LOCAL COOPERATION: The sponsor for the project is the National Park Service who administers the Assateague Island National Seashore. The National Park Service will provide lands, easements and rights-of-way for the initial construction work. The project is strongly supported by the State of Maryland, Worcester County, and the Town of Ocean City.

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COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps of Engineers) cost estimate of $16,900,000 is the same as the latest estimate ($16,900,000) submitted to Congress (FY 1999).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: A draft Environmental Impact Statement was incorporated in the draft Integrated Interim Report dated May 1997. The final Environmental Impact Statement was incorporated in the final feasibility report completed in June 1998.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1997.

Due to two severe storms in January/February 1998, the Corps performed emergency work at Assateague Island in September 1998 to correct an erosion problem that threatened to breach the Island. Work involved placement of about 150,000 cubic yards of sand at a total cost of $2.1 million.

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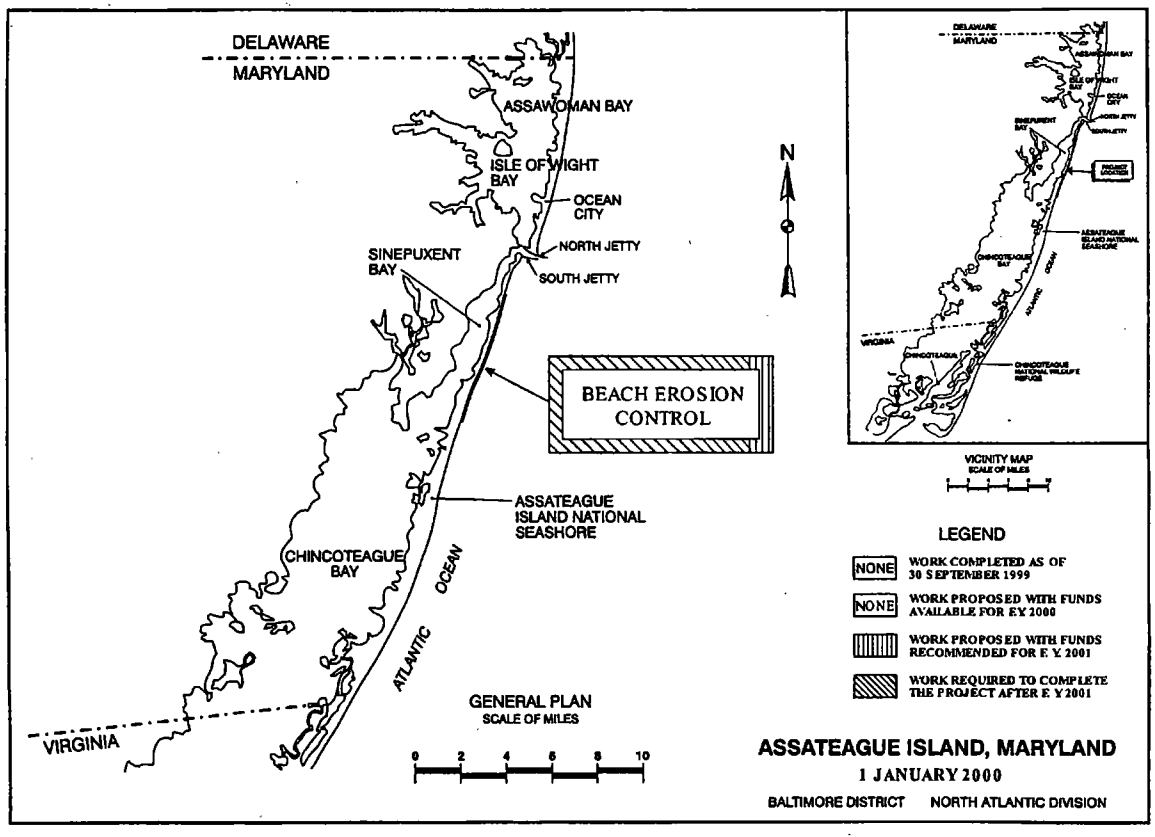
DELAWARE
MARYLAND
ASSAWOMAN BAY
ISLE OF WIGHT BAY
OCEAN CITY
NORTH JETTY
SOUTH JETTY
SINEPUXENT BAY
N
BEACH EROSION CONTROL
ASSATEAGUE ISLAND NATIONAL SEASHORE
CHINCOTEAGUE BAY
OCEAN
ATLANTIC
VIRGINIA
GENERAL PLAN
SCALE OF MILES
0 2 4 6 8 10
VICINITY MAP
SCALE OF MILES
LEGEND
NONE WORK COMPLETED AS OF 30 SEPTEMBER 1999
NONE WORK PROPOSED WITH FUNDS AVAILABLE FOR F.Y. 2000
WORK PROPOSED WITH FUNDS RECOMMENDED FOR F.Y. 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER F.Y. 2001
ASSATEAGUE ISLAND, MARYLAND
1 JANUARY 2000
BALTIMORE DISTRICT NORTH ATLANTIC DIVISION

APPROPRIATION TITLE: *Construction, General - Navigation (Deep Draft)*

PROJECT: Delaware River Main Channel Deepening, New Jersey, Pennsylvania, and Delaware (continuing)

LOCATION: The project extends over 100 miles from deep water in Delaware Bay to the tri-state, Ports of the Delaware River including Philadelphia and Beckett Street Terminal, Camden, New Jersey. It involves the Commonwealth of Pennsylvania, and the States of New Jersey and Delaware.

DESCRIPTION: The recommended plan of improvement deepens the existing Federal navigation Channel (Philadelphia to the Sea project) from the 40 foot project to 45 feet, widens bends, deepens an anchorage along with relocation and addition of navigation aids.

AUTHORIZATION: Water Resources Development Act of 1992(Sec.101(6))

REMAINING BENEFIT-REMAINING COST RATIO: 1.4 to 1 at 7 3/8 percent

TOTAL BENEFIT-COST RATIO: 1.4 to 1 at 7 3/8 percent

INITIAL BENEFIT-COST RATIO: 1.4 to 1 at 7 3/8 percent (FY 1999).

BASIS OF BENEFIT-COST RATIO: Benefits are from the Limited Reevaluation Report dated May 1997 at October 1996 price levels.

SUMMARIZED FINANCIAL DATA:

Estimated Appropriation Requirement (CoE)		224,000,000
Estimated Appropriation Requirement (USCG)		1,150,000
Estimated Total Appropriation Requirement		225,150,000
Future Non-Federal Reimbursement		29,813,000
Estimated Federal Cost (Ultimate) (CoE)		194,187,000
Estimated Non-Federal Cost		123,850,000
Cash Contributions	74,130,000	
Other Costs	49,720,000	
Reimbursements: Comml Navigation	29,813,000	
Total Estimated Project Cost		349,000,000

STATUS: (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Channel Dredging:	0	Being Determined
Entire Project	0	Being Determined

PHYSICAL DATA :

Channel: Channel deepening (dredging of about 85 miles widening and deepening of bends; deepening of an anchorage.

Disposal Construction: Four confined upland disposal areas and two beneficial use areas.

Navigation aids.: Relocation and additional navigation aids

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SUMMARIZED FINANCIAL DATA: (Cont)

		ACCUM. PCT. OF EST. FED COST
Allocations to 30 September 1999	11,525,000	
Conference Allowance for FY 2000	10,000,000	
Allocation for FY 2000	8,576,000 1/	
Allocations through FY 2000	20,101,000	9
Allocation Requested for FY 2001	29,756,000	23
Programmed Balance to Complete after FY 2001	$174,143,000	
Unprogrammed Balance to Complete after FY 2001	0	

1/ Reflects reduction of $1,424,000 assigned as savings and slippage.

JUSTIFICATION: The existing 40 foot Federal navigation project restricts efficient movement of tankers, dry bulk carriers, and container vessels. These conditions now result in significant light loading and lightering costs, and vessels delays. The 45-foot project results in transportation savings to commodities consisting of crude oil imports, iron ore imports, container ship movements and scrap exports. The average annual quantity of tonnage that will benefit from the project are as follows: oil 57 million tons, dry bulk 7 million tons, and container 1.5 million tons. The estimated average benefits are $40,143,000 (Oct 1996 Price Level) and at an average cost of $ $27,739,000. The Delaware River Ports have made a strategic land side investment in intermodal facilities. Pennsylvania and the railroads have made commensurate investments in double-stack capability for a growing container demand. A 45-foot channel is integral to the port's accomodation to current fleet/cargoes. Several beneficial, land based and aquatic dredged material disposal areas are available.

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FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate Construction	$ 26,256,000
Planning, Engineering and Design	$ 1,500,000
Construction Management	$ 2,000,000
Total	$ 29,756,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, as amended, the non-Federal sponsor must comply with the requirements listed below:

	Payments during Construction and Reimbursement	Annual Operation, Maintenance, and Replacement Costs
Provide lands, easements, and rights of way	$20,870,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	28,850,000	
Reimburse an additional 10 percent of the general navigation features allocated to commercial navigation within a period of 30 years following completion of construction, as partially reduced by a credit allowed for the value of lands, easements, rights of way, and relocation provided for commercial navigation.	29,813,000	
Pay 25 percent of the costs allocated to general navigation features during construction	74,130,000	
Total Non-Federal Cost	$153,663,000	$0

The non-Federal sponsor has also agreed to repay its share of construction costs during construction and reimburse its share of construction costs over a period of 30 years following completion of construction.

STATUS OF LOCAL COOPERATION: The Project Cooperation Agreement (PCA) is scheduled for execution in February 2000. The Delaware River Port Authority is the non-Federal sponsor.

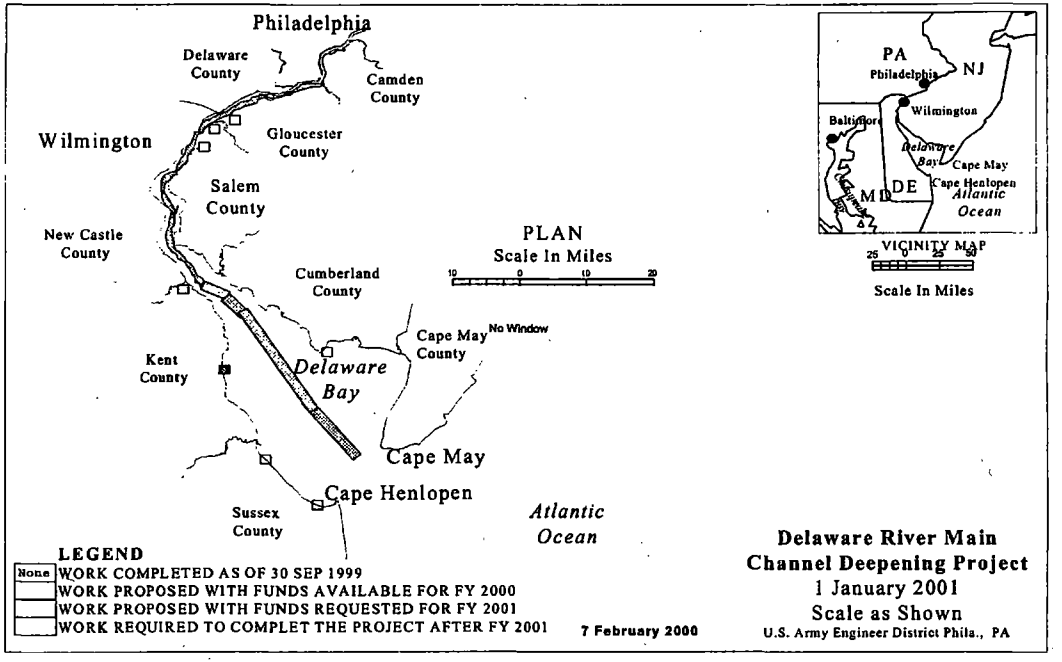
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps) cost estimate of $224,000,000 is an increase of $10,000,000 over the latest estimate ($214,000,000) submitted to Congress (FY 2000). This change includes the following items

Item	Amount
Price Escalation on Construction Features	10,000,000
Total	$10,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: As part of the Preconstruction, Engineering, and Design (PED) study a Supplemental Environmental Impact Statement (SEIS) was prepared in December 1996 and made available to the public and agencies. The Final Supplemental Environmental Impact Statement was filed with U.S. Environmental Protection Agency in July 1997, and the Record of Decision was signed in December 1998.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1992 and funds to initiate construction were appropriated in FY 1999.

Division: North Atlantic District: Philadelphia Delaware River Main Channel Deepening, NJ, PA & DE


Philadelphia
Delaware County
Camden County
Wilmington
Gloucester County
Salem County
New Castle County
Cumberland County
Kent County
Delaware Bay
Cape May County
No Window
Cape May
Cape Henlopen
Sussex County
Atlantic Ocean
PLAN
Scale In Miles
10 0 10 20
PA
NJ
Philadelphia
Wilmington
Baltimore
Delaware Bay
Cape May
MD
DE
Cape Henlopen
Atlantic Ocean
VICINITY MAP
25 0 25 50
Scale In Miles
LEGEND
None WORK COMPLETED AS OF 30 SEP 1999
WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
WORK REQUIRED TO COMPLET THE PROJECT AFTER FY 2001
7 February 2000
Delaware River Main
Channel Deepening Project
1 January 2001
Scale as Shown
U.S. Army Engineer District Phila., PA

APPROPRIATION TITLE: Construction, General - Channels and Harbors (Navigation)

PROJECT: New York Harbor and Adjacent Channels, Port Jersey Channel, New Jersey (Continuing)

LOCATION: The project is located in New York Harbor five miles southwesterly of the southern tip of Manhattan Island, New York City, and extends from the Anchorage Channel two miles north of Bayonne, New Jersey to form the access channel just north of the Military Ocean Terminal.

DESCRIPTION: Work consists of dredging the access channel to 41 feet from the Federal Anchorage Channel to its head of navigation, providing a turning basin at the head of navigation, and bulkheading portions of the turning basin. All work is programmed.

AUTHORIZATION: Water Resources Development Act of 1986 and Water Resources Development Act of 1999.

REMAINING BENEFIT - REMAINING COST RATIO: 4.7 to 1 at 8 percent.

TOTAL BENEFIT - COST RATIO: 4.7 to 1 at 8 percent.

INITIAL BENEFIT - COST RATIO: 4.7 to 1 at 8 percent (FY 1996).

BASIS OF BENEFIT - COST RATIO: Benefits are from the General Design Memorandum approved in May 1993 at October 1991 prices.

SUMMARIZED FINANCIAL DATA		ACCUM. PCT OF EST FED. COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Appropriation Requirement (CoE)	$ 82,200,000		Contract No. 1	0	Being Determined
Estimated Appropriation Requirement (USCG)	5,000		Contract No. 2	0	Being Determined
Estimated Total Appropriation Requirement	82,205,000		Entire Project	0	Being Determined
Future Non-Federal Reimbursement	10,950,000				
Estimated Federal Cost (Ultimate) (CoE)	71,255,000				
Estimated Non-Federal Cost	39,045,000				
Cash Contribution	27,327,000				
Other Costs	768,000				
Reimbursements : Comml Navigation	10,950,000				
Total Estimated Project Cost	$110,300,000				

PHYSICAL DATA

Deepening channel to 41 feet mlw, providing a turning basin, and bulkheading portions of the turning basin

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SUMMARIZED FINANCIAL DATA: (continued)

		ACCUM. PCT. OF EST. FED. COST
Allocations to 30 September 1999	$ 3,589,000	
Conference Allowance for FY 2000	2,000,000	
Allocation for FY 2000	1,715,000 1/	
Allocation through FY 2000	5,304,000	6
Allocation Requested for FY 2001	5,649,000	13
Programmed Balance to Complete after FY 2001	71,247,000	
Unprogrammed Balance to Complete after FY 2001	0	

1/ Reflects $285,000 reduction assigned for savings and slippage.

JUSTIFICATION: Cargo handled at Global Marine Terminal was about 1 million tons in 1990, which included heavy machinery, electronic equipment and waste paper. The terminal serves 12 major shipping lines. The existing 35-foot Port Jersey Channel preclude current generation containerships from fully loading and will further hamper future fleets of larger draft vessels. Over the last 12 years an average of 263 deep draft ships and 60 barges called on Global Marine Terminal. The average annual benefits, all commercial navigation, are $32,433,000 at October 1997 prices.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Contract 1	$ 5,009,000
Planning , Engineering, and Design	$ 320,000
Construction Management	$ 320,000
Total	$ 5,649,000

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NON-FEDERAL COSTS: In accordance with the cost sharing and financial concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the Requirements listed below:

REQUIREMENTS OF LOCAL COOPERATION:	Payments During Construction and Reimbursement	Annual Operation, Maintenance and Replacement Costs
Dredging berthing areas and relocate utilities where necessary in the construction of the project.	$ 768,000	$ 12,100
Pay 25 percent of the costs allocated to deep draft navigation during construction.	27,327,000	
Pay an additional 10 percent of the costs allocated to deep draft navigation within a period of 30 years following completion of construction which is partially offset by a credit allowed for the value of lands, easements, rights of way, relocation, (except utility relocations), and dredged material disposal areas.	10,950,000	
Total Non-Federal Costs	$ 39,045,000	$ 12,100

The non-Federal sponsor has also agreed to repay its share of construction costs during construction and reimburse its share of construction costs over a period of 30 years following completion of construction.

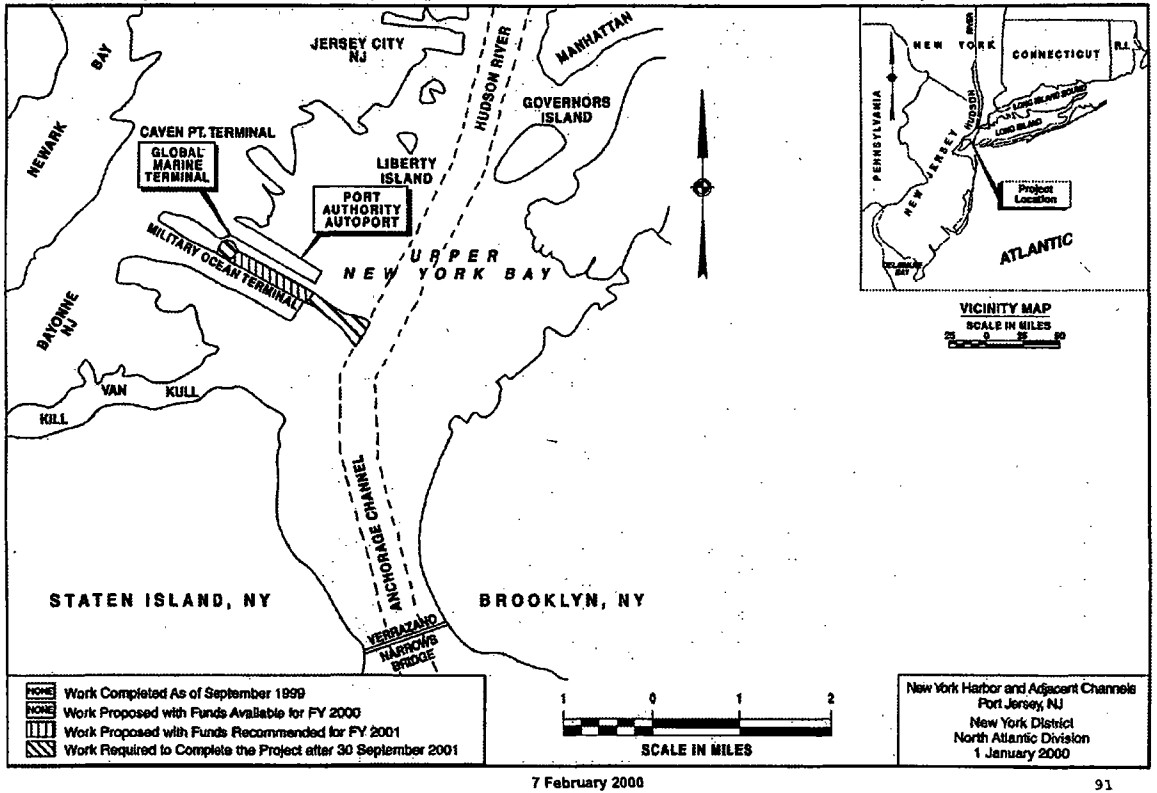
STATUS OF LOCAL COOPERATION: The State of New Jersey by letter dated 27 February 1997 indicated they would be the local sponsor. A project cooperation agreement is scheduled for execution in June 2000.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $82,200,000 is a decrease of $1,000,000 over the latest estimate ($83,200,000) submitted to Congress (FY 2000). This change includes the following item:

Item	Amount
Price Escalation on Construction Features	$-1,000,000
Total	$-1,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement (EIS) was filed with the Environmental Protection Agency (EPA) on 29 April 1988, and an EA was issued January 1998.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1988 and funds to initiate construction were appropriated in FY 1994.


JERSEY CITY NJ
HUDSON RIVER
MANHATTAN
BAY
NEWARK
CAVEN PT. TERMINAL
GLOBAL MARINE TERMINAL
LIBERTY ISLAND
GOVERNORS ISLAND
PORT AUTHORITY AUTOPORT
MILITARY OCEAN TERMINAL
NEW YORK BAY
BAYONNE NJ
VAN KULL
KILL
ANCHORAGE CHANNEL
STATEN ISLAND, NY
BROOKLYN, NY
VERRAZANO NARROWS BRIDGE
NEW YORK
CONNECTICUT
R.I.
PENNSYLVANIA
NEW JERSEY
HUDSON
LONG ISLAND SOUND
LONG ISLAND
Project Location
ATLANTIC
VICINITY MAP
SCALE IN MILES
Work Completed As of September 1999
Work Proposed with Funds Available for FY 2000
Work Proposed with Funds Recommended for FY 2001
Work Required to Complete the Project after 30 September 2001
1 0 1 2
SCALE IN MILES
New York Harbor and Adjacent Channels
Port Jersey, NJ
New York District
North Atlantic Division
1 January 2000

APPROPRIATION TITLE: Construction, General - Channels and Harbors (Navigation)

PROJECT: Kill Van Kull & Newark Bay Channel, New York and New Jersey (Continuing)

LOCATION: The Kill Van Kull is a tidal straight within New York Harbor between Staten Island, New York, and Bayonne, New Jersey. Newark Bay is a tidal Bay located between Newark, NJ and Elizabeth, NJ to the west and Bayonne, New Jersey to the east.

DESCRIPTION: Programmed work consists of dredging of about five miles of the Kill Van Kull Channel to a depth of 45 feet with widenings at Robins Reef, St. George and Bergen Point; dredging of about 3 miles of the Newark Bay Channels to 45 feet, with widenings at the site of the Central Railroad Bridge and the junction with the Port Newark Channel; and, dredging of a turning basin at Port Elizabeth to a depth of 45 feet. Unprogrammed work includes dredging of Pierhead Channel and Port Newark in the vicinity of Port Newark and Port Elizabeth. Phase I work to deepen channels to 40 feet was completed September 1995.

AUTHORIZATION: Supplemental Appropriations Act of 1985, section 202(a) of the Water Resources Development Act of 1986, section 301(b)(12) of the Water Resources Development Act of 1996, and Section 334 of the Water Resources Development Act of 1999

REMAINING BENEFIT-REMAINING COST RATIO: Phase I is not applicable because project construction is completed. Phase II - The benefit cost is 4.2 to 1. at 7 3/8 percent.

TOTAL BENEFIT-COST RATIO: 4.2 to 1 at 7 3/8 percent.

INITIAL BENEFIT-COST RATIO: 7.9 to 1 at 7 3/8 percent (FY 1996).

BASIS OF BENEFIT-COST RATIO: Phase I Benefits are from the approved General Design Memorandum dated June 1986 at October 1985 price levels. Phase II Benefits are from the Limited Reevaluation Report (LRR) dated April 1997 at November 1996 price levels.

SUMMARIZED FINANCIAL DATA		ACCUM. PCT. OF EST. FED. COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Appropriation Required (COR)		$ 607,600,000	Programmed Work		
			PHASE I	100	Sep 1995
Programmed Construction	$ 533,350,000				
Unprogrammed Construction	74,250,000		Phase II Deepening to 45ft depths	0	Indefinite
Estimated Appropriation Requirement (U.S. Coast Guard)		2,300,000	Contract Area 2	60	Sep 2000
Programmed Construction	2,300,000		Contract Area 1	0	Aug 2001
Unprogrammed Construction	0		Contract Area 3	0	Being determined
			Contract Area 4A	0	May 2001

SUMMARIZED FINANCIAL DATA (continued)

			ACCUM. PCT. OF EST. FED. COST
Estimated Total Appropriation Requirement			609,900,000
Programmed Construction		535,650,000	
Unprogrammed Construction		74,250,000	
Future Non-Federal Reimbursement			81,200,000
Programmed Construction		73,811,000	
Unprogrammed Construction		7,389,000	
Estimated Federal Cost (Ultimate) (COE)			526,400,000
Programmed Construction		459,539,000	
Unprogrammed Construction		66,861,000	
Estimated Non-Federal Cost			415,600,000
Programmed Construction		390,850,000	
Cash Contribution	$185,139,000		
Other Costs	131,900,000		
Reimbursements	73,811,000		
Unprogrammed Construction		24,750,000	
Cash Contribution	17,361,000		
Other Costs	0		
Reimbursements	7,389,000		

STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Contract Area 4B	0	Being determined
Contract Area 5	0	Being determined
Contract Area 6	0	Being determined
Contract Area 7	0	Sep 2001
Contract Area 8	0	Being determined
Unprogrammed Work		
Contract 9	0	Indefinite
Entire Project	27	Indefinite

Total Estimated Programmed Construction Costs	$ 852,689,000	
Total Estimated Unprogrammed Construction Costs	91,611,000	
Total Estimated Project Cost	944,300,000	
Allocations to 30 September 1999	221,276,000	
Conference Allowance for FY 2000	40,000,000	
Allocation for FY 2000	34,304,000 1/	
Allocation through FY 2000	255,580,000	42
Allocation Requested for FY 2001	53,000,000	51
Programmed Balance to Complete after FY 2001	224,770,000	
Unprogrammed Balance to Complete after FY 2000	74,250,000	

1/ Reflects $5,696,000 reduction assigned as savings and slippage.

JUSTIFICATION: Cargo handled at Port Newark and Port Elizabeth, which together comprise one of the nations larger container ports, was about 24.4 million tons in 1995. The 40-foot deep channels in the Kill Van Kull and Newark Bay precluded present generation containerships from fully loading and hampered future fleets of larger draft vessels. The average annual benefits, all commercial navigation, are $619,194,000 at 1 November 1996 price levels.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Complete Contract (Area 1)	$ 5,362,000
Complete Contract (Area 4a)	7,983,000
Complete Contract (Area 7)	11,208,000
Initiate Contract (Area 3)	15,335,000
Initiate Contract (Area 5)	7,704,000
Planning, Engineering, and Design	2,442,000
Construction Management	2,966,000
Total	$ 53,000,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, and Replacement Costs
Dredge berthing areas and relocate utilities where necessary in the construction of the project.	$131,900,000	
Pay 25 percent of the costs allocated to deep draft navigation during construction.	202,500,000	
Pay an additional 10 percent of the costs allocated to deep draft navigation within a period of 30 years' following completion of construction which is partially offset by a credit allowed for the value of lands, easements, rights-of-way, relocations, and dredged material disposal areas.	81,200,000	
Total Non-Federal Costs	$ 415,600,000	

STATUS OF LOCAL COOPERATION: A Local Cooperation Agreement (LCA) with the Port Authority of New York and New Jersey, the non-Federal sponsor, was executed for the Phase I deepening to 40 feet on 30 May 1986. A modification of the LCA was executed on 21 May 1987 to reflect the criteria of the Water Resources Development Act of 1986. A Project Cooperation Agreement for the 45ft deepening project was executed for the Phase II deepening on 13 January 1999.

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COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps of Engineers) cost estimate of $607,600,000 is a decrease of $215,700,000 over the latest estimate ($823,300,000) presented to Congress (FY 2000). This change includes the following items:

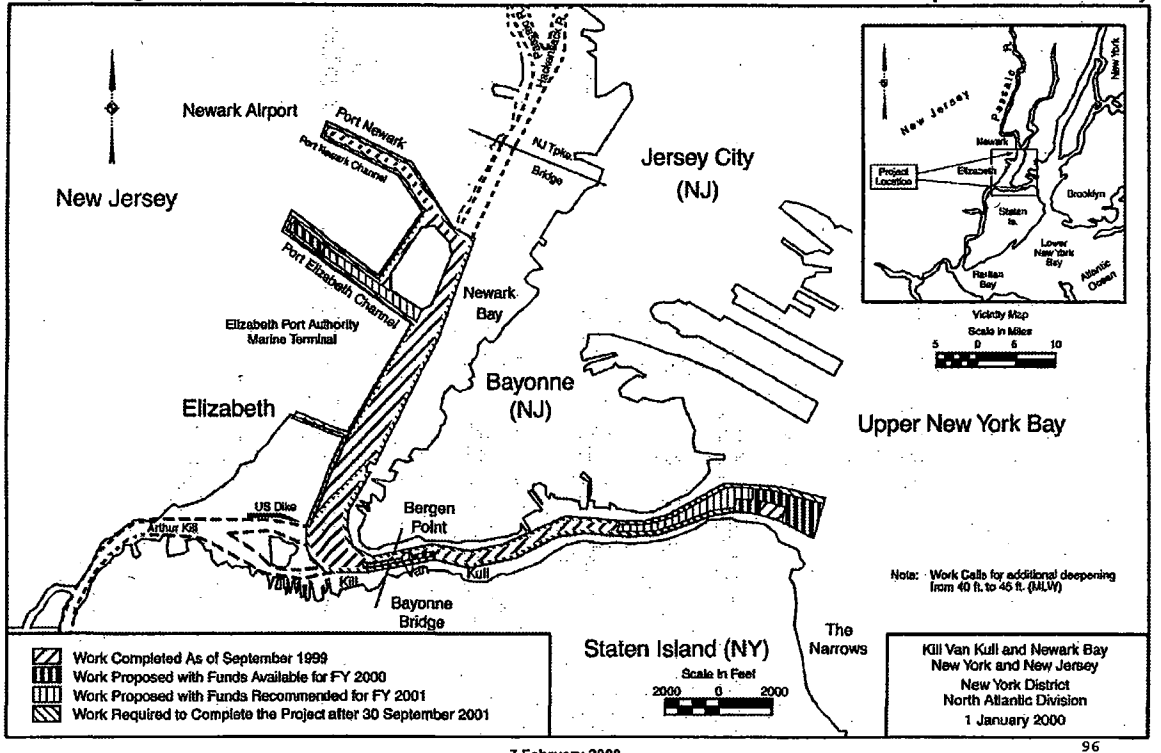
Item	Amount
Price Escalation on Construction Features	$ 17,900,000
Post Contract Award and Other Estimating Adjustments	-233,600,000
Total	$- 215,700,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Final Environmental Impact Statement (EIS) was filed with the Environmental Protection Agency (EPA) on 31 July 1981. A Supplemental EIS was filed with EPA on 14 February 1986. The Final Supplement to the EIS was filed with EPA on 13 February 1987. The Record of Decision was executed on 1 April 1987. A Environmental Assessment and Finding of no Significant Impact was issued on 30 April 1997 as part of the LRR for the Phase II deepening.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1984 and funds to initiate construction were appropriated in FY 1985.

Corps of Engineers

Department of the Army



7 February 2000

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APPROPRIATION TITLE: Construction, General - Channels and Harbors (Navigation)

PROJECT: Atlantic Intracoastal Waterway Bridge At Great Bridge, Virginia (Continuing)

LOCATION: The project is located in the community of Great Bridge, city of Chesapeake, in the southeastern portion of Virginia. The Atlantic Intracoastal Waterway bridge crosses the Albermarle and Chesapeake Canal which is a part of the Atlantic Intracoastal Waterway that connects the Southern Branch of the Elizabeth River and the North Landing River.

DESCRIPTION: The plan of improvement includes replacement of the existing Federal bridge with a five-lane, double-leaf, rolling-lift bascule also commonly known as a "Scherzer Rolling Lift Bridge." The replacement bridge provides five 12-foot lanes, two 2-foot shoulders and pedestrian walkways. The roadway centerline on the proposed bridge will be approximately 80 feet east of, and parallel to, the existing bridge centerline. Upon completion of the project the non-Federal Sponsor (City of Chesapeake) will assume ownership and provide OMRR and R for the new bridge and approaches.

AUTHORIZATION: Section 339 of the National Highway Systems Designation Act of 1995 (P.L. 104-59).

REMAINING BENEFIT-REMAINING COST RATIO: 2.1 to 1 at 7 3/8 percent

TOTAL BENEFIT-COST RATIO: 1.8 to 1 at 7 3/8 percent

INITIAL BENEFIT-COST RATIO: 1.8 to 1 at 7 3/8 (FY 1998)

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluation approved in July 1994 at October 1992 price levels

SUMMARIZED FINANCIAL DATA:		ACCUM PCT. OF EST. FED COST		STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
				Bridge Replacement	10	Sep 2002
Estimated Federal Cost		24,054,000				
Estimated Non-Federal Cost		3,672,000				
Cash Contributions	3,604,000					
Other Costs	68,000					
Total Estimated Project Cost		27,727,000				
Allocations to 30 September 1999		5,066,000				
Conference Allowance for FY 2000		3,000,000				
Allocation for FY 2000		2,573,000	1/			
Allocations through FY 2000		7,639,000	32			
Allocation Requested for FY 2001		8,492,000	67			
Programmed Balance to Complete after FY 2001		7,923,000				

PHYSICAL DATA

BRIDGE:		
TYPE	LENGTH	DECK ELEVATION
Dbl Leaf Rolling Lift Bascule	304 ft.	13.0 ft NGVD

1/ Reflects $427,000 reduction assigned as savings and slippage

JUSTIFICATION: The present bridge, which was built by the Corps of Engineers, was opened to traffic in August 1943. The bridge is now functionally obsolete. It is a double-swing two-lane highway bridge carrying Virginia's Route 168 over the Albermarle and Chesapeake Canal. At the time the bridge was built, it had adequate vehicle capacity for a rural area. However, the bridge now connects a multi-lane highway through a heavily traveled area serving a busy urban commercial center. The bridge is seriously overloaded, carrying over 30,000 vehicles per day, which is double its design capacity. Navigation is also adversely affected due to restrictions on bridge openings. Updating of the mechanical and electrical equipment is now needed. Structural problems have required the bridge to be down-posted from 15 to 13 tons. While maintenance and repairs are an alternative to replacing the bridge, increased cost for repairs or further weight limit downposting are likely as the bridge continues to age.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue construction	$7,592,000
Construction Management	900,000
Total	$8,492,000

Division: North Atlantic District: Norfolk

Atlantic Intracoastal Waterway
Bridge At Great Bridge, VA

NON-FEDERAL COST: In accordance with the cost-sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights of way, relocations, and approaches	$3,672,000	
Pay all costs of betterments to the project	0	
Total Non-Federal Costs	$3,672,000	\$215,000

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction and will assume ownership and all operation, maintenance, repair, replacement, and rehabilitation responsibilities of the bridge.

STATUS OF LOCAL COOPERATION: The city of Chesapeake is the non-Federal project sponsor. By City Council Resolution dated 8 June 1999 and by letter dated 9 June 1999, the city indicated their support and willingness to enter into a Project Cooperation Agreement (PCA) prior to initiation of construction. In addition, the city agreed to assume ownership and all operation, maintenance, repair, replacement, and rehabilitation responsibilities, and provide the incremental costs of any locally preferred options. The non-Federal sponsor is fully capable of providing its share of funds for the bridge replacement through its borrowing authority. The PCA execution was executed on 22 Noveber 1999.

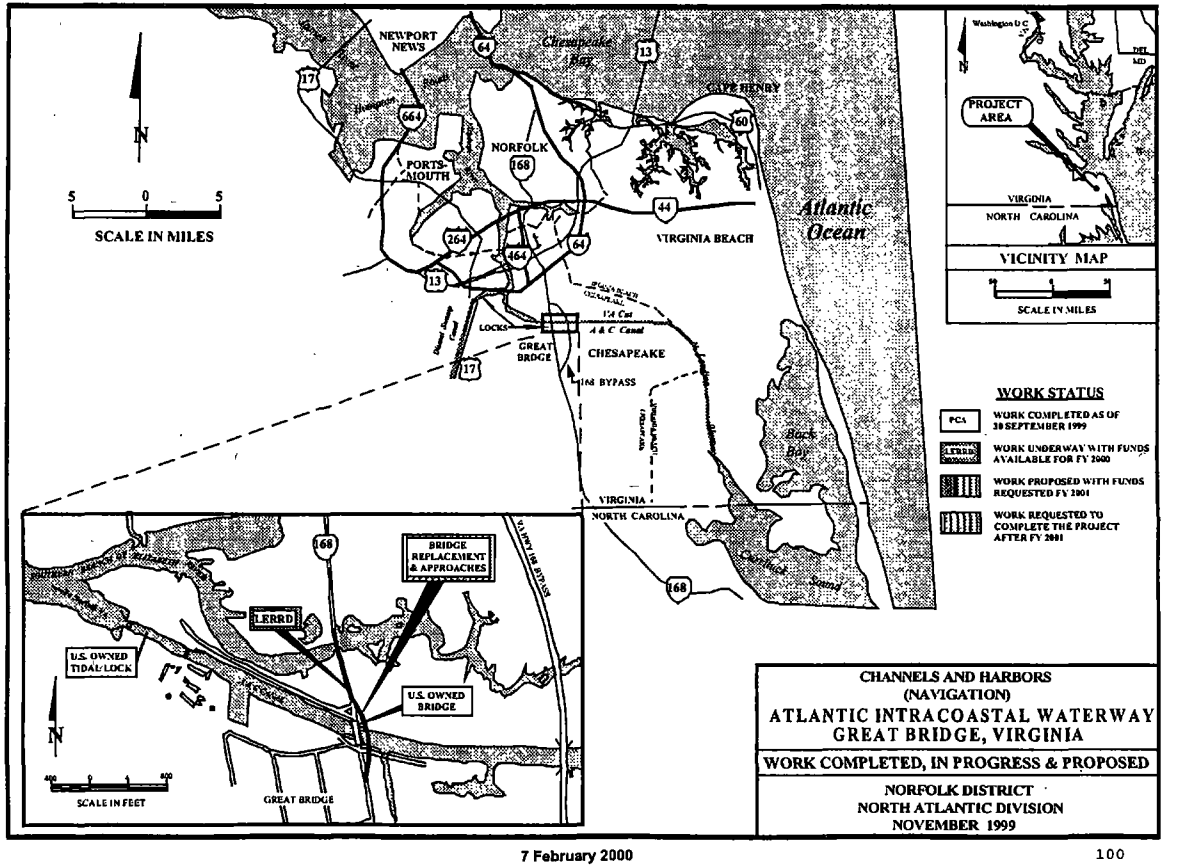
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $24,054,000 is an increase of $954,000 over the last estimate ($23,100,000) presented to Congress (FY 2000). This change includes the following item:

Item	Amount
Price Escalation on Construction Features	$954,000
Total	$954,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Environmental Assessment/Finding of No Significant Impact (EA/FONSI) was signed on 25 February 1994.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1995. Funds to initiate construction were appropriated in FY 1998.

Division: North Atlantic District: Norfolk Atlantic Intracoastal Waterway Bridge At Great Bridge, VA


NEWPORT NEWS
Chesapeake Bay
CAPE HENRY
PORTSMOUTH
NORFOLK
VIRGINIA BEACH
Atlantic Ocean
LOCKS
GREAT BRIDGE
CHESAPEAKE
Back Bay
VIRGINIA
NORTH CAROLINA
SCALE IN MILES
PROJECT AREA
VICINITY MAP
WORK STATUS
WORK COMPLETED AS OF 30 SEPTEMBER 1999
WORK UNDERWAY WITH FUNDS AVAILABLE FOR FY 2000
WORK PROPOSED WITH FUNDS REQUESTED FY 2001
WORK REQUESTED TO COMPLETE THE PROJECT AFTER FY 2001
BRIDGE REPLACEMENT & APPROACHES
LRRRD
U.S. OWNED TIDAL LOCK
U.S. OWNED BRIDGE
SCALE IN FEET
GREAT BRIDGE
CHANNELS AND HARBORS
(NAVIGATION)
ATLANTIC INTRACOASTAL WATERWAY
GREAT BRIDGE, VIRGINIA
WORK COMPLETED, IN PROGRESS & PROPOSED
NORFOLK DISTRICT
NORTH ATLANTIC DIVISION
NOVEMBER 1999

APPROPRIATION TITLE: Construction, General - Channels and Harbors (Navigation)

PROJECT: Norfolk Harbor and Channels (Deepening), Virginia (Continuing)

LOCATION: The project is located in Hampton Roads, Virginia, a 25-square mile natural harbor serving the ports of Norfolk, Newport News, Portsmouth, Chesapeake, and Hampton, Virginia.

DESCRIPTION: Programmed work encompasses (1) deepening a 2.5 mile section of the Southern Branch of the Elizabeth River from a depth of 35 feet to 40 feet, including an 800 foot turn basin, (2) the construction of a 1500 foot diameter anchorage area with a depth of 50 feet, and (3) the construction of the 50-foot inbound element. Unprogrammed work encompasses deepening the outbound lanes of existing main channels to a depth of 55 feet, constructing a new ocean channel to a depth of 60 feet, and deepening a 6.3 mile section of the Southern Branch to a depth of 45 feet. Dredging the outbound channels to a depth of 50 feet was completed in 1988, and the Lower Bay Beneficial Uses Study was completed in August 1994.

AUTHORIZATION: Supplemental Appropriations Act of 1985 and Water Resources Development Act of 1986.

REMAINING BENEFIT-COST RATIO: 1.6 to 1 at 8 1/8 percent.

TOTAL BENEFIT-COST RATIO: 1.6 to 1 at 8 1/8 percent.

INITIAL BENEFIT-COST RATIO: 3.7 to 1 at 8 1/8 percent (FY 1985).

BASIS OF BENEFIT-COST RATIO: Benefits are from the General Design Memorandum approved in July 1986 at October 1986 price level and the Supplemental Engineering Report approved in August 1989 at October 1989 price level. Benefits for the 50-Foot Anchorage are from the Limited Reevaluation Report dated May 1996 at October 1996 price level.

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SUMMARIZED FINANCIAL DATA

Estimated Appropriation Requirement (CoE)		137,400,000
Programmed Construction	21,312,000	
Unprogrammed Construction	116,088,000	
Estimated Appropriation Requirement (Coast Guard)		833,000
Programmed Construction	306,000	
Unprogrammed Construction	527,000	
Estimated Appropriation Requirement (US Navy)		3,508,000
Programmed Construction	3,508,000	
Unprogrammed Construction	0	
Estimated Total Appropriation Requirement		141,741,000
Programmed Construction	25,126,000	
Unprogrammed Construction	116,615,000	
Future Non-Federal Reimbursement		11,362,000
Programmed Construction	928,000	
Unprogrammed Construction	10,434,000	
Estimated Federal Cost (Ultimate) (CoE)		126,038,000
Programmed Construction	20,384,000	
Unprogrammed Construction	105,654,000	
Estimated Non-Federal Cost		132,321,000
Programmed Construction	14,441,000	
Cash Contribution	9,545,000	
Other Costs	3,968,000	
Reimbursements	928,000	

STATUS (1 Jan 2000)

	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
50-Foot Outbound	100	Dec 1988
50-Foot Outbound (Anchorage)	0	Sep 1999
50-Foot Inbound	0	Indefinite
55-Foot Outbound	0	Indefinite
55-Foot Outbound (Anchorage)	0	Indefinite
Southern Branch 45-Foot	0	Indefinite
Southern Branch 40-Foot	25	Indefinite
Entire Project	14	Indefinite

PHYSICAL DATA

CHANNELS	DEPTH (feet m.l.w.)	WIDTH (feet)	LENGTH (miles)
Atlantic Ocean	60	650	9.6
Thimble Shoal	55	650	13.4
Norfolk Harbor	55	650-800	8.4
Newport News	55	800	6.2
Elizabeth River and Southern Branch	45	375-750	6.3
Southern Branch	40	250-500	2.5

ANCHORAGES	DEPTH (feet m.l.w.)	RADIUS (feet)
55-Foot	55	1,500
Sewells Point	45	1,500

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SUMMARIZED FINANCIAL DATA (Continued)			ACCUM. PCT. OF EST. FED COST
Unprogrammed Construction	117,880,000		
Cash Contribution	82,326,000		
Other Costs	25,120,000		
Reimbursements	10,434,000		
Total Estimated Programmed Construction Cost		40,153,000	
Total Estimated Unprogrammed Construction Cost		222,547,000	
Total Estimated Project Cost		262,700,000	
Allocations to 30 September 1999		19,040,000	
Conference Allowance for FY 2000		550,000	
Allocation for FY 2000		472,000	1/
Allocations Through FY 2000		19,512,000	14
Allocation Requested for FY 2001		600,000	15
Programmed Balance to Complete after FY 2001		1,200,000	
Unprogrammed Balance to Complete after FY 2001		116,088,000	

1/ Reflects $78,000 reduction assigned as savings and slippage.

JUSTIFICATION: The existing channels in the Port of Hampton Roads are not deep enough to accommodate the increasing vessel sizes which transport principal commodities such as coal and grain. Hampton Roads coal terminals already receive colliers in excess of 100,000 deadweight tons which cannot sail fully loaded with the existing channels 50 feet deep, making unit transportation costs higher. When the project is completed, larger vessels will be able to load to capacity, providing a savings in the delivery of cargo to final destinations. The project will assist in improving the United States competitive position as a major coal exporter. The purpose of constructing the 50-Foot Inbound Channels is to prepare the port for the anticipated growth in the U.S. maritime container trade well into the next century and projected trend toward the utilization of increasingly larger container vessels. Average annual benefits are as follows:

Annual Benefits	Amount
Transportation Savings (50-Foot Outbound)	$26,400,000
Transportation Savings (55-Foot Outbound)	22,200,000
Transportation Savings (Southern Branch 45 foot)	3,499,000
Transportation Savings (Southern Branch 40 foot)	2,550,000
Total	$54,649,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Planning, Engineering, and Design:	
Elizabeth River Southern Branch	50,000
50-Foot Inbound Element	550,000
Total	$600,000

NON-FEDERAL COST: In accordance with the cost-sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
50-Foot Outbound Element and Long-term Disposal:		
Pay Craney Island dredged material disposal area tolls	642,000	
Pay the costs of improvements to access channels and berthing areas ($2,987,000) and relocate a 30 inch diameter water main ($339,000).	3,326,000	
Pay 50 percent of the costs allocated to deep draft navigation greater than 45 feet during construction and pay 25 percent of the costs of incremental maintenance below 45 feet below mean low water.	9,545,000	150,000
Pay an additional 10 percent of the costs allocated to deep draft navigation within a period of 30 years following completion of construction (which is partially offset by relocation of the 30 inch diameter water main and a credit allowed for the Craney Island dredged material area tolls).	928,000	
Subtotal Non-Federal Costs (50-Foot Outbound Element)	$14,441,000	$150,000

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Requirements of Local Cooperation (Cont'd)	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
50-Foot Anchorage Element:		
Pay 50 percent of the costs allocated to deep draft navigation greater than 45 feet during construction and pay 25 percent of the costs of incremental maintenance below 45 feet below mean low water.	2,173,500	31,000
Pay an additional 10 percent of the costs allocated to deep draft navigation within a period of 30 years following completion of construction.	434,700	
Subtotal Non-Federal Costs (50-Foot Anchorage Element)	$2,608,200	$31,000

NON-FEDERAL COST (Continued)

Requirements of Local Cooperation (Cont'd)	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Remaining Elements:		
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	2,620,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary in the construction of the project.	22,500,000	
Pay 50 percent of the costs allocated to deep draft navigation greater than 45 feet during construction and pay 25 percent of the costs of incremental maintenance below 45 feet mean low water.	80,002,000	
Pay an additional 10 percent of the costs allocated to deep draft navigation within a period of 30 years following completion of construction.	10,434,000	
Subtotal Non-Federal Costs (Remaining Elements)	$115,556,000	$ 0
Total Non-Federal Costs	$132,321,000	$181,000

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction and reimburse its share of construction costs over a period of 30 years following completion of construction.

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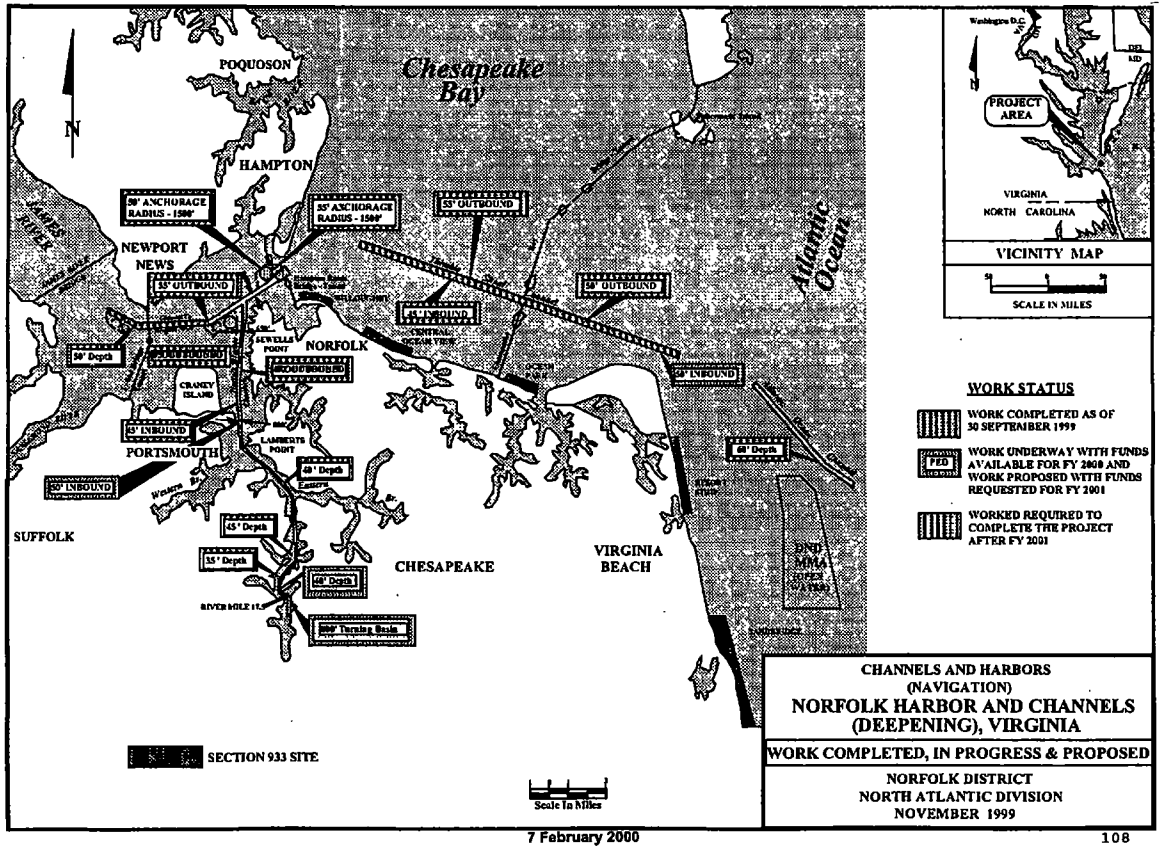
STATUS OF LOCAL COOPERATION: A Local Cooperation Agreement (LCA) for the first phase (50 foot Outbound) was executed 15 May 1986 with the Commonwealth of Virginia, and LCA Modification No. 1 was executed 13 February 1987 to reflect the criteria of the Water Resources Development Act of 1986. Supplements to the existing LCA will be executed to accommodate completion of future elements.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (CoE) cost estimate of $137,400,000 is the same as the latest estimate ($137,400,000) presented to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement (FEIS) and Addendum were filed on 3 April 1981. A final Supplement I to the FEIS was filed on 14 June 1985. An Environmental Assessment for the 50-Foot Anchorage was completed in March 1996.

OTHER INFORMATION: Funds to initiate construction were appropriated in FY 1985. Funds to initiate the 50-foot anchorage area were appropriated in FY 1998. The first phase of the project provided an outbound channel 50 feet deep. The inbound 50 and 55 foot Channel phases have been deferred due to the absence of currently identified economic or operational need. The remainder of the project will be programmed in coordination with local interests. The Virginia Port Authority expressed support for new starts of the 50-Foot Inbound Element in a letter dated 4 May 1998. A long-term dredged material management study was initiated in FY 1985. This study concentrated on the needs of the inner harbor and was completed in FY 1994.



CHANNELS AND HARBORS
(NAVIGATION)

NORFOLK HARBOR AND CHANNELS (DEEPENING), VIRGINIA

WORK COMPLETED, IN PROGRESS & PROPOSED

NORFOLK DISTRICT
NORTH ATLANTIC DIVISION
NOVEMBER 1999

APPROPRIATION TITLE: Construction, General - Beach Erosion Control

PROJECT: Delaware Coast Protection, Delaware (Continuing)

LOCATION: The project is located in Sussex County, Delaware, on the Atlantic Ocean at Indian River Inlet.

DESCRIPTION: The plan of improvement consists of constructing a sand bypassing plant and periodic nourishment of a feeder beach at Indian River Inlet. All work is programmed.

AUTHORIZATION: Flood Control Act of 1968 and the Water Resources Development Act of 1986.

REMAINING BENEFIT - REMAINING COST RATIO: Not applicable because initial construction is complete.

TOTAL BENEFIT-COST RATIO: Not applicable because initial construction is complete.

INITIAL BENEFIT - COST RATIO: 2.0 to 1 at 6 1/8 percent (FY 1977).

BASIS OF BENEFIT-COST RATIO: Atlantic Coast of Delaware General Design Memorandum, approved January 1986 at October 1984 price levels and a Reevaluation Report approved February 1984 at October 1983 price levels.

SUMMARIZED FINANCIAL DATA				STATUS: (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost			$13,000,000	Initial Construction	100	
Initial Construction	2,266,000			Periodic Nourishment	28	Being Determined
Periodic Nourishment	10,734,000			Entire Project	55	Being Determined
Estimated non-Federal Cost			15,200,000			
Initial Construction		441,000		PHYSICAL DATA:		
Cash Contributions	441,000			Project Area Length: 3,500 feet sand bypass plant designed to provide the necessary volume of sand to the feeder beach. Feeder beach requires bypassing an average of 100,000 cubic yards each year.		
Other Costs	0					
Periodic Nourishment		14,759,000				
Cash Contributions	0					
Other Costs	14,759,000					
Total Estimated Project Cost			28,200,000			
Initial Construction			2,707,000			
Periodic Nourishment			25,493,000			

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SUMMARIZED FINANCIAL DATA (Continued)

		ACCUM. PCT. OF EST. FED. COST
Allocations to 30 September 1999	5,121,000	
Conference Allowance for FY 2000	259,000	
Allocation for FY 2000	222,000 1/	
Allocations through FY 2000	5,343,000	42
Allocation Requested for FY 2001	254,000	43
Programmed Balance to Complete after FY 2001	7,403,000	
Unprogrammed Balance to Complete after FY 2001	0	

1/ Reflects reduction of $37,000 assigned as savings and slippage.

JUSTIFICATION: The reach of shoreline immediately north of Indian River Inlet, commonly referred to as the feeder beach, is being damaged by erosion, and State Highway Route 1 is threatened. The project area has also experienced considerable erosion from waves due to hurricanes and northeasters as a result of the lack of adequate protective beaches. The critical length of shoreline north of Indian River Inlet along which erosion threatens Route 1 is extremely important because it provides the only direct roadway between Bethany Beach and the northern beaches. There would be severe negative social and economic impacts if Route 1 were to be cut by a washover. The authorized project would provide tangible benefits by providing beach erosion control measures which in turn reduce annual beach erosion maintenance costs and reduce wave damages from coastal storms. The average annual benefits, are $9,549,20 based on 1 October 1984 price levels of which $9,121,100 are for prevention of erosion damages and $428,100 are for prevention of loss of land.

FISCAL YEAR 2001: The requested funding will be used to provide periodic nourishment through the operation of a sand bypass plant. The funds will be applied as follows:

Periodic Nourishment	$ 219,000
Planning, Engineering, and Design	$ 24,000
Construction Management	$ 11,000
Total	$ 254,000

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal Sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, and Replacement Costs
Bear 35 percent of the costs allocated to periodic nourishment, and bear all costs of operation, maintenance and replacement of shoreline protection features.	$15,200,000	$120,000
Bear 100 percent of operation, maintenance, and replacement for mitigation of shore damages attributable to navigation projects.		$203,000
Total non-Federal Costs	$15,200,000	$323,000

STATUS OF LOCAL COOPERATION: A Local Cooperation Agreement was executed in October 1988 with the State of Delaware. The current non-Federal estimated cash contribution of $15,200,000 for programmed work reflects an increase of $5,350,000 from the estimate of $9,850,000 included in the Local Cooperation Agreement. The non-Federal sponsor has indicated that it is financially capable and willing to contribute the increased non-Federal share. Our analysis of the non-Federal sponsor's financial capability to participate in the project affirms that the sponsor has a reasonable and implementable plan for meeting its financial commitment.

COMPARISON OF FEDERAL COST ESTIMATE: The current Federal cost estimate of $13,000,000 is an increase of $1,200,000 from the latest estimate ($11,800,000) presented to Congress (FY 2000). This change includes the following items:

Item	Incremental Change
Price Escalation on Construction Features	$1,200,000
Total	$1,200,000

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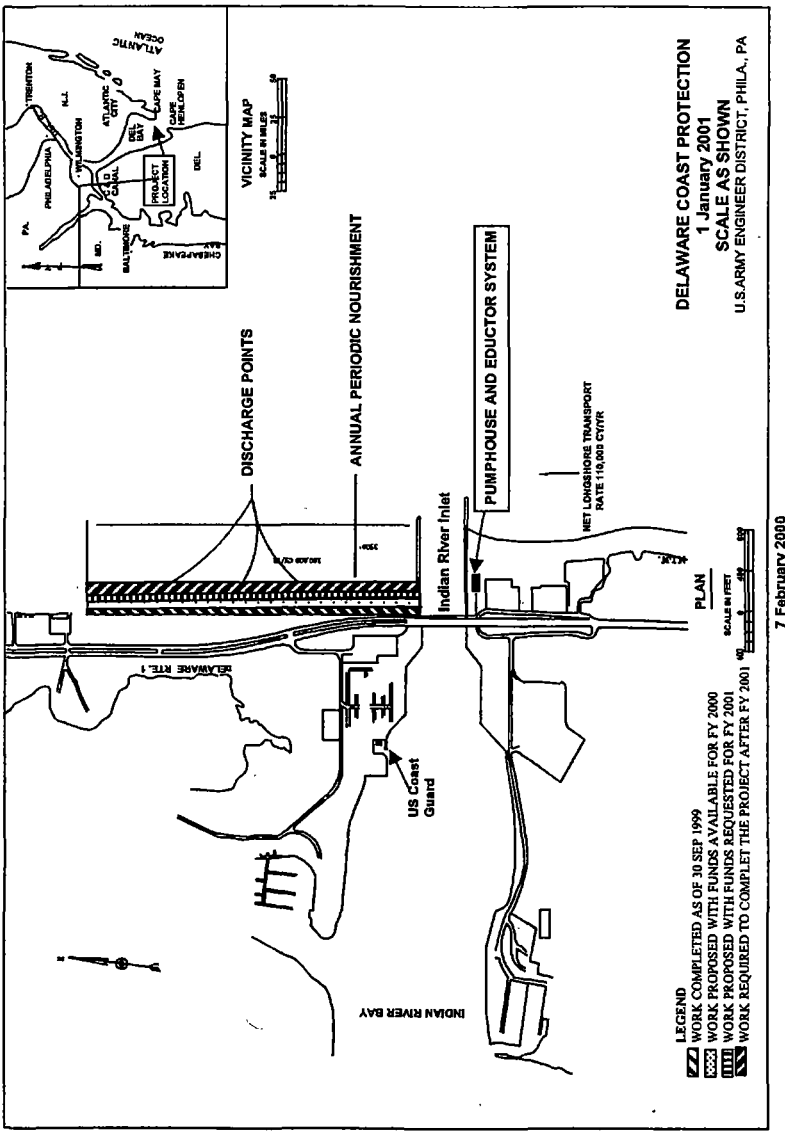
STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Final Environmental Impact Statement (FEIS) was filed with the Council on Environmental Quality on 1 June 1971. A draft supplement to the FEIS was filed on 18 April 1975. An Environmental Assessment and a Finding of No Significant Impact were completed on 26 November 1984. Listing of Piping Plover (Charadrius Melodus) as an endangered bird species in January 1986 and recent determination by State wildlife officials that the species nests in the project area has necessitated review procedures in accordance with Section 7 of the Endangered Species Act of 1973. A letter from U.S. Fish and Wildlife Service, dated 4 May 1987, expressed that the project operations would cause no impact, provided an operational window is observed. Coordination with the Service is continuing.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1971, and funds to initiate construction were appropriated in FY 1977. Section 869 of the Water Resources Development Act of 1986 deauthorized the unprogrammed portion of the project. The initial construction was cost shared 78.1 percent Federal and 21.9 percent non-Federal. The Federal Government will provide 40.7 percent of the annual cost of operation and maintenance of the plant as its contribution to periodic nourishment of the beach for the remaining authorized periodic nourishment period.


DELAWARE COAST PROTECTION
1 January 2001
SCALE AS SHOWN
U.S.ARMY ENGINEER DISTRICT, PHILA., PA
VICINITY MAP
SCALE IN MILES
PROJECT LOCATION
DISCHARGE POINTS
ANNUAL PERIODIC NOURISHMENT
PUMPHOUSE AND EDUCTOR SYSTEM
Indian River Inlet
NET LONGSHORE TRANSPORT RATE 110,000 CY/YR
DELAWARE RTE. 1
US Coast Guard
INDIAN RIVER BAY
PLAN
SCALE IN FEET
LEGEND
WORK COMPLETED AS OF 30 SEP 1999
WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
WORK REQUIRED TO COMPLET THE PROJECT AFTER FY 2001
7 February 2000
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APPROPRIATION TITLE: Construction, General - Beach Erosion Control

PROJECT: Atlantic Coast of Maryland (Continuing)

LOCATION: Fenwick and Assateague Islands form the Atlantic Coast of Maryland and extend in a north-south direction from Delaware Bay to Chincoteague Inlet, Virginia. The project is located in Worcester County, Maryland.

DESCRIPTION: The project includes a dune beginning at 27th Street extending north to the Delaware line, a steel sheet pile bulkhead from 27th Street south to Fourth Street, a widened and raised beach from Third Street to just beyond the Delaware line, and periodic nourishment over the 50-year project life. All work is programmed.

AUTHORIZATION: Water Resources Development Act of 1986 modified by the Energy and Water Development Appropriations Act of 1990.

REMAINING BENEFIT - REMAINING COST RATIO: Not applicable because initial construction is complete.

TOTAL BENEFIT - COST RATIO: Not applicable because initial construction is complete.

INITIAL BENEFIT - COST RATIO: 1.3 to 1 at 8 5/8 percent (FY 1990).

BASIS OF BENEFIT-COST RATIO: Benefits are from the General Design Memorandum completed in October 1989 at October 1989 price levels.

SUMMARIZED FINANCIAL DATA		ACCUM. PCT. OF EST. FED COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETE SCHEDULE
Estimated Federal Cost	$270,300,000				
Initial Construction	$ 29,172,000		Initial Construction	100	Dec 1994
Periodic Nourishment	241,128,000		Periodic Nourishment	2	Being determined
			Entire Project	9	Being derermined

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SUMMARIZED FINANCIAL DATA: (CONT'D)

Estimated Non-Federal Cost		229,700,000	
Initial Construction		15,709,000	
Cash Contributions	$15,175,000		
Other Costs	534,000		
Periodic Nourishment		213,991,000	
Cash Contributions	213,991,000		
Other Costs	0		
Total Estimated Project Cost		$500,000,000 1/	
Initial Construction		44,881,000	
Periodic Nourishment		455,119,000	
Allocations to 30 September 1999		34,624,000	
Conference Allowance for FY 2000		200,000	
Allocation for FY 2000		172,000 2/	
Allocations through FY 2000		34,796,000	13
Allocation Requested for FY 2001		185,000	13
Programmed Balance to Complete after FY 2001		235,319,000	
Unprogrammed Balance to Complete after FY 2001		0	

PHYSICAL DATA

Steel Bulkhead	- 1.5 miles
Sand Dune	- 6.7 miles
Beach	- 1.5 miles x 165 feet wide
	- 6.7 miles x 100 feet wide
	- 0.3 mile transition into Delaware

1/ Includes nourishment costs throughout the 50-year project life.
2/ Reflects $28,000 reduction assigned as savings and slippage.

JUSTIFICATION: Fenwick Island (Ocean City, MD) is highly developed since it is the primary ocean resort for the metropolitan centers of Washington, DC and Baltimore, MD. The Ocean City portion of the shore with its highly developed recreation facilities contributes greatly to the economy of the State and to a lesser extent the nation. The current value of development in Ocean City is over $2 billion. Major portions of Ocean City's beaches have been subjected to erosion which has averaged about 2 feet per year over the past 130 years. This reach of shoreline is subject to severe damage from high tides and wave attack during major storms such as occurred in the hurricane of August 1993 and in the northeast storm of March 1962, with estimated damages of $76.1 million. Since 1962, significant development has occurred in the damage prone area. Damages to the public and private property at Ocean City from Hurricane Gloria in September 1985 were estimated at $11.9 million. Severe beach erosion was also caused by the remnants of Hurricane Juan in November 1985 with damages estimated at $944,000. On 30 and 31 October 1991, and 9 and 10 November 1991, Atlantic storms hit the northeast coast; however, only minor damage occurred at Ocean City as a result of the essentially completed project. Damages prevented by the project were estimated at about $32 million. On 4 and 5 January 1992 a

JUSTIFICATION: (continued)
more devastating storm hit Ocean City causing about $300,000 in property damages. Damages prevented by the project during that storm were estimated at $61 million. The average annual benefits, essentially all storm damage reduction, are $13,712,000 based on 1 October 1989 price levels.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Planning, Engineering, and Design	$160,000
Construction Management	25,000
Total	$185,000

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, and Replacement Costs
Provide lands, easements, rights of way, and dredged material disposal areas.	$ 494,000	
Modify or relocate buildings, utilities, roads, bridges (except railroad bridges) and other facilities, where necessary in the construction of the project.	40,000	
Pay 35 percent of the first costs and 47 percent of the cost of periodic nourishment based on a formula that requires payment of 35 percent of the costs assigned to storm damage reduction and 100 percent of the costs assigned to recreation; and bear all costs of operation, maintenance, replacement, and major rehabilitation of storm damage reduction facilities.	229,166,000	$1,608,000
Total Non-Federal Costs	229,700,000	$1,608,000

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction

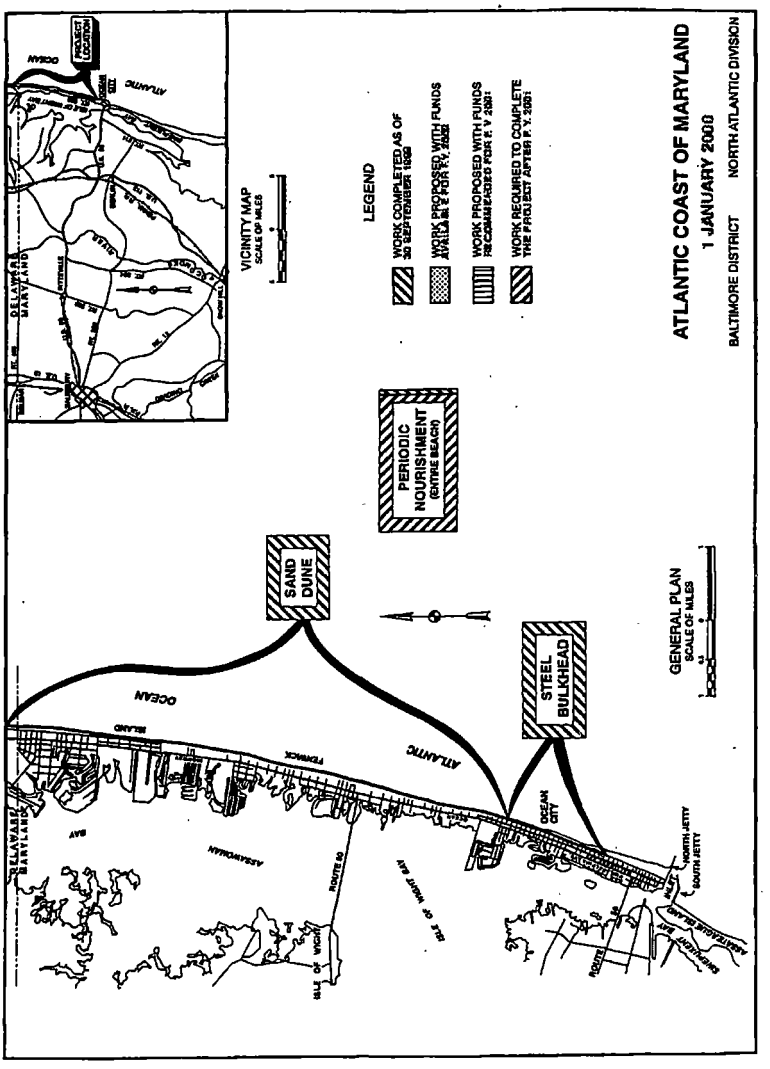
STATUS OF LOCAL COOPERATION: The State of Maryland is the local sponsor for the project. By letter dated 29 September 1989 the State assured it is able and willing to sponsor implementation of the project under the terms and conditions

STATUS OF LOCAL COOPERATION: (continued)
reflected in the Water Resources Development Act of 1986. The Local Cooperation Agreement was executed in March 1990. To date, the State of Maryland has fully complied with local requirements on the project.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $270,300,000 is the same as the latest estimate ($270,300,000) submitted to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Final Environmental Impact Statement was filed with the Environmental Protection Agency in May 1981. An environmental assessment dated June 1989 is included in the final General Design Memorandum.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1986. Funds to initiate construction were appropriated in FY 1990.



7 February 2000

APPROPRIATION TITLE: Construction General - Beach Erosion Control

PROJECT: Cape May Inlet to Lower Township, New Jersey (Continuing)

LOCATION: The site of the recommended project is located on the Atlantic Coast of New Jersey, approximately 38 miles southwest of Atlantic City. It includes the communities of Cape May City including the United States Coast Guard Training Center and Lower Township in Cape May County.

DESCRIPTION: The plan of improvement consists of construction of two groins and placing beachfill and periodic nourishment which are programmed and the construction of a weir breakwater which is unprogrammed.

AUTHORIZATION: Water Resources Development Act of 1986.

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable because initial construction is complete.

TOTAL BENEFIT-COST RATIO: 1.8 to 1 at 8 5/8 percent.

INITIAL BENEFIT-COST RATIO: 1.4 to 1 at 8 5/8 percent (FY 1986).

BASIS OF BENEFIT-COST RATIO: Cape May Inlet to Lower Township, New Jersey, Benefits Reevaluation Report approved Marc 1988 at June 1987 price levels.

SUMMARIZED FINANCIAL DATA

Estimated Federal Cost (COE)		92,700,000
Programmed Construction		85,860,000
Initial Construction	5,926,000	
Periodic Nourishment	79,934,000	
Unprogrammed Construction		6,840,000
Initial Construction	6,840,000	
Periodic Nourishment	0	

STATUS: (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Initial Construction	100	June 1991
Breakwaters	0	Indefinite 1/
Entire Project	13	Being determined

PHYSICAL DATA:
Beachfill: Elev +8 Feet (NGVD), 25-180 foot width
Groins: 7 existing and 2 new groins, 360-786 feet
Weir Breakwater: 2,560 linear feet rubble mound
Periodic Nourishment: 180,000 cubic yards per year

1/ Completion of the breakwater element is indefinite pending a decision to construct this feature.

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DIVISION: North Atlantic DISTRICT: Philadelphia Cape May Inlet to Lower Township, NJ

SUMMARIZED FINANCIAL DATA (Continued)

Estimated Federal Cost (USCG)			$61,800,000
Programmed Construction		58,045,000	
Initial Construction	3,458,000		
Periodic Nourishment	54,587,000		
Unprogrammed Construction		3,755,000	
Initial Construction	3,755,000		
Periodic Nourishment	0		
Estimated Non-Federal Cost			10,300,000
Programmed Construction		9,544,000	
Initial Construction	660,000		
Cash Contributions	660,000		
Other Costs	0		
Periodic Nourishment	8,884,000		
Cash Contributions	8,884,000		
Other Costs	0		
Unprogrammed Construction		756,000	
Initial Construction	756,000		
Cash Contributions	756,000		
Other Costs	0		
Total Estimated Programmed Construction		153,449,000	
Initial Construction	10,044,000		
Periodic Nourishment	143,405,000		
Total Estimated Unprogrammed Construction Cost		11,351,000	
Initial Construction	11,351,000		
Periodic Nourishment	0		
Total Estimated Project Cost			$164,800,000
Initial Construction	21,395,000		
Periodic Nourishment	143,405,000		

SUMMARIZED FINANCIAL DATA (Continued)		ACCUM. PCT. OF EST. FED COST
Allocations to 30 September 1999	14,692,000	
Conference Allowance for FY 2000	1,700,000	
Allocation for FY 2000	1,458,000	1/
Allocations through FY 2000	16,150,000	18
Allocations Requested for FY 2001	100,000	18
Programmed Balance to Complete after FY 2001	69,610,000	
Unprogrammed Balance to Complete after FY 2001	6,840,000	

1/ Reflects $242,000 reduction assigned as savings and slippage.

JUSTIFICATION: The project area has experienced substantial erosion since the construction of the Cape May Inlet jetties in 1911 by the Federal Government. The jetties interrupt the natural movement of sand along the coast which serves to replenish downdrift beach areas. The City of Cape May and State of New Jersey have spent nearly $4 million since 1945 to combat the resulting erosion. This erosion has left Cape May with little or no protective beach, thus endangering many hotels, small businesses, prominent homes, and a U.S. Coast Guard Training Center. This project would partially restore the beaches of Cape May lost as the direct result of the Cape May Inlet jetties. The potential for future storm damages and maintenance of the seawall would be greatly reduced. The commercial tourism industry would also be enhanced by the provision of sufficient beach area for recreational usage. The project prevented approximately $9 million worth of damages during the 3-5 January 1992 storm, and approximately $500,000 in damages during the 7-8 January 1996 storm.

Federal facilities have existed at the present site since the establishment of a U.S. Navy Section Base in 1918. The U.S. Coast Guard became the sole occupant in 1948 when the Recruit Training Center was transferred from Florida. In addition to being the sole site for Coast Guard recruit training for the entire nation, the site also includes a Group/Air Station complex, a Search and Rescue Station, a small boat maintenance facility, and berths for four cutters ranging from 82 to 210 feet in length. The Commandant of the U.S. Coast Guard (USCG) offered to seek funds to support a cost-shared project with the Corps of Engineers, because of the erosion at the Training Center and the need for a cooperative effort to solve the problem. The average annual benefits are $3,993,000 at June 1987 price levels. These include annual storm damage reduction benefits of $2,977,000, reduced annual maintenance costs of $160,000, and annual recreation benefits of $856,000.

Fiscal Year 2001: The requested amount will be applied as follows:

Planning, Engineering and Design	$ 100,000
Total	$ 100,000

NON-FEDERAL COST: In accordance with Section 101 of the Water Resources Development Act of 1986, costs of constructing measures for mitigation of erosion damages attributable to the Federal navigation project at Cape May Inlet shall be shared in the same proportion as the cost sharing provisions applicable to the original project at Cape May Inlet. The original project was constructed at a Federal cost of approximately $900,000 with a local contribution of $100,000. The distribution of initial costs between the USCG and Cape May City is based on the ratio of benefits accrued by the feeder beach between the two locations. Costs for the remaining features of the recommended project will be allocated to Cape May City. The non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, and Reimbursement Costs
Make cash contributions equal to 10 percent of the initial construction cost and 10 percent of future periodic nourishment (minus the Coast Guard share).	$10,300,000	
Total Non-Federal Costs	$10,300,000	$0

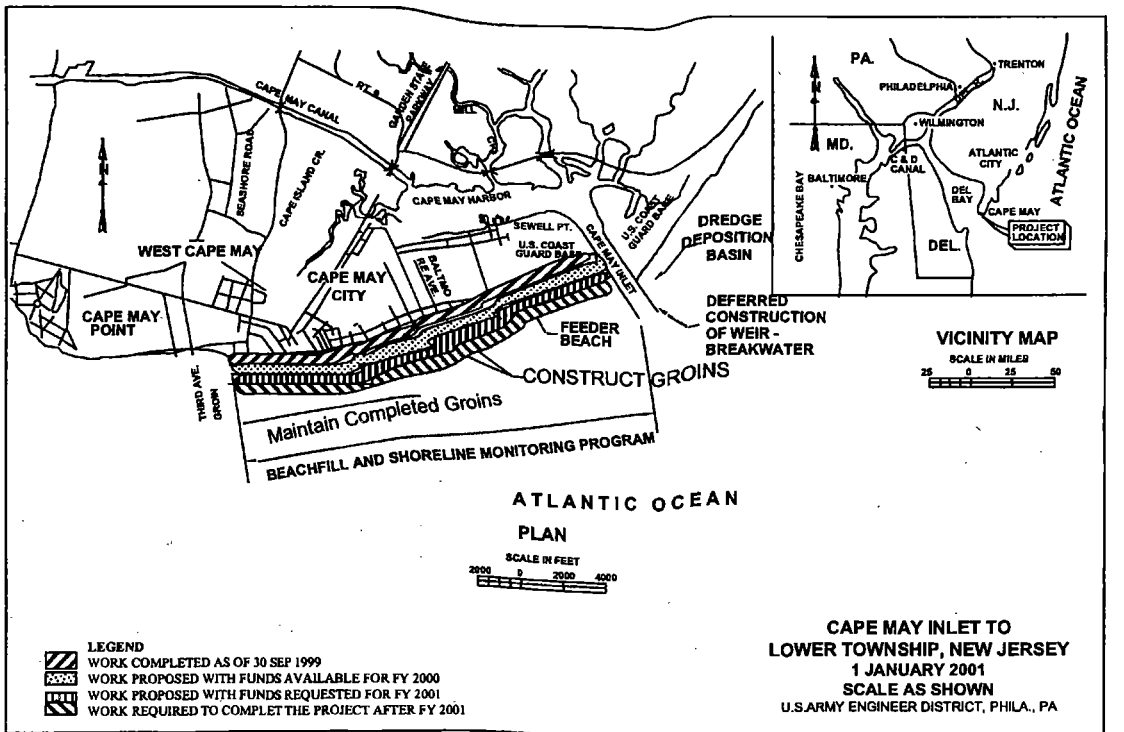
STATUS OF LOCAL COOPERATION: The non-Federal sponsor is the State of New Jersey. A Memorandum of Agreement with the USCG was executed on 4 August 1988. A Local Cooperation Agreement with the State of New Jersey was executed on 31 October 1988.

COMPARISON OF FEDERAL COST ESTIMATE: The current Federal (Corps of Engineers) cost estimate of $92,700,000 is an increase of $5,000,000 from the latest estimate ($87,700,000) presented to Congress (FY 2000). This change includes the following items:

ITEM	AMOUNT
Price Escalation on Construction Features	$ 5,000,000
Total	$ 5,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Final Environmental Impact Statement was filed with the Council on Environmental Quality on 8 October 1976 and a Final Supplement was filed with the Environmental Protection Agency on 14 August 1981. Listing of Piping Plover (Charadrius Melodus) as an endangered bird species in January 1986 and the recent determination by State wildlife officials that the species nests in the project area have necessitated informal consultation in accordance with Section 7 of the Endangered Species Act of 1973. A letter from U.S. Fish and Wildlife Service, dated 20 August 1987 determined that the proposed project is not likely to adversely affect the Piping Plover, provided an operational window is observed. Coordination with the Service is continuing.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1978. Funds to initiate construction were appropriated in FY 1986. Section 111 of the River and Harbor Act of 1968 is applicable to this proposed project due to the shore damages caused in Cape May City by the Federal navigation project at Cape May Inlet.


CAPE MAY CANAL
RT. 9
GARDEN ST. EXT.
BEASHORE ROAD
CAPE ISLAND CIR.
CAPE MAY HARBOR
SEWELL PT.
U.S. COAST GUARD BASE
U.S. COAST GUARD BASE
CAPE MAY INLET
DREDGE DEPOSITION BASIN
WEST CAPE MAY
CAPE MAY CITY
BALTIMORE REAR
CAPE MAY POINT
FEEDER BEACH
DEFERRED CONSTRUCTION OF WEIR - BREAKWATER
THIRD AVE. GROIN
CONSTRUCT GROINS
Maintain Completed Groins
BEACHFILL AND SHORELINE MONITORING PROGRAM
ATLANTIC OCEAN
PLAN
SCALE IN FEET
2000 0 2000 4000
PA.
TRENTON
PHILADELPHIA
N.J.
WILMINGTON
MD.
ATLANTIC CITY
C & D CANAL
BALTIMORE
CHESAPEAKE BAY
DEL. BAY
CAPE MAY
PROJECT LOCATION
DEL.
ATLANTIC OCEAN
VICINITY MAP
SCALE IN MILES
25 0 25 50
LEGEND
WORK COMPLETED AS OF 30 SEP 1999
WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER FY 2001
CAPE MAY INLET TO
LOWER TOWNSHIP, NEW JERSEY
1 JANUARY 2001
SCALE AS SHOWN
U.S.ARMY ENGINEER DISTRICT, PHILA., PA

920

APPROPRIATION TITLE: Construction, General - Beach Erosion Control

PROJECT: Great Egg Harbor Inlet and Peck Beach, New Jersey (Continuing)

LOCATION: The project is located in Cape May and Atlantic Counties, New Jersey. Great Egg Harbor Inlet, an unimproved inlet, is about 1.1 miles wide at its narrowest point and provides a tidal connection between the Atlantic Ocean and Great Egg Harbor Bay, the New Jersey Intracoastal Waterway, and Great Egg Harbor River. Peck Beach is occupied in its entirety by the City of Ocean City and extends from Great Egg Harbor Inlet southward to Corson Inlet. The ocean frontage is about eight miles in length.

DESCRIPTION: The recommended plan consists of providing initial beachfill, with subsequent periodic nourishment, with a minimum berm width of 100 feet at an elevation of 8 feet above mean low water. The beachfill extends from Surf Road southwest to 34th Street with a 1000 foot taper south of 34th Street. This plan required the initial placement of roughly 6.2 million cubic yards of material and will require periodic nourishment of about 1.1 million cubic yards every three years. The material for the initial construction, and periodic nourishment will be taken from the ebb shoal area located about 5,000 feet offshore of the Great Egg Harbor Inlet. Additionally, the construction of the project required the extension of 38 storm drain pipes. All work is programmed.

AUTHORIZATION: Committee Resolutions on 15 December 1970 under the provision of Section 201 of the River and Harbor and Flood Control Act of 1965 and the Water Resources Development Act of 1986.

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable because initial construction is complete.

TOTAL BENEFIT-COST RATIO: 5.1 to 1 at 8 5/8 percent.

INITIAL BENEFIT-COST RATIO: 2.0 to 1 at 8 5/8 percent (FY 1990).

BASIS OF BENEFIT-COST RATIO: The April 1989 General Design Memorandum approved on 2 May 1990 at September 1988 price levels.

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SUMMARIZED FINANCIAL DATA :			
Estimated Federal Cost			393,000,000
Initial Construction	20,556,000		
Periodic Nourishment	372,444,000		
Estimated non-Federal Cost			211,000,000
Initial Construction		11,151,000	
Cash Contributions	8,595,000		
Other Costs	2,556,000		
Periodic Nourishment		199,849,000	
Cash Contributions	199,849,000		
Other Costs	0		
Total Estimated Project Cost			604,000,000
Initial Construction	31,707,000		
Periodic Nourishment	578,293,000		

STATUS: (1 Jan 2000)	PHYSICAL PERCENT COMPLETE	COMPLETION SCHEDULE
Initial Beachfill (Phase I)	100	Oct 1992
Initial Beachfill (Phase II)	100	Mar 1993
Entire Project	13	Being Determined

PHYSICAL DATA:
Beachfill: Elevation +8 feet (NGVD); 100-Foot Width
Periodic Nourishment: 1.1 million cy every three years

		ACCUMULATED PCT OF EST. FED. COST
Allocations to 30 September 1999	31,171,000	
Conference Allowance for FY 2000	419,000	
Allocation for FY 2000	359,000 1/	
Allocations through FY 2000	31,530,000	8
Allocations Requested for FY 2001	5,100,000	9
Programmed Balance to Complete after FY 2001	356,370,000	
Unprogrammed Balance to Complete after FY 2001	0	

1/ Reflects $60,000 reduction assigned as savings and slippage.

JUSTIFICATION: The instability of Great Egg Harbor Inlet and the shoreline along Peck Beach is a significant problem. Peck Beach, a 9-mile-long barrier island along New Jersey's southern coastline contains the entire City of Ocean City. The primary problem at Ocean City is the vulnerability of the beach and the adjacent highly urbanized development to erosion and direct wave attack during major storms. Historical erosion rates for the beaches have averaged five feet per year with severe erosion rates up to 35 feet per year in some locations. In March 1962, a severe storm caused breaching and failing of bulkheads and dunes, and resulted in about $15,000,000 damages of which $4,000,000 was attributed to direct wave attack. It was noted that the area fronting the existing Federal shore protection for

JUSTIFICATION: (continued)
Ocean City sustained less damage than other locations. The storm of 28 to 30 March 1984 caused extensive damage to the beach, boardwalk, properties and buildings due to the vulnerable condition of the beaches. More recently, the storms of 30 and 31 October 1991 and 3 to 5 January 1992 caused extensive damages to the beach, boardwalk, properties and buildings. Since initial construction of the project was completed in March 1993, approximately $20,000,000 worth of damages to the area were prevented during the 3-5 January 1992 storm, $4,000,000 in damages to the boardwalk during Hurricane Felix in August 1995, and $1,000,000 during the storm of 7-8 January 1996.

Beach erosion and loss of protective dunes have left Ocean City extremely vulnerable to inundations and direct wave attack from even minor storm events. The instability and shoaling of Great Egg Harbor Inlet also creates navigation difficulties for commercial and recreation craft, particularly those associated with low tides and ground swells and damages due to running aground. Unsafe navigation conditions due to excessive shoals at Great Egg Harbor Inlet required the State of New Jersey to commence emergency dredging operations in October 1989. Average annual benefits follow:

Annual Benefits	Amount
Shoreline Protection (Beach Erosion)	$31,634,800
Navigation	232,500
Total	$31,867,300

FISCAL YEAR 2001: The requested amount will be applied as follows:

Periodic Nourishment	$ 4,560,000
Planning, Engineering, and Design	264,000
Construction Management	276,000
Total	$ 5,100,000

923

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, and Replacement Costs
Modify or relocate buildings, utilities, roads, bridges (except railroad bridges), and other facilities, where necessary in the construction of the project.	$ 2,556,000	$
Pay 35 percent of the costs allocated to hurricane and storm damage reduction and all costs of operation and maintenance of shoreline protection structures and outfalls.	$ 208,444,000	$36,000
Total Non-Federal Costs	$ 211,000,000	$ 36,000

STATUS OF LOCAL COOPERATION: The state of New Jersey is the non-Federal sponsor for the project. In a letter dated 28 September 1990, the state identified a funding source for the non-Federal costs and indicated that it was prepared to proceed with the final negotiations to sign the Local Cooperation Agreement. The state's financing plan was provided by letter dated 28 February 1991. The local cooperation agreement was executed in September 1991.

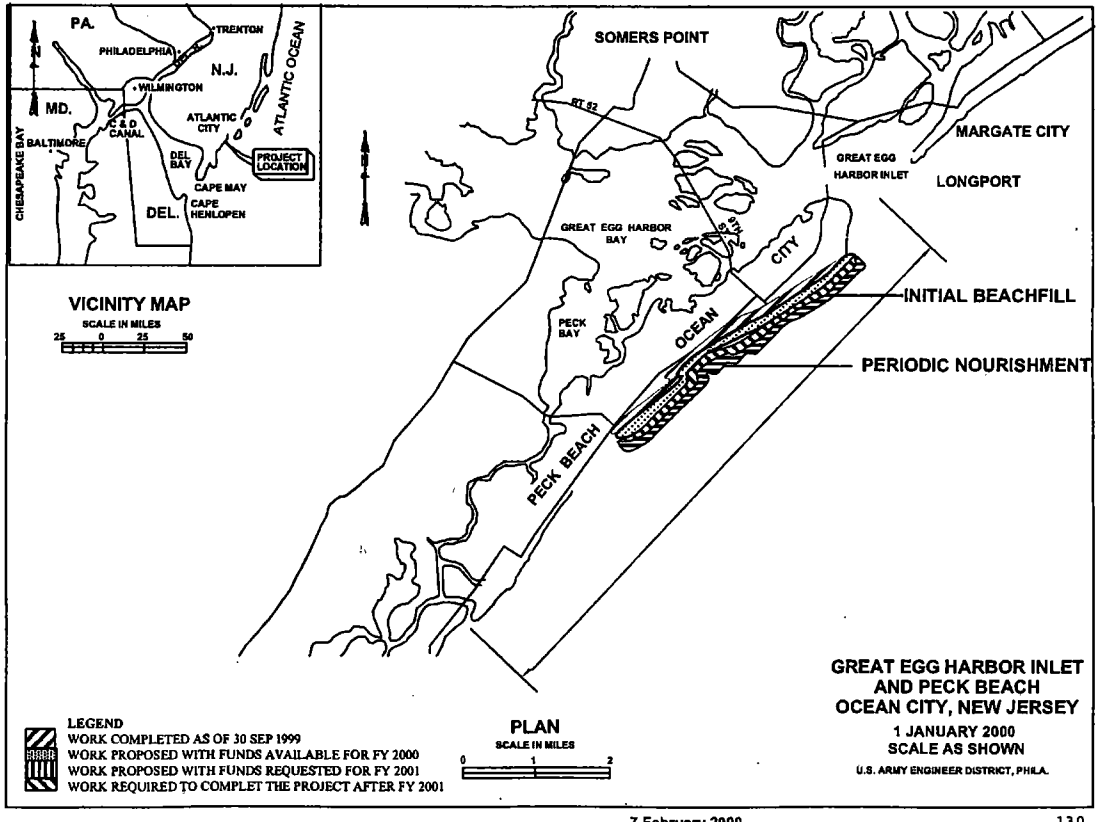
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $393,000,000 is is an increase of $26,000,000 from the latest estimate ($367,000,000) presented to Congress (FY 2000). This change includes the following items:

Price Escalation on Construction Features	$ 26,000,000
Total	$ 26,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed with the Council on Environmental Quality on 13 November 1970 and a Final Supplemental Environmental Impact Statement (FSEIS) was filed with the Environmental Protection Agency (EPA) in August 1990. The Piping Plover (Charadrius melodus) was listed as an endangered bird species in January 1986 and a determination that the species nests in the project area necessitated informal consultation in accordance with Section 7 of the Endangered Species Act of 1973. A letter from the US Fish and Wildlife Service, dated 9 January 1989 directed the Corps to minimize impacts to the Piping Plover in the project area. A detailed plan to protect the Piping Plover was included in the FSEIS. On 31 August 1990, the Advisory Council on

STATUS OF ENVIRONMENTAL IMPACT STATEMENT (Continued):
Historic Preservation informed the District that it did not concur with the Finding of No Effect issued by the New Jersey State Historic Preservation Office on 12 April 1989. A process Memorandum of Agreement to address cultural resources concerns relating to project effects on the shipwreck Sindia was executed on 4 April 1991.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1973. Funds to initiate construction were appropriated in FY 1990. Initial construction of the project was completed in March 1993.


PA.
TRENTON
PHILADELPHIA
N.J.
WILMINGTON
MD.
ATLANTIC CITY
ATLANTIC OCEAN
C & D CANAL
CHESAPEAKE BAY
BALTIMORE
DEL BAY
PROJECT LOCATION
CAPE MAY
DEL.
CAPE HENLOPEN
VICINITY MAP
SCALE IN MILES
25 0 25 50
SOMERS POINT
RT 52
MARGATE CITY
GREAT EGG HARBOR INLET
LONGPORT
GREAT EGG HARBOR BAY
CITY
INITIAL BEACHFILL
PECK BAY
OCEAN
PERIODIC NOURISHMENT
PECK BEACH
LEGEND
WORK COMPLETED AS OF 30 SEP 1999
WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
WORK REQUIRED TO COMPLET THE PROJECT AFTER FY 2001
PLAN
SCALE IN MILES
0 1 2
GREAT EGG HARBOR INLET
AND PECK BEACH
OCEAN CITY, NEW JERSEY
1 JANUARY 2000
SCALE AS SHOWN
U.S. ARMY ENGINEER DISTRICT, PHILA.

926

APPROPRIATION TITLE: Construction, General - Beach Erosion Control

PROJECT: Sandy Hook to Barnegat Inlet, New Jersey (Continuing)

LOCATION: The overall project area lies along the Atlantic Ocean shoreline of New Jersey in Monmouth and Ocean Counties between Sandy Hook to the North and Barnegat Inlet to the South. Section I - The Sea Bright to Ocean Township section lies solely within Monmouth County. The Sea Bright to Ocean Township section is the northernmost 12 miles of the project, which includes the following communities: Sea Bright, Long Branch, Deal, Allenhurst, and Ocean Township. Section II - Asbury Park to Manasquan section comprises the southern portion of Monmouth County and is approximately 9 miles long. It includes the following communities: Asbury Park, Ocean Grove, Bradley Beach, Avon-by-the Sea, Belmar, Spring Lake, Sea Girt, State Encampment, and Manasquan.

DESCRIPTION: The recommended plan for Section I, Sea Bright to Ocean Township, includes construction of a 100-foot-wide-berm at an elevation of 10 feet above mean low water with an additional 2-foot-high-storm-berm cap along the entire 12 miles of project shoreline extending from Sea Bright to Ocean Township. The recommended plan for Section II, Asbury Park to Manasquan, includes construction of a berm 100 feet wide at an elevation of 8.4 feet above mean low water. All work on Sections I and II is programmed. Section III, Point Pleasant to Seaside Park, was deauthorized.

AUTHORIZATION: The River and Harbor Act of 3 July 1958 for Sections I and II, the Water Resources Development Act of 1986, and the Water Resources Development Act of 1988.

REMAINING BENEFITS-REMAINING COST RATIO: 1.4 to 1 at 8 1/8 percent.

TOTAL BENEFIT-COST RATIO: 1.6 to 1 at 8 1/8 percent.

INITIAL BENEFIT-COST RATIO: 1.5 to 1 at 8 1/8 percent (FY 1985).

BASIS OF BENEFITS-COST RATIO: Benefits are from the analysis contained in the General Design Memorandum revised March 1990 at June 1988 price levels. For Section II, Asbury Park to Manasquan Inlet, benefits are from the General Design Memorandum, dated May 1994, at June 1992 price levels.

SUMMARIZED FINANCIAL DATA:			ACCUM. PCT. OF EST. FED. COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$ 1,162,900,000		Sea Bright to Ocean Township	12	Being Determined
Initial Construction	167,923,000					
Periodic Nourishment	994,977,000			Asbury Park to Manasquan	7	Being Determined
Estimated Non-Federal Cost		626,200,000		Entire Project	8	Being Determined
Initial Construction	93,344,000			Initial Construction	65	Being Determined
Cash Contributions	64,744,000			Periodic Nourishment	0	Being Determined
Other Costs	28,600,000					

Periodic Nourishment	532,856,000	
Cash Contributions	532,856,000	
Other Costs	0	
Total Estimated Project Cost		$ 1,789,100,000
Initial Construction	261,267,000	
Periodic Nourishment	1,527,833,000	

PHYSICAL DATA

Sea Bright to Ocean Township; Beach Placement over 12 miles; notching existing groins.

Asbury Park to Manasquan: Beach Placement over 9 miles, notching existing groins.

Allocations to 30 September 1999	106,509,000	
Conference Allowance for FY 2000	9,000,000	
Allocation for FY 2000	7,537,600	1/
Allocations through FY 2000	114,046,600	10
Allocation Requested for FY 2001	6,383,000	10
Programmed Balance to Complete after FY 2001	1,042,470,400	
Unprogrammed Balance to Complete after FY 2001	0	

1/ Reflects $1,282,000 reduction assigned as savings and slippage, and $180,400 reprogrammed from the project.

928

JUSTIFICATION: Erosion has seriously reduced the width of most beaches in the study area with consequent exposure of shore to storm damage. Because of this erosion of the shore, the area does not provide sufficient recreational beaches for the proper accommodation of the present and prospective tributary population. The State of New Jersey and mayors of affected communities are very concerned over the increased potential for damages to structures due to the eroded condition of the existing beaches. The March 1962 storm caused $40,400,000 in damages (October 1993 price levels) along the twenty five mile stretch of shore from Sandy Hook to Manasquan Inlet. Subsequent emergency restoration works in this reach cost $7,383,000 (October 1988 price levels). In Section I, the restored beach has eroded while the area behind the seawall is more densely developed. Section II suffers from eroding beaches also. The storms of 30 and 31 October 1991, and 3 to 5 January 1992, caused $6,500,000 in damages to shore structures and the small beach seaward of the recently rebuilt state seawall within the project area. The rebuilt seawall was overtopped by the significant ocean waves, and its seaward toe is severely threatened by undercutting and collapse because of the lack of beach. The average annual benefits from erosion control measures are $53,151,000. For Section II, the average annual benefits from erosion control measures are $11,878,000.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Section I, Seabright-Ocean Township	
Initate Contract 3	$ 3,378,000
Initiate Periodic Nourishment Contract	2,000,000
Planning, Engineering and Design	25,000
Post-Construction Monitoring	55,000
Construction Management	420,000
Section II, Asbury Park to Manasquan	
Continue Asbury North Contract	$ 355,000
Post-Construction Monitoring	100,000
Construction Management	50,000
Total	$ 6,383,000

NON-FEDERAL COSTS: Consistent with the Water Resources Development Act of 1988, the non-Federal share of the first $40,000,000 of construction of the Sea Bright to Ocean Township reach consists of monies expended by non-Federal interests for reconstruction of the seawall at Sea Bright and Monmouth Beach, New Jersey. Cost sharing of the project, in excess of the first $40,000,000 increment, is in accordance with Title I of the Water Resources Development Act of 1986. Section I requirements also include lands, easements, rights-of-way and relocations. In Section II, the non-Federal share includes a cash contributions plus lands, easements, rights-of-way, and relocations. The combined Section I and Section II requirements follow:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance and Replacement Costs
Provide all lands, easements, and rights-of-way, and relocations for Sections I and II.	$ 16,400,000	$ 5,180,000
Of the first $40,000,000 in costs for initial construction of Section I, non-Federal interests are required to pay for reconstruction of the seawall at Sea Bright and Monmouth Beach, New Jersey. Thereafter, the non-Federal share is to be 35 percent of the initial project costs in excess of $40,000,000, excluding non-creditable lands, easements, and rights-of way, and bear all costs of operation and maintenance and replacement of storm damage reduction facilities.	41,759,000	11,960,000
Pay 35 percent of the first costs of Section II, excluding non-creditable lands, easements, and rights-of-way, and bear all cost of operation and maintenance and replacement of storm damage reduction facilities.	22,985,000	5,410,000
Pay 35 percent of the cost of periodic nourishment for Sections I and II.	532,856,000	
Reconstruct Seawall at Sea Bright and Monmouth Beach (Project requirement).	12,200,000	1,100,000
Total Non-Federal Costs	$626,200,000	$23,650,000

The non-Federal sponsor will also be required to make all required payments concurrently with project construction.

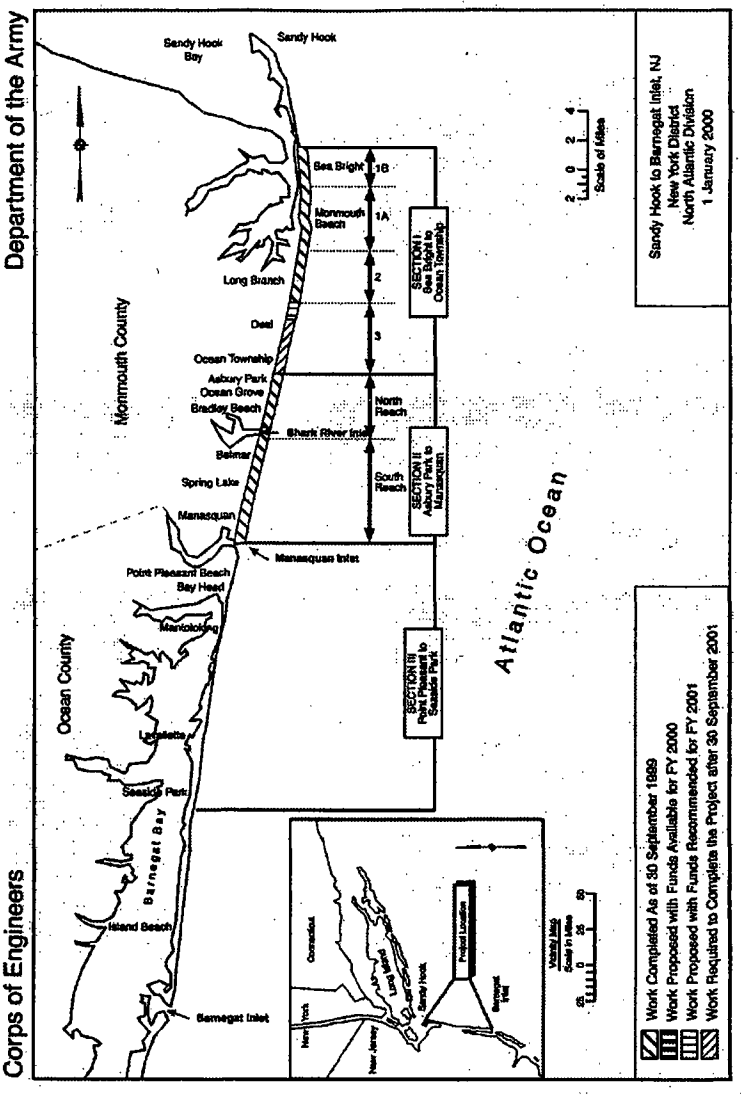
STATUS OF LOCAL COOPERATION: The Local Cooperation Agreement for Section I was signed on 30 July 1992 with the State of New Jersey Department of Environmental Protection (NJDEP). For Section II, the Project Cooperation Agreement was executed in August 1996.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $1,162,900,000 is an increase of $183,900,000 from the latest estimate ($979,000,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	$ 183,900,000
Total	$ 183,900,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: A final Environmental Impact Statement (EIS) for Section I (Seabright to Ocean Township) was filed with the Environmental Protection Agency (EPA) in June 1990. A Record of Decision was signed on 26 November 1990. The EIS for Section II was filed with the EPA in August 1993. A Record of Decision was signed in April 1996.

OTHER INFORMATION: Funds to initiate construction were appropriated in FY 1985. Project benefits, costs, and financial data reflect Section I and Section II only.


Department of the Army
Corps of Engineers
Sandy Hook Bay
Sandy Hook
Sea Bright
Monmouth Beach
Long Branch
Deal
Ocean Township
Asbury Park
Ocean Grove
Bradley Beach
Belmar
Shark River Inlet
Spring Lake
Manasquan
Manasquan Inlet
Point Pleasant Beach
Bay Head
Mantoloking
Brielle
Seaside Park
Island Beach
Barnegat Inlet
Barnegat Bay
Monmouth County
Ocean County
Atlantic Ocean
1B
1A
2
3
North Reach
South Reach
SECTION I: Sea Bright to Ocean Township
SECTION II: Asbury Park to Manasquan
SECTION III: Point Pleasant to Seaside Park
Scale of Miles
Sandy Hook to Barnegat Inlet, NJ
New York District
North Atlantic Division
1 January 2000
Work Completed As of 30 September 1999
Work Proposed with Funds Available for FY 2000
Work Proposed with Funds Recommended for FY 2001
Work Required to Complete the Project after 30 September 2001
7 February 2000
136

APPROPRIATION TITLE: Construction, General - Beach Erosion Control

PROJECT: Atlantic Coast of New York City, Rockaway Inlet to Norton Point (Coney Island Area), New York (Continuing)

LOCATION: The project is located on the South shore of Long Island in Brooklyn (Kings County), New York, approximately nine miles south of the Battery, New York City.

DESCRIPTION: Programmed work consists of construction of a 100-foot-wide berm at an elevation of 13 feet above mean low water, a groin at the western end of the restored beach, and a fillet of beachfill extending westward from the groin at West 37th Street. Unprogrammed work includes construction of comfort and lifeguard stations, construction of a groin at east end of project and extending beach seaward of historic shoreline.

AUTHORIZATION: Water Resources Development Act of 1986 as modified by the Intermodal Surface Transportation and Efficiency Act of 1991.

REMAINING BENEFIT-REMAINING COST RATIO: 2.7 to 1 at 8 7/8 percent.

TOTAL BENEFIT-COST RATIO: 2.7 to 1 at 8 7/8 percent.

INITIAL BENEFIT-COST RATIO: 2.8 to 1 at 8 7/8 percent (FY 1992).

BASIS OF BENEFIT-COST RATIO: Final General Design Memorandum entitled Atlantic Coast of New York City, Rockaway Inlet to Norton Point (Coney Island Area), New York, dated April 1992, at October 1990 price levels.

STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Programmed Work		
Initial Construction	95	Sep 2000
Periodic Nourishment	0	Being determined
Entire Project	19	Being determined 1/
Unprogrammed Work		
Comfort and Lifeguard Stations	0	Indefinite
Groin and additional Beach Berm	0	Indefinite

1/ For programmed work only; remaining work is indefinite pending a decision to construct these features.

SUMMARIZED FINANCIAL DATA:			ACCUM. PCT. OF EST. FED COST	
Estimated Federal Cost 1/			101,000,000	
Programmed Construction		70,200,000		
Initial Construction	12,650,000			
Periodic Nourishment	55,050,000			
Comfort and Lifeguard Stations	2,500,000			
Unprogrammed Construction		30,800,000		
Initial Construction	14,444,000			
Periodic Nourishment	0			
Comfort and Lifeguard Stations	16,356,000			
Estimated Non-Federal Cost			50,900,000	
Programmed Construction		36,456,000		
Initial Construction	5,847,000			
Cash Contribution	5,847,000			
Other Costs	0			
Periodic Nourishment	30,609,000			
Cash Contributions	30,609,000			
Other Costs	0			
Unprogrammed Construction		14,444,000		
Initial Construction	14,444,000			
Cash Contribution	14,444,000			
Other Costs	0			
Periodic Nourishment	0			
Cash Contributions	0			
Other Costs	0			
Comfort and Lifeguard Stations	0			

PHYSICAL DATA

Berm 100 feet wide at 13 feet NGVD
Extended berm 165 feet wide at 8 feet NGVD.
Groins at the eastern and western ends of the restored beach.

Fillet of beachfill extending westward from groin at West 37th St.
Relocation and/or reconstruction of existing comfort and lifeguard stations.

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Division: North Atlantic

District: New York

Atlantic Coast of New York City, Rockaway Inlet to Norton Point (Coney Island Area), NY

SUMMARIZED FINANCIAL DATA: (Continued)

			ACCUM. PCT. OF EST. FED COST
Total Estimated Programmed Construction Cost		106,656,000	
Initial Construction	18,497,000		
Periodic Nourishment	85,659,000		
Comfort and Lifeguard Stations	2,500,000		
Total Estimated Unprogrammed Construction Cost		45,244,000	
Initial Construction	28,888,000		
Periodic Nourishment	0		
Comfort and Lifeguard Stations	16,356,000		
Total Estimated Project Cost		151,900,000	
Initial Construction	47,385,000		
Periodic Nourishment	85,659,000		
Comfort and Lifeguard Stations	18,856,000		
Allocation to 30 September 1999		14,685,000	
Conference Allowance for FY 2000		300,000	
Allocation for FY 2000		257,000 1/	
Allocations through FY 2000		14,942,000	15
Allocation Requested for FY 2001		500,000	15
Programmed Balance to Complete after FY 2001		54,758,000	
Unprogrammed Balance to Complete after FY 2001		30,800,000	

1/ Reflects $43,000 reduction assigned as Savings and Slippage.

JUSTIFICATION: Erosion had caused serious damage to the shoreline extending through the communities of Coney Island, Brighton Beach, and Sea Gate, New York. Due to this erosion, residential and commercial developments had become increasingly susceptible to storm damage from wave attack and inundation. In March 1962, a severe northeast storm caused breaching and failure of the breach and shore protection structures with damages estimated at $18,000,000. A recurrence of the March 1962 storm would have caused damages of approximating $56,000,000 (October 1989 price levels) without the project in place. A 100 year event would cause storm damage by wave attack in excess of $156,000,000 at October 1993 prices. Project implementation has eliminated these damages
Average annual benefits are as follows:

Benefits	Amount
Shoreline Protection	$6,780,000
Recreation	1,040,000
Total	$7,820,000

Division: North Atlantic District: New York Atlantic Coast of New York City; Rockaway Inlet to Norton Point (Coney Island Area), NY

JUSTIFICATION (continued)

Fiscal Year 2001: The requested amount will be applied as follows:

Planning, Engineering and Design	$ 500,000
(Post-Construction Monitoring)	
Total	$ 500,000

NON-FEDERAL COSTS: In accordance with the cost sharing and financial concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the Requirements listed below:

Requirement of Local Cooperation	Payments During Construction and Reimbursement	Annual Operation, Maintenance, and Replacement Costs
Pay 35 percent of the costs allocated to storm damage reduction, and 50 percent of the costs allocated to recreation, bear all costs of operation, maintenance, and replacement of storm reduction facilities.	$ 50,900,000	$950,000
Provide lands, easements, and rights-of-way.	0	
Total Non-Federal Costs	$ 50,900,000	$950,000

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The non-Federal sponsor for this project is the New York State Department of Environmental Conservation. The Local Cooperation Agreement for this project was executed in October 1993.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $101,000,000 is a increase of $10,000,000 from the latest estimate ($91,000,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	$10,000,000
Total	$10,000,000

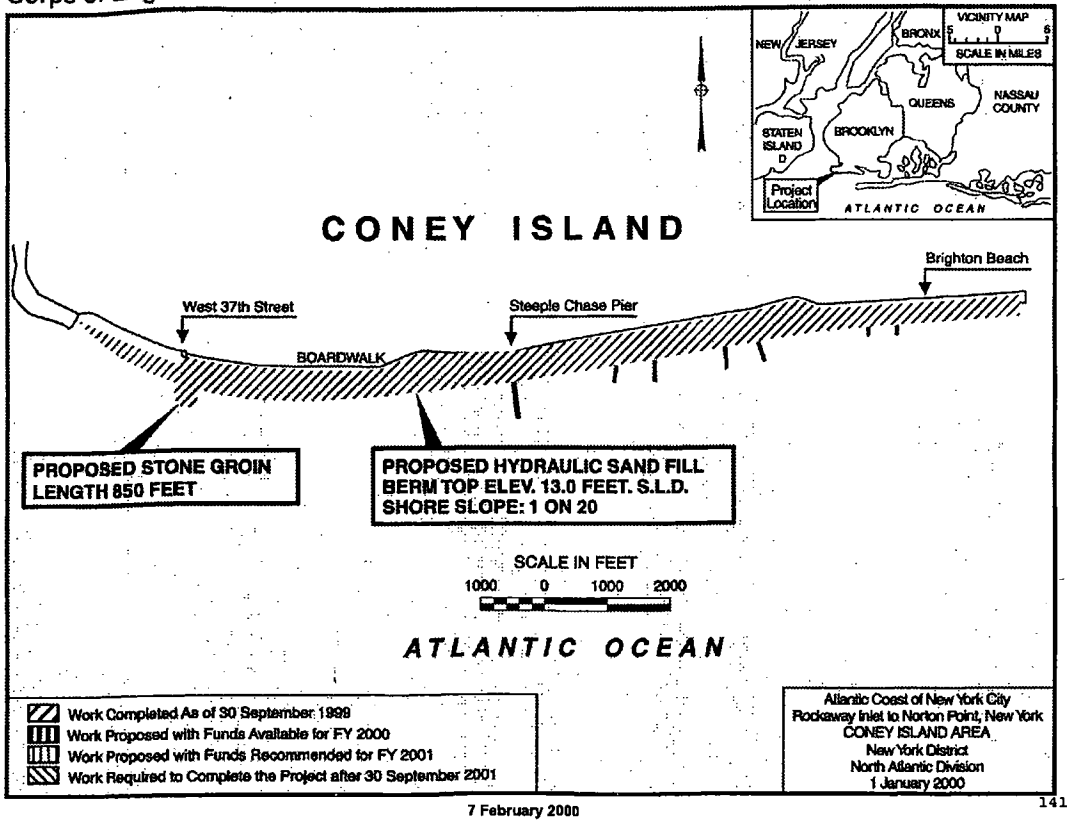
STATUS OF ENVIRONMENTAL IMPACT STATEMENT: A final Supplemental Environmental Impact Statement was filed with the United States Environmental Protection Agency on 5 June 1992.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1988 and funds to initiate construction were appropriated in FY 1992.

Division: North Atlantic District: New York Atlantic Coast of New York City, Rockaway Inlet to Norton Point (Coney Island Area), NY

Corps of Engineers

Department of the Army



7 February 2000

141

937

APPROPRIATION TITLE: Construction, General - Beach Erosion Control

PROJECT: East Rockaway Inlet to Rockaway Inlet and Jamaica Bay, New York (Continuing)

LOCATION: The project is located on the South shore of Long Island between East Rockaway Inlet and Rockaway Inlet, approximately seven miles southeast of the Battery, New York City. The coastal area is a peninsula located entirely within the Borough of Queens, New York City. The project also includes the lands within and surrounding Jamaica Bay. The greater portion of Jamaica Bay lies in the Boroughs of Brooklyn and Queens, New York City, with a small section at the easterly end, known as Head of Bay in Nassau County, New York.

DESCRIPTION: The authorized project work consists of nourishing a 100 to 200 foot wide beach at an elevation of 10 feet above mean low water from Beach 149th Street to Beach 19th Street.

AUTHORIZATION: Water Resources Development Act of 1974 and Water Resources Development Act of 1986 (Section 934).

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable because initial construction has been completed.

TOTAL BENEFIT-COST RATIO: Not applicable because initial construction has been completed.

INITIAL BENEFIT-COST RATIO: 1.5 to 1 at 5 1/2 percent (FY 1974).

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluation approved in June 1993 at December 1992 prices.

SUMMARIZED FINANCIAL DATA			ACCUM. PCT. OF EST. FED. COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		64,000,000				
Initial Construction		8,813,500				
Periodic Nourishment		55,186,500		Contract No. 6	100	Nov 1996
Contracts 1-5	16,386,500			Contract No. 7	0	Nov 2001
Contracts 6-8	38,800,000			Contract No. 8	0	Being determined
				Entire Project	52	Being determined
				Beach Nourishment	52	Being determined

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SUMMARIZED FINANCIAL DATA: (continued)

				ACCUM. PCT. OF EST. FED. COST
Estimated Non-Federal Cost			46,000,000	
Initial Construction		8,813,500		
Periodic Nourishment		37,186,500		
Contracts 1-5	16,386,500			
Contracts 6-8	20,785,000			
Other Costs	15,000			
Total Estimated Project Cost			110,000,000	
Initial Construction		17,627,000		
Periodic Nourishment		92,358,000		
Other Costs		15,000		
Allocation to 30 September 1999			39,597,000	
Conference Allowance for FY 2000			3,320,000	
Allocation for FY 2000			2,847,000 1/	
Allocations through FY 2000			42,444,000	66
Allocation Requested for FY 2001			1,000,000	68
Programmed Balance to Complete after FY 2001			20,556,000	
Unprogrammed Balance to Complete after FY 2001			0	

PHYSICAL DATA

Original Periodic Nourishment of the beach between Beach 19th Street and Beach 149th Street, a distance of 4 2 miles, to maintain the berm to a width of 100-200 feet at elevation 10 feet above mean low water.

1/ Reflects $ 473,000 reduction assigned for savings and slippage.

JUSTIFICATION: The Rockaway peninsula is subject to frequent and severe damage from tidal inundation from the ocean and the bay. Along the oceanfront, a serious erosion problem has resulted from storms which reduce beach widths, expose waterfront development from wave attack, and cause loss of recreational beach area. The project area is approximately 4 miles of urban shorefront, principally used for recreation purposes. Large sections of the high water beach periodically erodes. Unusually severe storms occurred in September 1921, September 1960, March 1962, and April 1967. The September 1960 storm caused maximum storm tide of record, flooded 3,500 acres of developed land, and resulted in losses exceeding $17,800,000. About 6,000 residences and hundreds of commercial buildings were severely damaged. Boats and waterfront facilities were badly hit. Public utilities and transportation were seriously disrupted. The project area was included in declared disaster areas after the September 1960 and March 1962 storms. Appreciable damage resulted from the April 1967 storm, causing local agencies to place about 250,000 cubic yards of beach fill under emergency conditions at an estimated cost of $400,000. In October 1991 and December 1992, the area experienced flooding and beach erosion. A Presidential disaster was declared for the area following the December 1992 storm. The reevaluation conducted under Section 934 of WRDA 1986 recommended continued Federal participation in three additional periodic nourishment cycles for the storm damage reduction features of the project. The Section 934 reevaluation report also recommended further analyses to determine whether modifications to the project are warranted to reduce the cost of

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JUSTIFICATION: (continued)
future periodic nourishment. Based on the reevaluation conducted under Section 934 of WRDA of 1986, the average annual benefits are as follows:

Storm Damage Reduction	$ 3,400,000
Recreation	6,370,000
Total	$ 9,770,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Complete Periodic Nourishment Contract #7	$ 800,000
Planning, Engineering and Design	$ 120,000
Supervision and Administration	$ 80,000
Total	$ 1,000,000

NON-FEDERAL COSTS: In accordance with the cost sharing and financial concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the Requirements listed below:

	Payments During Construction and Reimbursement	Annual Operation, Maintenance and Replacement Costs
REQUIREMENTS OF LOCAL COOPERATION:		
Pay 35 percent of the costs allocated to storm damage reduction, and 50 percent of the costs allocated to recreation, bear all costs of operation, maintenance, and replacement of storm reduction facilities	$ 25,200,000 1/ 20,785,000 2/	
Provide lands, easements, and rights of way	15,000 1/	
Total Non-Federal Costs	$ 46,000,000	$0

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.
1/ Initial construction and nourishment operations 1 through 5 (50/50 cost sharing).
2/ Includes costs associated with continued nourishment operations 6-8 (65/35 cost sharing

STATUS OF LOCAL COOPERATION: The non-Federal sponsor for this project is the New York State Department of Environmental Conservation. The project cooperation agreement (PCA) for this project, to extend the beach nourishment period was executed in May 1985. The New York State Department of Environmental Conservation was the sponsor for the initial project in 1975 and for the first five nourishment operations through 1988.

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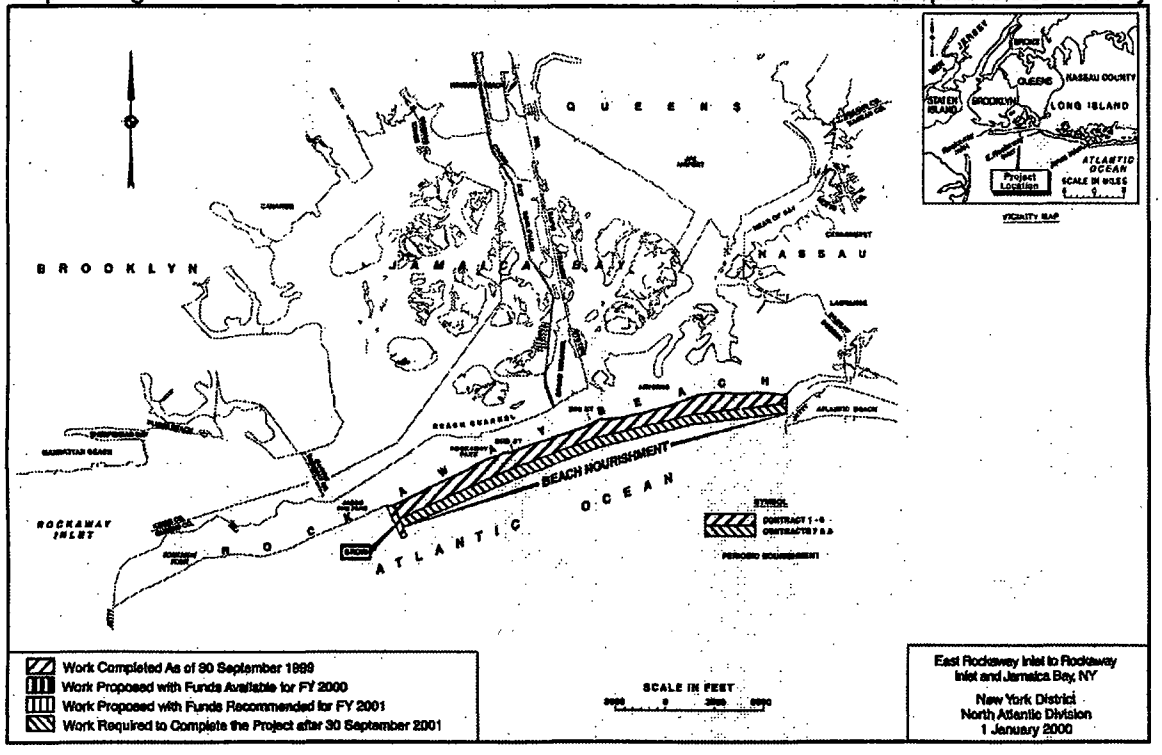
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $64,000,000 is a increase of $1,000,000 over the latest estimate ($63,000,000) presented to Congress (FY 2000). This change includes the following item:

ITEM	AMOUNT
Price Escalation on Construction Features	$ 1,000,000
Total	$ 1,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed with the Council on Environmental Quality on 13 May 1974 for the initial project and nourishment. An Environmental Assessment for the extension of beach nourishment was filed with the United States Environmental Protection Agency in April 1994.

OTHER INFORMATION: Funds for initial construction were appropriated in FY 1974. Funds for the original 5 cycles of periodic nourishment were appropriated through FY 1988. Funds to initiate the continuation of periodic nourishment were appropriated in FY 1994. The periodic nourishment period has been extended for an additional 3 nourishment cycles under authority of Section 934 of the Water Resources Development Act of 1986.

941


QUEENS
BROOKLYN
NASSAU
ROCKAWAY INLET
BEACH NOURISHMENT
ATLANTIC OCEAN
Work Completed As of 30 September 1999
Work Proposed with Funds Available for FY 2000
Work Proposed with Funds Recommended for FY 2001
Work Required to Complete the Project after 30 September 2001
SCALE IN FEET
East Rockaway Inlet to Rockaway Inlet and Jamaica Bay, NY
New York District
North Atlantic Division
1 January 2000

APPROPRIATION TITLE: Construction, General - Beach Erosion Control

PROJECT: Fire Island Inlet to Jones Inlet, New York (Continuing)

LOCATION: Fire Island Inlet is located approximately 40 miles East of the Battery in New York City. The material dredged from the inlet will be placed in the vicinity of Gilgo Beach which lies along the Atlantic Ocean Shoreline of New York State in Suffolk County. The beach is located approximately 6 miles west of Fire Island and extends 14,000 feet to the westerly end of Gilgo Beach.

DESCRIPTION: The project is a multi-purpose beach erosion control and navigation project. The recommended plan of action is the continuation of construction of the authorized combined purpose project because of serious erosion problems threatening the shoreline. This involves placing approximately 1,000,000 cubic yards of sand every two years, from the inlet, along Gilgo Beach to serve as a feeder beach for the area. All work is programmed.

AUTHORIZATION: 1958 Rivers and Harbors Act and 1962 Rivers and Harbors Act, as amended by section 506(b)(5) of the Water Resources Development Act of 1996.

REMAINING BENEFITS-REMAINING COST RATIO: 2.2 to 1 at 3 1/4 percent.

TOTAL BENEFIT-COST RATIO: 2.2 to 1 at 3 1/4 percent.

INITIAL BENEFIT-COST RATIO: 1.4 to 1 at 3 1/4 percent (FY 1970).

BASIS OF BENEFITS-COST RATIO: Operations and Maintenance Proposal for Fire Island Inlet, dated October 1991 at October 1991 price levels.

SUMMARIZED FINANCIAL DATA:			ACCUM. PCT. OF EST. FED. COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		236,000,000		Periodic Nourishment	16	Being determined
Initial Construction	9,300,000					
Periodic Nourishment	226,700,000					
Estimated Non-Federal Cost		78,100,000				
Initial Construction	3,100,000					
Cash Contributions	3,100,000					
Other Costs	0					
Periodic Nourishment	75,00,000					
Cash Contributions	75,000,000					
Other Costs	0					
Total Estimated Project Cost		314,100,000				
Initial Construction	12,400,000					
Periodic Nourishment	301,700,000					
Allocations to 30 September 1999		32,346,000				
Conference Allowance for FY 2000		3,000,000				
Allocations for FY 2000		2,771,000 1/				
Allocation through FY 2000		35,117,000	15			
Allocation Requested for FY 2000		500,000	15			
Programmed Balance to Complete after FY 2001		200,383,000				
Unprogrammed Balance to Complete after FY 2001		0				

PHYSICAL DATA

The project consists of providing a navigation channel and hydraulically placing the dredged material which is 90 percent sand along the shoreline in the vicinity of Gilgo Beach, New York

1/ Reflects $ 427,000 reduction assigned as savings and slippage and $198,000 reprogrammed into the project.

JUSTIFICATION: Construction of the authorized combined purpose project will alleviate serious erosion problems threatening the shoreline. Loss of sand due to lack of bypassing has resulted in a serious erosion problem at Gilgo Beach which is threatening the shoreline which protects a state highway and the Suffolk Counts sewer outfall. The situation has already resulted in two critical areas, and is projected to result in more critical areas in the foreseeable future if erosion is not arrested. Sand from the combined project will ensure adequate protection against continued shoreline erosion. Average annual benefits are as follows:

Annual Benefits	Amount
Shoreline Protection	$ 2,500,000
Road Protection	3,400,000
Protection to Outfall	63,000
Total	$ 5,963,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate Contract 6	$ 350,000
Planning, Engineering, and Design	130,000
Construction Management	20,000
Total	$ 500,000

NON-FEDERAL COSTS: In accordance with the cost sharing and financial concepts reflected in the authorizing legislation, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance and Replacement Costs
Pay 17.4 percent of the periodic nourishment cost and dredged material disposal	$ 78,100,000	
Total Non-Federal Costs	$ 78,100,000	$ 0

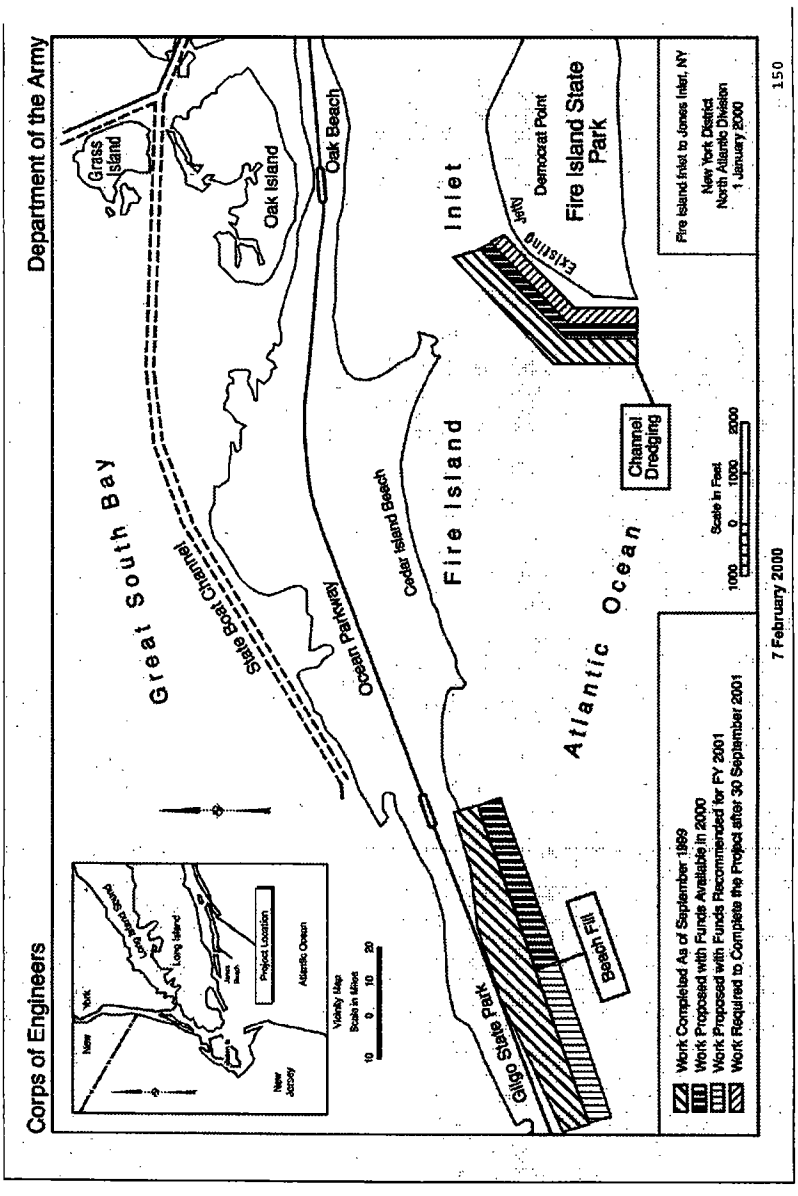
STATUS OF LOCAL COOPERATION: The non-Federal sponsor for this project is the New York State Department of Environmental Conservation. In accordance with paragraph 1.a (2) of the agreement between the United States of America and the State of New York, signed on 19 June 1973, for local cooperation at Fire Island Inlet & Shore Westerly to Jones Inlet, New York, the non-Federal sponsor is responsible for 17.4 percent of the periodic nourishment cost of the basic project, presently estimated at $600,000 annually. The nourishment cycle is anticipated to occur every two years.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $236,000,000 is a decrease of $296,000,000 over the latest estimate ($532,000,000) submitted to Congress (FY 2000). This change includes the following item:

Item	Amount
Other Estimating Adjustments	$-296,000,000
Total	$-296,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: A final Environmental Impact Statement was filed with the U.S. Department of Environmental Protection on 1 April 1987. A finding of No Significant Impacts was completed on 4 August 1987.

OTHER INFORMATION: Funds were appropriated to initiate construction in FY 1970. During the 1980's this project was undertaken utilizing offshore disposal for sand bypassing under operation and maintenance authority and funding. In March 1988, a plan was recommended for solving both the erosion and navigation needs of the area which is in conformance with the multipurpose project as formulated in the authorizing document and subsequently developed in the General Design Memorandum. The proposed plan was engineered to substantially reduce costs while still providing the required storm protection and the majority of navigation improvements benefits not currently accruing to the natural channel (single purpose project). The proposal which is in accordance with the authorizing document is to maintain a degree of safety to the vessels using the channel during the periods of high waves. Approximately 1,000,000 cubic yards of dredged sand will be hydraulically placed along the shoreline in the vicinity of Gilgo Beach, for shore protection purposes. The plan was approved by the Assistant secretary of the Army for Civil Works on 2 August 1988.


Department of the Army
Corps of Engineers
Great South Bay
State Boat Channel
Grass Island
Oak Island
Oak Beach
Ocean Parkway
Cedar Island Beach
Fire Island
Inlet
Atlantic Ocean
Democrat Point
Fire Island State Park
Existing Jetty
Channel Dredging
Beach Fill
Gilgo State Park
Project Location
Vicinity Map
Scale in Miles
Scale in Feet
Work Completed As of September 1999
Work Proposed with Funds Available in 2000
Work Proposed with Funds Recommended for FY 2001
Work Required to Complete the Project after 30 September 2001
Fire Island Inlet to Jones Inlet, NY
New York District
North Atlantic Division
1 January 2000
7 February 2000
150

APPROPRIATION TITLE: Construction, General - Beach Erosion Control

PROJECT: Fire Island to Montauk Point, New York (Continuing)

LOCATION: The overall project area, extends from Fire Island Inlet easterly to Montauk Point along the Atlantic Coast of Suffolk County. The project is about 83 miles long and comprises about 70 percent of the total ocean frontage of Long Island. Fire Island Inlet is located about 50 miles by water East of the Battery, New York City.

DESCRIPTION: The project provides for beach erosion control and hurricane protection along five reaches of the Atlantic Coast of New York from Fire Island Inlet to Montauk Point. Work includes widening the beaches along the developed areas to a minimum width of 100 feet at an elevation of 14 feet above mean sea level and by raising dunes to an elevation of 20 feet above mean sea level from Fire Island Inlet to Hither Hills State Park and at Montauk and opposite Lake Montauk Harbor, supplemented by grass planting on the dunes, interior drainage structures, construction of up to 50 groins, and subsequent periodic beach nourishment. A reformulation study is underway to evaluate storm damage protection measures. An interim project at Westhampton Beach is being constructed prior to completion of an ongoing overall project reformulation effort. This interim project provides for a beach berm extending westwardly from Groin 15 to Moriches Inlet at an elevation of 9.5 feet above mean sea level backed by a dune with a height of +15 feet above msl. The Westhampton Beach Interim project also includes tapering of the existing westernmost two groins, construction of a new groin between groins 14 and 15, and beachfill as necessary within the existing groinfield to promote sand transport. A Breach Contingency Plan has been developed which permits closing of breaches of the barrier island with use of a pre-approved Project Cooperation Agreement format, provided that estimated breach costs are no grater than $5 million. Studies are also underway for potential interim projects along Fire Island and West of Shinnecock Inlet.

AUTHORIZATION: River and Harbor Act 14 July 1960, modified by the Water Resources Development Act of 1974, the Water Resources Development Act of 1986, and the Water Resources Development Act of 1992.

REMAINING BENEFIT-REMAINING COST RATIO: 2.6 to 1 at 2 5/8 percent.

TOTAL BENEFIT-COST RATIO: 2.6 to 1 at 2 5/8 percent.

INITIAL BENEFIT-COST RATIO: 2.6 to 1 at 2 5/8 percent (FY 1963).

SUMMARIZED FINANCIAL DATA

Estimated Federal Cost			573,100,000
Programmed Construction		165,500,000	
Initial Construction	61,715,000		
Periodic Nourishment	103,785,000		
Unprogrammed Construction		407,600,000	
Initial Construction	105,500,000		
Periodic Nourishment	302,100,000		
Estimated Non-Federal Cost			295,200,000
Programmed Construction		65,750,000	
Initial Construction	18,860,000		
Cash Contributions	16,260,000		
Other Costs	2,600,000		
Periodic Nourishment	46,890,000		
Cash Contribution	46,890,000		
Other Costs	0		
Unprogrammed Construction		229,450,000	
Initial Construction	56,830,000		
Cash Contributions	46,480,000		
Other Costs	10,350,000		
Periodic Nourishment	172,620,000		
Cash Contribution	172,620,000		
Other Costs	0		
Total Estimated Programmed Construction		231,250,000	
Initial Construction	80,575,000		
Periodic Nourishment	150,675,000		

STATUS: (1 Jan 2000)	PERCENT COMPLETE	COMPLETION SCHEDULE
Reach 2		
11 groins	100	Oct 1966
4 groins	100	Nov 1970
8 groins	0	1/
Westhampton Interim	40	Being determined
Initial Construction	100	Dec 1997
Periodic Nourishment	0	Being determined
Balance of Reach	0	1/
Reach 4		
2 groins	100	
Beach Fill-18.4 mi.	0	1/
Balance of Project		
Dune/Beach Fill-39.7 mi.	0	1/
27 groins	0	1/
Reformulation Study	40	Being determined
Studies for Interim Projects		
Fire Island	90	Jun 2000
West of Shinnecock	95	Jun 2000
Beach Contingency Plan	100	Jan 1996

1/ Schedule is dependent on the outcome of the Reformulation effort.

PHYSICAL DATA

Dunes and beach replenishment: 73.5 miles
Dunes: raise to elevation 20 feet above msl
Beaches: widen to a minimum of 100 ft.
Interior drainage structures: 3 gated culverts
Groins: 52
Periodic nourishment: 480,000 cubic yards/yr

SUMMARIZED FINANCIAL DATA (Contd.)			ACCUM. PCT. OF EST. FED. COST
Total Estimated Unprogrammed Construction Cost			637,050,000
Initial Construction		162,330,000	
Periodic Nourishment		474,720,000	
Total Estimated Project Cost			868,300,000
Initial Construction	242,935,000		
Periodic Nourishment	625,365,000		
Allocations to 30 September 1999		49,779,000	
Conference Allowance for FY 2000		4,250,000	
Allocation for FY 2000		3,645,000 1/	
Allocations Through FY 2000		53,424,000	9
Allocation Requested for FY 2001		3,000,000	10
Programmed Balance to Complete After FY 2001		109,076,000	
Unprogrammed Balance to Complete After FY 2000		407,600,000	

1/ Reflects $605,000 reduction assigned as savings and slippage

JUSTIFICATION: Erosion has seriously reduced the width of the shoreline in the study area with consequent exposure of the shore and the mainland to wave attack and inundation damages. A recurrence of the hurricane tide of record (September 1938) when 45 lives were lost, would cause inundation and wave damage estimated at $717,000,000 (April 1996 price levels). As a result of the 11 December 1992 storm, in the Westhampton area (Section 1B of Reach 2), over 200 residential structures were destroyed and two breaches of the barrier island occurred. Closure costs for these breaches in 1992 was approximately $6,600,000.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Reformulation Study	578,000
Westhampton Interim (periodic nourishment)	1,977,000
Westhampton Interim (construction management)	200,000
Westhampton Interim (post construction monitoring)	245,000
Total	$ 3,000,000

NON-FEDERAL COSTS: Local interests are required to bear 30 percent of the total project cost including periodic nourishment, for the Westhampton Interim project and 35 percent of the total project cost for the Reformulation project which includes the value of lands, easements, and rights-of-way.

Requirements of Local Cooperation:	Payments During Construction and Reimbursements	Annual Operation Maintenance and Replacement Costs
Provide all lands, easements, and rights-of-way, and relocations.	$ 12,950,000	
Pay 30 percent of the first costs for the Westhampton Interim project and 35 percent of the first costs for the remainder of the project including creditable lands and easements and rights of way, and bear all costs of operation and maintenance and replacement of storm damage reduction facilities.	62,740,000	
Pay 30 percent of the periodic nourishment cost for the Westhampton Interim Project up to November 2006 and 35% thereafter for the overall authorized project.	219,510,000	
Total Non-Federal Costs	$295,200,000	$0

The non-Federal sponsor will also be required to make all required payments concurrently with project construction.

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STATUS OF LOCAL COOPERATION: The agency responsible for local cooperation is the New York State Department of Environmental Conservation (NYSDEC). Assurances of local cooperation were executed by the NYSDEC on 14 August 1963 and accepted by the Federal Government on 20 August 1963. A project cooperation agreement for the Westhampton Interim project was executed in February 1996.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $573,100,000 is a increase of $1,700,000 from the latest estimate ($571,400,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	$1,700,000
Total	$1,700,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement (EIS) was filed with the Environmental Protection Agency (USEPA) on 28 January 1978. On 7 March 1978, the Department of the Interior (DOI), supported by other agencies referred the EIS to the Council on Environmental Quality (CEQ) as unacceptable. Subsequent to the strong objections on the projects final environmental impact statement, meetings were held between September 1978 and January 1980 with DOI, USEPA, U.S. Department of Commerce, and NYSDEC. Two public scoping meetings were held in October 1979. Subsequently, the Federal agencies agreed to a basis for the reformulation of the Fire Island to Montauk Point project, including a general agreement on the studies necessary to answer the outstanding concerns. An environmental analysis was included in Supplement No. 2 to GDM No. 1 to determine environmentally acceptable measures of beach protection for the critically eroded areas at Westhampton Beach.

OTHER INFORMATION: Initial planning and construction funds were appropriated in FY 1963. The work remaining to be done is completion of construction of Reach 2-Moriches Inlet to Shinnecock Inlet, Reach 4-Southhampton to Beach Hampton, initiation of construction of Reach 1-Fire Island Inlet to Moriches Inlet, Reach 3-Shinnecock to Southhampton, and Reach 5-Beach Hampton to Montauk, as well as the completion of the reformulation effort. The Corps of Engineers concurred with the request by the State of New York to initially construct 11 groins (Reach 2), and 2 groins (Reach 4) with beach fill to be added as necessary but not sooner than 3 years after groin completion. In recognition of the critical condition of the beaches due to earlier storms, the Corps recommended to the State in June 1967 that the 3 year observation period be waived and that construction of urgent hurricane protection be resumed. The State concurred and requested that work be undertaken on additional groins, replacement of beach fill and dunes in Reach 2, as well as construction of groins, drainage structures and dune fill in Reach 4. Suffolk county, however, did not endorse the placement of beach and dune fills. Continuing negotiations during FY 1969 resulted in agreement on a plan for construction for certain groins, drainage structures, beach fill, and dunes to an interim height of 16 feet in Reaches 2 and 4. In December 1973, the State requested planning for Reach 2 (Section 1b), (Westhampton Beach) and Reach 4 (Georgica Pond), indicating that it would provide funds. Planning resumed and assurances were requested from the State in October 1974. However, strong opposition developed with Suffolk County and the county legislature refusing to provide support. Subsequently, erosion of the shoreline downdrift of the groin field at Westhampton Beach accelerated to the point where Dune Road, the only access to the homes in this area, was under water during normal high tide. In December 1992, two breaches occurred in the barrier island near Westhampton Beach, which were subsequently closed. An interim plan for the severely eroded Westhampton Beach area was prepared in June 1994, which provides for a lower level of protection than that provided in the original authorization. This interim plan has been designed such that it could be modified based on future recommendations in the to-be-completed Reformulation study. The USEPA and DOI agreed in concept to the interim plan, provided that a full environmental assessment and/or environmental impact study was completed, and the reformulation of the overall project was reinstated. The estimated cost of the reformulation effort is $17 million. The reformulation study is scheduled for completion in June 2002. In the interim studies are underway to assess the feasibility of interim projects along Fire Island and west of Shinnecock Inlet. The cost of these interim studies is $4 million. Additionally, a Breach Contingency Plan was approved in January 1996 to provide for rapid response to breaches along the islands while awaiting completion of the reformulation study.

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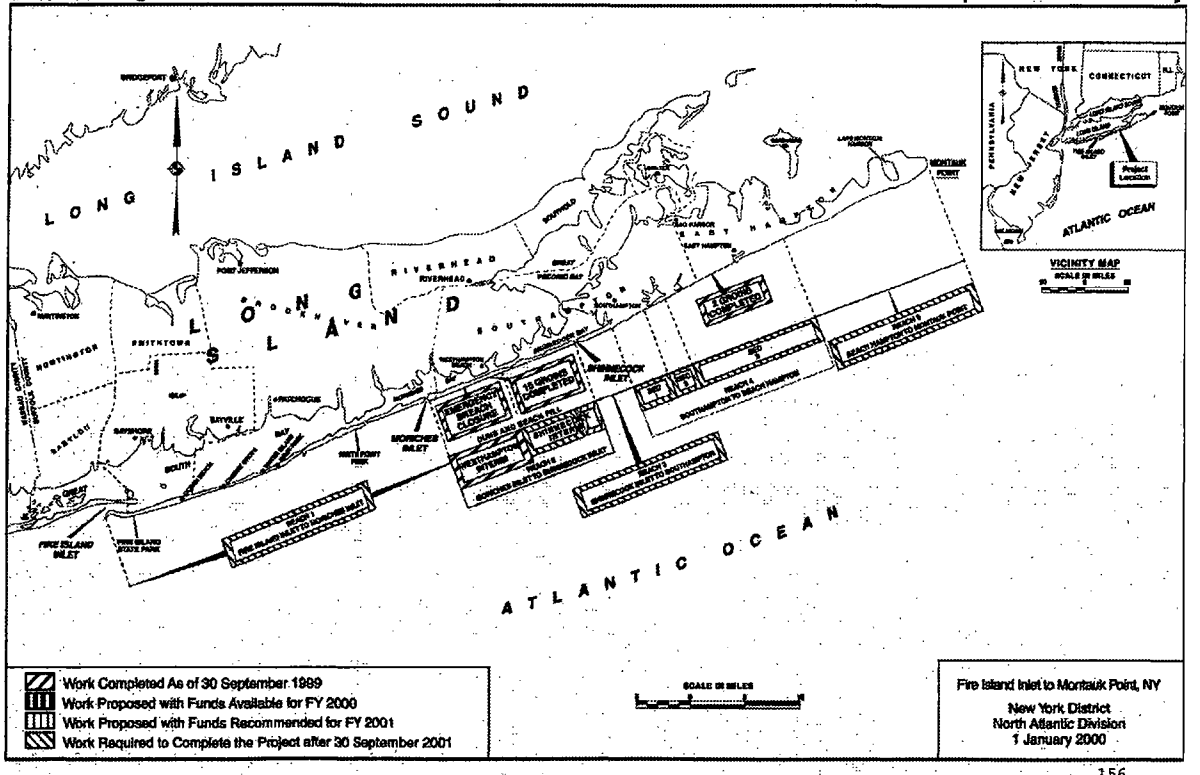
Corps of Engineers

Department of the Army



APROPRIATION TITLE: Construction, General - Local Protection Project (Flood Control)

PROJECT: Town Brook, Quincy and Braintree, Massachusetts (Continuing)

LOCATION: The project is located in the City of Quincy and the Town of Braintree on the south side of Massachusetts Bay, along the eastern shore of Massachusetts, 7 miles south of Boston in Norfolk County.

DESCRIPTION: The project involves modification of Old Quincy Dam to provide dependable flood storage capacity, construction of 4,060 feet of 12-foot diameter relief tunnel and appurtenant intake and outlet structures, and construction of 1,700 feet of channel improvements along Town River just downstream of the tunnel outlet. All work is programmed.

AUTHORIZATION: Water Resources Development Act of 1986.

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable because project construction is substantially complete.

TOTAL BENEFIT-COST RATIO: 1.08 to 1 at 8 5/8 percent.

INITIAL BENEFIT-COST RATIO: 1.11 to 1 at 8 5/8 percent (FY 1987).

BASIS OF BENEFIT-COST RATIO: Benefits are from the last detailed evaluation and are at October 1989 price levels. Benefit-cost ratios are based on the project functioning independently.

SUMMARIZED FINANCIAL DATA			ACCUMULATED PCT. OF EST. FED COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$32,850,000		Dam/Reservoir Modification	10	Mar 2001
Estimated Non-Federal Cost		10,950,000 1/		Channel Improvements	100	Jun 1994
Cash Contribution	$4,020,000			Relief Conduit	100	Jan 1997
Other Costs	6,930,000			Entire Project	95	Mar 2001
Total Estimated Project Cost		$43,800,000				

1/ Excludes $9,000,000 non-Federal cost for dam safety work.

SUMMARIZED FINANCIAL DATA (Continued)		ACCUMULATED PCT. OF EST. FED COST
Allocations to 30 September 1999	$31,586,000	
Conference Allowance for FY 2000	1,500,000	
Allocation for FY 2000	1,164,000 1/	
Allocations through FY 2000	32,750,000	99
Allocation Requested for FY 2001	100,000	100
Programmed Balance to Complete After FY 2001	0	
Unprogrammed Balance to Complete After FY 2001	0	

PHYSICAL DATA

Relief Conduit
- Type.....tunnel, concrete tunnel lining
- Size, inside diameter.....12 feet
- Length.....4,060 feet

Channel Improvement
- Length.....1,400 feet

Southern Artery Culvert
- Type.....Triple rectangular box, precast concrete
- Length.....300 feet
- Size (each box).....7 feet x 16 feet

1/ Reflects $214,000 assigned savings and slippage and $122,000 reprogrammed from the project.

JUSTIFICATION: Town Brook flows through the heavily developed urban area of the City of Quincy, located on Massachusetts Bay just south of Boston. Town Brook does not have the capacity to carry floodflows from the highly developed watershed. Its small channel capacity has resulted in increasingly severe and frequent flooding in the downstream residential and commercial districts of Quincy. The Brook has been almost completely modified in its lower developed reaches by a system of culverts, underground conduits, and walled channels. Hundreds of residential and commercial properties are subject to flood damage. The two most recent major floods occurred in August 1955, the greatest of record, and March 1968. The 1955 flood was nearly a 100-year event, and a recurrence of that event would cause losses in excess of $11,000,000. Recurring losses for the 100-year event would be more than $18,000,000. A recurrence of the 1968 flood, approximately a 10-year event, would cause nearly $2,000,000 in damages. The proposed project would prevent damages from all floods up to and including a flood event having an average recurrence frequency of once in 100 years, as well as significantly reducing damages from larger, more infrequent floods. The average annual benefits, all flood control, are estimated at $3,589,800 at 1 October 1989 prices.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Complete Construction	$ 70,000
Planning, Engineering and Design	10,000
Construction Management	20,000
Total	$ 100,000

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation and Replacement Costs
Pay all costs for approved compatible work associated with the project which will be credited toward the total non-Federal share of project costs.	$ 6,100,000	
Provide lands, easements and rights-of-way.	830,000	
Pay 9.18 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	4,020,000	$ 46,000
Total Non-Federal Costs	$10,950,000 1/	$ 46,000

1/ Excludes $9,000,000 non-Federal cost for dam safety work.

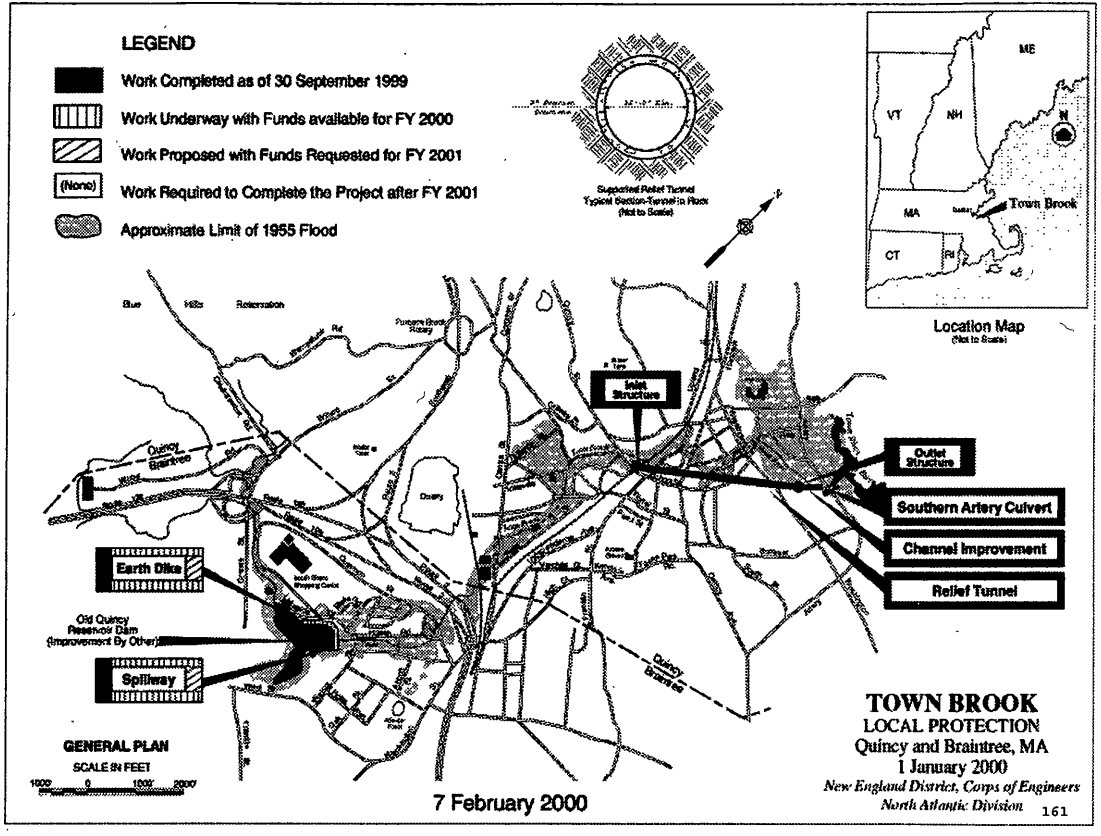
STATUS OF LOCAL COOPERATION: The Metropolitan District Commission (MDC), an agency of the Commonwealth of Massachusetts, is the local sponsor for the project. A Local Cooperation Agreement (LCA) was executed on 7 July 1992. The current non-Federal cost estimate of $10,950,000, which includes a cash contribution of $4,020,000, is an increase of $970,000 from the non-Federal cash estimate of $3,050,000 noted in the LCA. The MDC, by letter dated March 10, 1987, made application to ASA(CW) for credit of $7,400,000 in compatible work done by them, in accordance with Sections 104 and 401 of the Water Resources Development Act of 1986. The ASA(CW) approved on 20 May 1988 a credit of $6,100,000 for their work. The MDC has obtained all state and local permits necessary for project construction.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $32,850,000 is an increase of $2,250,000 from the latest estimate ($30,600,000) submitted to Congress (FY 2000). This change includes the following items:

Item	Amount
Post contract award and other estimating adjustments	$ 2,250,000
Total	$ 2,250,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An Environmental Assessment and Finding of No Significant Impact was completed on 29 September 1980.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1983 and funds to initiate construction were appropriated in FY 1987.


LEGEND
Work Completed as of 30 September 1999
Work Underway with Funds available for FY 2000
Work Proposed with Funds Requested for FY 2001
(None)
Work Required to Complete the Project after FY 2001
Approximate Limit of 1955 Flood
Supported Relief Tunnel
Typical Section-Tunnel in Rock
(Not to Scale)
ME
VT
NH
MA
CT
RI
Town Brook
Location Map
(Not to Scale)
Inlet Structure
Outlet Structure
Southern Artery Culvert
Channel Improvement
Relief Tunnel
Earth Dike
Old Quincy Reservoir Dam (Improvement By Other)
Spillway
Quincy
Braintree
GENERAL PLAN
SCALE IN FEET
1000 0 1000 2000
7 February 2000
TOWN BROOK
LOCAL PROTECTION
Quincy and Braintree, MA
1 January 2000
New England District, Corps of Engineers
North Atlantic Division

APPROPRIATION TITLE: Construction General - Local Protection (Flood Control)

PROJECT: Passaic River Preservation of Natural Storage Areas, New Jersey (Continuing)

LOCATION: The project is located in Morris, Essex and Passaic Counties, New Jersey

DESCRIPTION: This project element involves the acquisition of 5,350 acres of natural floodplain storage areas in the Central Passaic River Basin to preserve them from future development. This measure is a flood damage reduction element that will prevent increases in flood flows that would be caused by the loss of these areas to new development. This acquisition, in conjunction with nearly 16,000 acres already protected under existing Federal and State programs, will preserve the flood storage and environmental characteristics of the Central Basin wetlands.

AUTHORIZATION: Water Resources Development Act of 1990, Section 101(a)(18) as modified by Section 102(p) of WRDA 1992.

REMAINING BENEFIT-REMAINING COST RATIO: 1.2 to 1 at 7 3/8 percent.

TOTAL BENEFIT-COST RATIO: 1.2 to 1 at 7 3/8 percent.

INITIAL BENEFIT-COST RATIO: 1.2 to 1 at 7 3/8 percent (FY 1998).

BASIS OF BENEFIT-COST RATIO: Benefits and costs are from the Final General Design Memorandum dated July 1996 at October 1994 price levels, approved 30 October 1996 and updated in FY 1998.

SUMMARIZED FINANCIAL DATA	ACCUM. PCT. OF EST. FED. COST	
Estimated Federal Cost	19,300,000	
Estimated Non-Federal Cost	1,700,000	
Total Estimated Project Cost	21,000,000	
Allocations to 30 September 1999	1,680,000	
Conference Allowance for FY 2000	1,800,000	
Allocation for FY 2000	1,544,000 1/	
Allocation through FY 2000	3,224,000	17
Allocation Requested for FY 2001	1,700,000	24
Programmed Balance to Complete After FY 2001	14,376,000	
Unprogrammed Balance to Complete After FY 2001	0	

STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project	0	Being determined

PHYSICAL DATA

Nonstructural Flood Control: Acquisition of 5,350 acres of natural floodplain storage areas in the Passaic River Basin

1/ Reflects $ 256,000 reduction assigned as savings and slippage

Division: North Atlantic District: New York Passaic River Preservation of Natural Storage Areas, NJ

JUSTIFICATION: The Passaic River Basin suffers average annual damages of $116,016,000 (Oct. 1994 price levels). Properties experiencing damage include residential, commercial, industrial, public and municipal facilities. There are approximately 19,500 structures in the 100-year floodplain. The most severe recent flood occurred in April 1984, claiming 3 lives, with damages estimated at $493,000,000. The entire basin, or portion thereof, was declared a disaster area in 1968, 1971, 1972, 1973, twice in 1975 1984, and 1992. The recurrence of the October 1903 flood of record would cause damages of $2,492,000,000. The project does not support development of the floodplain directly or indirectly. Of the 5,350 acres to be acquired, 5,200 are wetlands. The acquisition of the natural storage areas, in conjunction with maintenance of the existing floodways in acquisition areas, would maintain the environmental characteristics of the basin by preserving wetlands, open space and fish and wildlife habitats. Average annual benefits (Inundation Reduction) are $1,826,300.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Acquisitions	$1,500,000
Construction Management	200,000
Total	$1,700,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation:	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Lands already acquired by sponsor for project and to be maintained with project cooperation agreement.	$ 1,700,000	$ 212,000
Pay 25 percent of the costs allocated, to flood control to bring the total non-Federal share of flood control costs to 25 percent, as determined under Section 103 (m) of the Water Resources Development Act of 1986 to reflect the non-Federal sponsors ability to pay, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities. Credits as per WRDA 1990/92 will reduce Non-Federal cash share by $3,550,000 from $3,550,000 to $0	$ 0	$ 0
Total non-Federal Costs	$ 1,700,000	$ 212,000

STATUS OF LOCAL COOPERATION: The State of New Jersey, through its Department of Environmental Protection (NJDEP), is the non-Federal sponsor. By letter dated 8 December 1995, New Jersey Governor Whitman expressed support for this project element. The PCA was executed in June 1999.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $19,300,000 is an increase of $1,000,000 over the latest estimate ($18,300,000) presented to Congress (FY 2000). The change includes the following item:

Item	Amount
Price Escalation on Construction Features	$1,000,000
Total	$1,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The FEIS was filed with EPA on 17 January 1989 and the SEIS with EPA on 20 October 1995. (Note: the SEIS addresses changes to other project elements. No changes have occurred to the Preservation element).

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1988 and funds to initiate construction were appropriated in FY 1998. The Preservation of Natural Floodplain Storage has been determined to be a separable element of the overall Passaic River Flood Damage Reduction Project which can be implemented without adverse impact anywhere in the basin.

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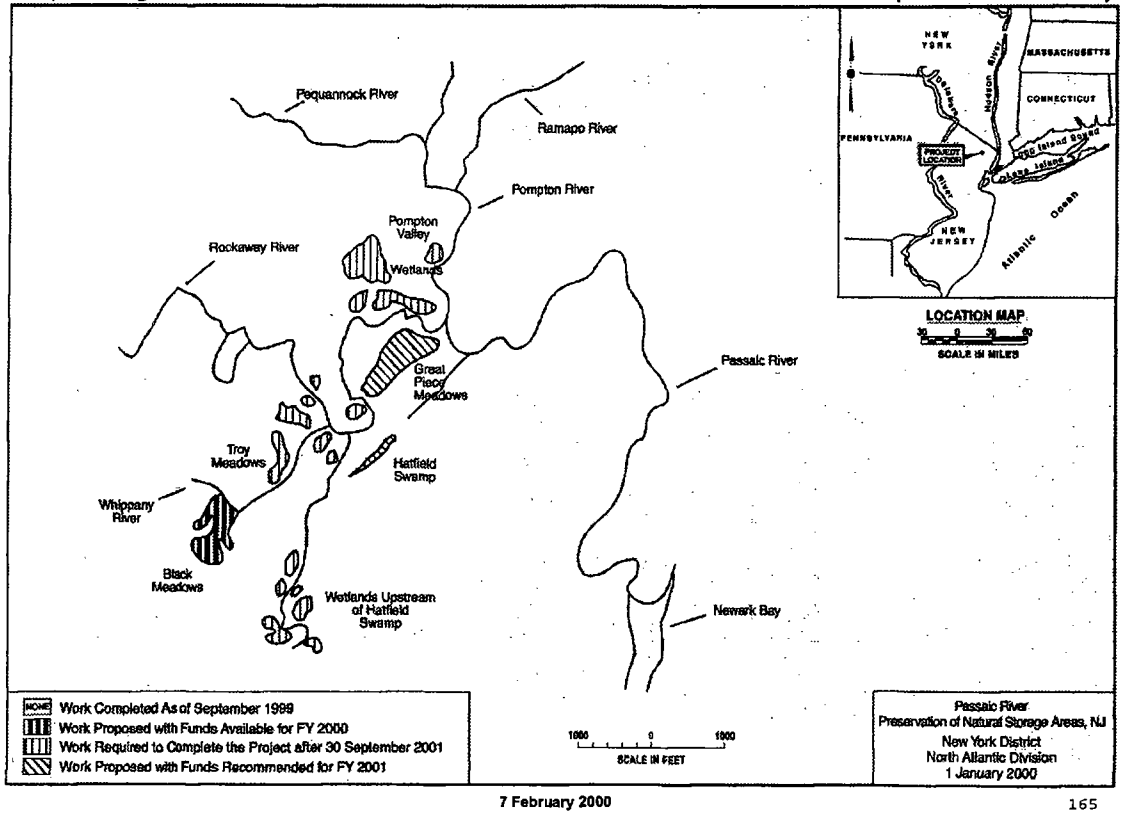
Corps of Engineers

Department of the Army



Passaic River
Preservation of Natural Storage Areas, NJ
New York District
North Atlantic Division
1 January 2000

7 February 2000

APPROPRIATION TITLE: Construction General - Local Protection (Flood Control)

PROJECT: Ramapo River at Oakland, New Jersey (Continuing)

LOCATION: The project is located on the Ramapo River in the Borough of Oakland in Bergen County, and Wayne Township and the Borough of Pompton Lakes in Passaic County, New Jersey. The project extends from the Pompton Lake Dam upstream to West Oakland Avenue in Oakland.

DESCRIPTION: The plan of improvement has two major features. The first involves the installation of flood control taintor gates on the existing Pompton Lake Dam. The second feature involves channel modification consisting of widening and deepening 5,800 feet of the Ramapo River. Mitigation for environmental impacts is also included in the form of wetland creation. All work is programmed.

AUTHORIZATION: Water Resources Development Act of 1986 and section 301(a)(9) of the Water Resources Development Act of 1996

REMAINING BENEFIT-REMAINING COST RATIO: 1.4 to 1 at 7 3/8 percent.

TOTAL BENEFIT-COST RATIO: 1.4 to 1 at 7 3/8 percent.

INITIAL BENEFIT-COST RATIO: 1.3 to 1 at 7 3/8 percent (FY 1995).

BASIS OF BENEFIT-COST RATIO: Benefits and costs are from the General Design Memorandum approved July 1994 at October 1993 price levels and updated in FY 1998.

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SUMMARIZED FINANCIAL DATA		
Estimated Federal Cost		$11,700,000
Estimated Non-Federal Cost		1,400,000
Cash Contributions	$ 650,000	
Other Costs	750,000	
Total Estimated Project Cost		13,100,000
Allocations to 30 September 1999		4,983,000
Conference Allowance for FY 2000		1,300,000
Allocation for FY 2000		1,115,000 1/
Allocation through FY 2000		6,098,000
Allocation Requested for FY 2001		2,717,000
Programmed Balance to Complete After FY 2001		2,885,000
Unprogrammed Balance to Complete After FY 2001		0

ACCUM. PCT. OF EST. FED. COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
	Channels & Canals	0	"Being Determined"
	Flood Diversion Structure	0	"Being Determined"
	Entire Project	0	"Being Determined"

PHYSICAL DATA

	Channels & Canals: 5800 feet of channel modification along the Ramapo River
52	Flood Diversion Structure: Installation of taintor
75	gates at the Pompton Lake Dam.

1/ Reflects $185,000 reduction for savings and slippage.

JUSTIFICATION: The project area suffers annual flood damages of $1,100,000 (Oct 1995 price level) without the project. Damages of $200,000 would occur with the project in place. The level of protection is the 40-year flood. The project would also provide protection against larger flood events. The maximum flood of record was the April 1984 flood; an approximate 40-year event, which resulted in residential damages of $3,500,000, in 1984. This flood would cause damages estimated at $5,200,000 if it occurred today (Oct 1995 price level). Approximately 300 families were evacuated during the 1984 flood and 20 people were trapped and had to be rescued. Flooding also caused traffic disruption causing many businesses to close. Damaging floods have occurred 11 times in the past 20 years with the most recent floods in 1983, 1984, 1987, and 1993. The project does not support the development of the floodplain directly or indirectly. The project does avoid, where possible, both long and short term environmental impacts. Mitigation includes the construction of 5.0 acres of wetlands in the project area. Average annual benefits, all flood control, are estimated at $1,148,000 at October 1998 price levels.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Complete Channel Modification	$ 2,277,000
Planning, Engineering and Design	140,000
Construction Management	$ 300,000
Total	$ 2,717,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation:	Annual Payments During Construction and Reimbursements	Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights-of-way, and borrow and excavated or dredged material disposal areas.	$ 750,000	
Pay 25 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, as determined under Section 103 (m) of the Water Resources Development Act of 1986 to reflect the non-Federal sponsors ability to pay, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities. Credits as per WRDA 1990/92 will reduce Non-Federal cash share by $ 1,850,000 from $2,500,000 to $650,000.	$ 650,000	$ 60,000
Total non-Federal Costs	$ 1,400,000	$60,000

REQUIREMENTS OF LOCAL COOPERATION: Provide lands, easements, right of way, and borrow any excavated or dredged material disposal area; Pay 25 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, as determined under Section 103 WRDA (m) of the Water Resources Development Act of 1986 to reflect the non-Federal sponsors ability to pay, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.

STATUS OF LOCAL COOPERATION: The State of New Jersey, through its Department of Environmental Protection (NJDEP), is the non-Federal sponsor. By letter dated 22 October 1993, NJDEP indicated its commitment to the project. Funds to cover the entire non-Federal share of the project cost have been programmed into the New Jersey State Capital Budget for FY 1995 and FY 1996. The funds will be held in escrow and expended each year as required. NJDEP understands their responsibilities in carrying out the provisions of the PCA and is prepared to enter into such an agreement as documented in their letter of 4 January 1994. The project is also supported by the Borough of Oakland. Oakland has purchased portions of the real estate necessary for the project. The real estate will be turned over to the State of New Jersey, the non-Federal sponsor, as a share in the project cost. The PCA was executed in April 1999.

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COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $11,700,000 is an increase of $460,000 over the latest estimate ($11,240,000) presented to Congress (FY 2000). This change includes the following items:

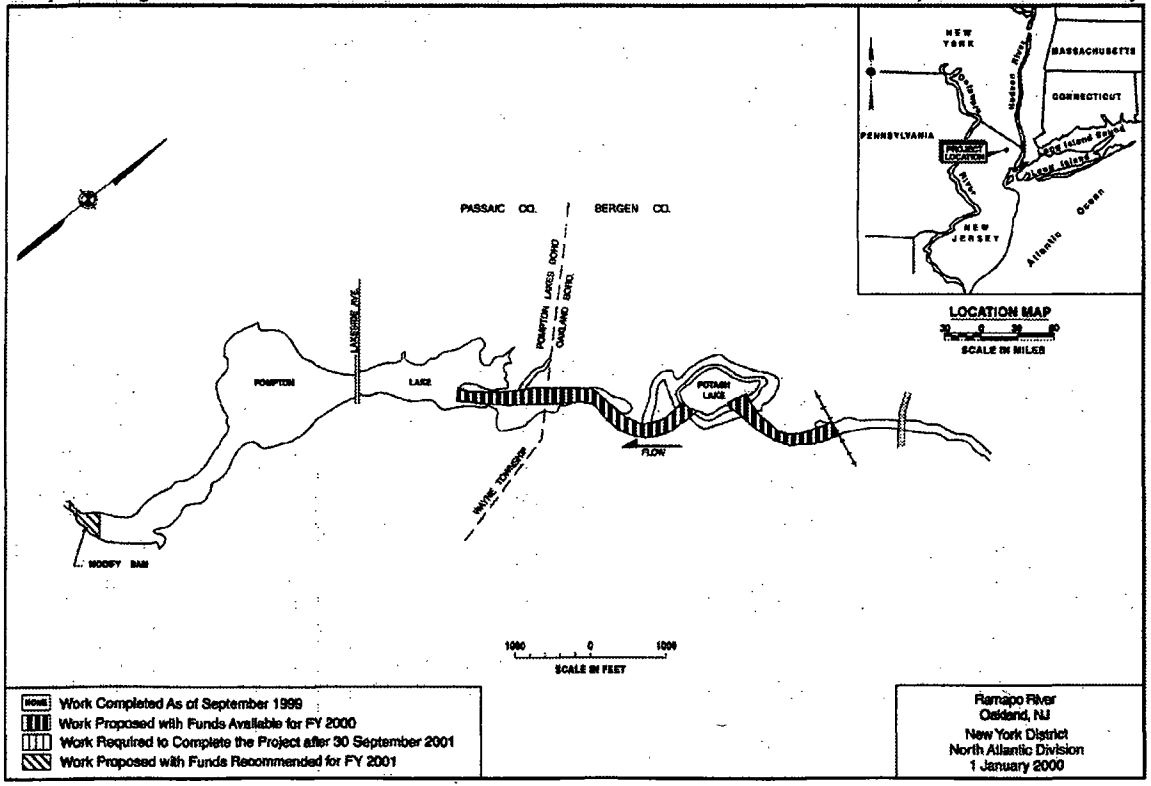
ITEM	AMOUNT
Price Escalation on Construction Features	$ 460,000
Total	$ 460,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final EIS was filed with the EPA ON 21 June 1985.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1988 and funds to initiate construction were appropriated in FY 1995. The project cost includes $210,000 for fish and wildlife mitigation and $100,000 for cultural resources preservation.

Corps of Engineers

Department of the Army



7 February 2000

APPROPRIATION TITLE: Construction, General - Flood Control

PROJECT: Raritan River Basin, Green Brook Sub-Basin, New Jersey (Continuing)

LOCATION: The Green Brook Sub-Basin project area is located within the Raritan River Basin in north-central New Jersey in Middlesex, Somerset and Union Counties. It drains approximately 65 square miles of primarily urban and industrialized area. It includes the following communities: Dunellen, Middlesex Borough, Piscataway, South Plainfield, Bound Brook, Bridgewater, Green Brook, North Plainfield, Warren, Watchung, Berkeley Heights, Plainfield, and Scotch Plains. The project area is divided into three sub-areas: the lower, upper and Stony Brook portions of the sub-basin.

DESCRIPTION: The NED plan consists of a system of levees and floodwalls in the lower portion of the basin, channel modifications and dry detention basins in the upper portion of the basin, and channel modifications in the Stony Brook portion of the sub-basin. The recommended plan consists of levees and floodwalls in the lower portion of the basin and channel modifications in the Stony Brook portion of the sub-basin. The upper portion of the sub-basin has been deferred.

AUTHORIZATION: Water Development Act of 1986.

REMAINING BENEFITS-REMAINING COST RATIO: 1.3 to 1 at 7 5/8 percent.

TOTAL BENEFIT-COST RATIO: 1.3 to 1 at 7 5/8 percent.

INITIAL BENEFIT-COST RATIO: 1.3 to 1 at 7 5/8 percent (FY 1998).

BASIS OF BENEFIT-COST RATIO: Benefits are from the analysis contained in the Final General Reevaluation Report dated May 1997 at April 1996 price levels.

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SUMMARIZED FINANCIAL DATA:		
Estimated Federal Cost		295,600,000
Programmed Construction	257,200,000	
Unprogrammed Construction	38,400,000	
Estimated Non-Federal Cost		104,400,000
Programmed Construction	85,800,000	
Cash Contributions 23,300,000		
Other Costs 62,500,000		
Unprogrammed Construction	18,600,000	
Total Estimated Programmed Construction Cost		343,000,000
Total Estimated Unprogrammed Construction Cost		57,000,000
Total Estimated Project Cost		400,000,000
Allocations to 30 September 1999		29,617,000
Conference Allowance for FY 2000		1,000,000
Allocation for FY 2000		858,000 1/
Allocations through FY 2000		30,475,000 10
Allocation Requested for 2001		4,000,000 12
Programmed Balance to complete after FY 2001		222,725,000
Unprogrammed Balance to complete after FY 2001		38,400,000

ACCUM. PCT. OF EST. FED. COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
	Element 1	0	Being determined
	Element 2,5	0	Indefinite
	Elements 3,4,6,7	0	Being determined
	Entire Project	0	Indefinite

PHYSICAL DATA

Element 1 is located in Bound Brook Borough and western Middlesex Borough. It consists of levees, floodwalls, closure structures, interior drainage facilities, a bridge reconstruction and non-structural measures including flood proofing and buyouts. Element 2,5(Unprogrammed) consists of channel modifications and two dry detention basins. Elements 3,4,6,7 will consist of levees, floodwalls, closure structures, bridge reconstruction and non-structural measures including floodproofing and buyouts.

1/ Reflects $142,000 reduction for savings and slippage

JUSTIFICATION: The project area suffers annual flood damages of $41,000,000 (Apr 96 P.L.) without the project. On August 28, 1971 Hurricane Doria caused $85,200,000 in damages (Oct 95 P.L.). Another major storm occured on August 2, 1973 which caused $89,300,000 in damages (Oct 95 P.L.). Flooding was so extensive that the area was designated a Major Disaster Area. Six deaths were attributed to this storm, thirty four people were injured and there were more than 1,000 people evacuated from their residences.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Construction of 1st Construction Element	$2,972,000
Planning, Engineering, and Design	828,000
Construction Management	200,000
Total	$4,000,000

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation		Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair Rehabilitation, and Replacement Costs
Provide lands, easements, rights of way, relocations and borrow excavated or dredged material disposal areas.		$ 62,500,000	
Pay 25 percent of cost associated with non-structural flood protection.	(programmed work)	15,500,000	
	(unprogrammed work)	3,800,000	
Pay 6 percent of the costs allocated to flood control, to bring the total non-Federal share of flood control costs to 25 percent, as determined under Section 103 (m) of the Water Resources Development Act of 1986, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	(programmed)	19,500,000	$1,157,000
	(unprogrammed)	3,100,000	-
Total Non-Federal Costs		$104,400,000	$1,157,000

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

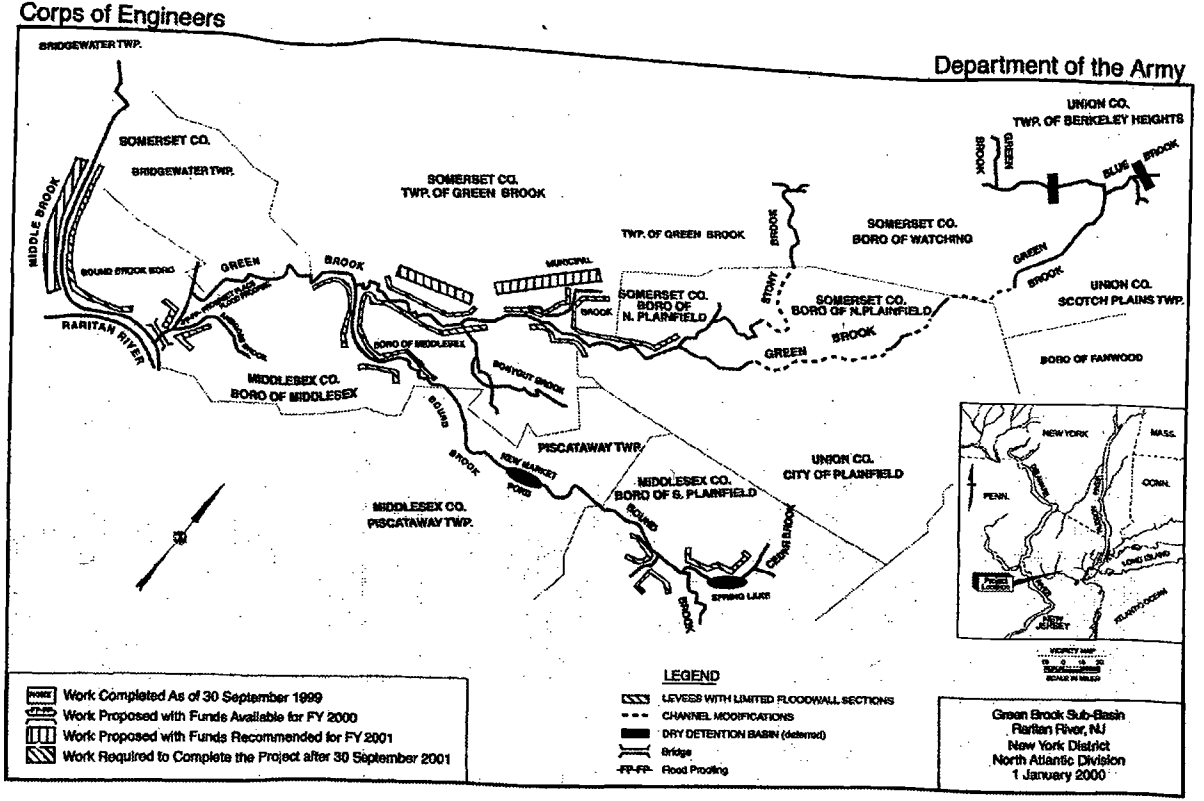
STATUS OF LOCAL COOPERATION: The State of New Jersey Department of Environmental Protection, provided a letter dated 17 April 1997 stating their support and endorsement of the project. Governor Whitman also provided a letter of support on 26 February 1998. The Green Brook Flood Control Commission has stated their strong support for the project in a letter dated 4 October 1995. Also, several counties and municipalities have adopted resolutions endorsing and supporting the project. The Project Cooperation Agreement was executed in June 1999.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $295,600,000 is an increase of $9,600,000 from the latest estimate ($286,000,000) presented to Congress (FY 2000). This change includes the following items:

Price Escalation on Construction Features	$9,600,000
Total	$9,600,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement (EIS) was filed in August 1980. A Supplemental Environmental Impact Statement with the Final General Reevaluation Report was released in May 1997 and the Record of Decision was issued in July 1998.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1986 and funds to initiate construction were appropriated in FY 1998.


Corps of Engineers
Department of the Army
BRIDGEWATER TWP.
SOMERSET CO.
BRIDGEWATER TWP.
MIDDLE BROOK
SOMERSET CO.
TWP. OF GREEN BROOK
UNION CO.
TWP. OF BERKELEY HEIGHTS
GREEN BROOK
BLUE BROOK
SOUND BROOK BORO
GREEN BROOK
RARITAN RIVER
TWP. PROJECT FLOOD CONSTRUCTION
MUNICIPAL
TWP. OF GREEN BROOK
STONY BROOK
SOMERSET CO.
BORO OF WATCHUNG
SOMERSET CO.
BORO OF N. PLAINFIELD
SOMERSET CO.
BORO OF N.PLAINFIELD
GREEN BROOK
UNION CO.
SCOTCH PLAINS TWP.
BORO OF FANWOOD
BORO OF MIDDLESEX
MIDDLESEX CO.
BORO OF MIDDLESEX
BOUND BROOK
BOUND BROOK
PISCATAWAY TWP.
NEW MARKET POND
MIDDLESEX CO.
BORO OF S. PLAINFIELD
UNION CO.
CITY OF PLAINFIELD
MIDDLESEX CO.
PISCATAWAY TWP.
BOUND BROOK
CEDAR BROOK
SPRING LAKE
NEW YORK
MASS.
CONN.
PENN.
LONG ISLAND
ATLANTIC OCEAN
NEW JERSEY
VICINITY MAP
SCALE IN MILES
Work Completed As of 30 September 1999
Work Proposed with Funds Available for FY 2000
Work Proposed with Funds Recommended for FY 2001
Work Required to Complete the Project after 30 September 2001
LEGEND
LEVEES WITH LIMITED FLOODWALL SECTIONS
CHANNEL MODIFICATIONS
DRY DETENTION BASIN (deferred)
Bridge
FP-FP Flood Proofing
Green Brook Sub-Basin
Raritan River, NJ
New York District
North Atlantic Division
1 January 2000

970

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Wyoming Valley, Pennsylvania (Levee Raising) (Continuing)

LOCATION: Wyoming Valley is located in northeastern Pennsylvania and extends from Duryea on the Lackawanna River southwestward to Nanticoke on the Susquehanna River. The Wyoming Valley flood control projects are located on the Susquehanna River in Luzerne County and are the four contiguous existing Federal flood control projects at Plymouth, Kingston-Edwardsville, Swoyersville-Forty Fort, and Wilkes-Barre and Hanover Township, which together function as a flood control system within the Valley.

DESCRIPTION: The four existing Federal flood control projects in the Wyoming Valley were designed to protect against a flood equal to the March 1936 event which had a peak flow of 232,000 cubic feet per second. Modifications to the existing project would protect against flood flows of 318,500 cubic feet per second that would be caused by a recurrence of Storm Agnes. The proposed modifications include raising existing levees and floodwalls between 3 and 5 feet, modifying closure structures, relocating utilities, and providing some new floodwalls and levees to maintain the integrity of the flood control system. The proposed project also includes a plan to reduce project-related adverse impacts. All work is programmed.

AUTHORIZATION: Water Resources Development Act of 1986 and the Water Resources Development of 1996.

REMAINING BENEFIT - REMAINING COST RATIO: 5.0 to 1 at 8 1/4 percent.

TOTAL BENEFIT - COST RATIO: 2.3 to 1 at 8 1/4 percent.

INITIAL BENEFIT - COST RATIO: 2.8 to 1 at 8-1/4 percent (FY 1995).

BASIS OF BENEFIT - COST RATIO: Benefits are from the final Phase II General Design Memorandum approved February 1996 at January 1993 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM. PCT. OF EST. FED COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$131,000,000				
Estimated Non-Federal Cost:		44,000,000		Levee Raising	50	Being determined
Cash Contributions	$33,538,000			Entire Project	30	Being determined
Other Costs	10,462,000					
Total Estimated Project Cost		$175,000,000				

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SUMMARIZED FINANCIAL DATA: (CONT'D)		
Allocations to 30 September 1999	44,938,000	
Conference Allowance for FY 2000	20,000,000	
Allocation for FY 2000	17,152,000	1/
Allocations through FY 2000	62,090,000	47
Allocation Requested for FY 2001	23,092,000	65
Programmed Balance to Complete after FY 2001	45,818,000	
Unprogrammed Balance to Complete after FY 2001	0	

1/ Reflects $2,848,000 reduction assigned as savings and slippage.

PHYSICAL DATA

Swoyersville-Forty Fort	
Completed Work	Raising Work
Levees - Earthfill: 16,970 ft. Floodwall - Steel sheetpile: 2,490 ft. Channel - 3,900 ft.	Levees - Earthfill: 16,500 ft. x 3-5 ft. Floodwall - Steel sheetpile: 4,000 ft. x 3-5 ft.

Plymouth	
Completed Work	Raising Work
Levees - Earthfill: 8,700 ft. Channel - 2,670 ft. Pump Stations - 2	Levees - 8,600 ft. x 2-4 ft. Floodwall - Concrete: 200 ft. x 2-4 ft. Steel sheetpile: 200 ft. x 2-4 ft. Earth: 500 ft. x 2-4 ft. Pump Station Modification- 2

Kingston-Edwardsville	
Completed Work	Raising Work
Levees - Earthfill: 18,430 ft. Conduit - 16.5 ft. x 6,660 ft. Channel - 3,640 ft. Pump Stations - 3	Levees - Earthfill: 17,300 ft. x 3-5 ft. Floodwall - Concrete: 500 ft. x 3-5 ft. Earth: 500 ft. x 3-5 ft. Closures - 3 new Pump Station Modifications - 3

Wilkes-Barre and Hanover Township	
Completed Work	Raising Work
Levees - Earthfill: 27,860 ft. Floodwall - Concrete: 160 ft. Pump Stations - 5 stormwater 8 sanitary Channel - 1,000 ft.	Levees - Earthfill: 20,600 ft. x 3-5 ft. Floodwall - Concrete: 500 ft. x 3-5 ft. Sheetpile 4,300 ft. x 3-5 ft. Earth: 600 ft. x 3-5 ft. Closures - 3 new & 1 modified Pump Station Modification - 13

Division: North Atlantic District: Baltimore Wyoming Valley, PA (Levee Raising)

JUSTIFICATION: The four existing local protection projects which comprise the Wyoming Valley system were constructed between 1935 and 1976 and provide protection for an area of 5,160 acres and a population of 225,000. Over the past 200 years at least 32 floods have been recorded which exceeded a stage of 25 feet at Wilkes-Barre compared to the flood stage of 22 feet. The discharge of 345,000 cubic feet per second during June 1972 (Storm Agnes) without the now completed Cowanesque and Tioga-Hammond Lakes projects in operation overtopped the protection and resulted in the greatest flood of record with damages of $730,000,000. A recurrence of Storm Agnes would result in damages to about 25,000 structures with an estimated value of about $4 billion (October 1997 price level). In January 1996, a combination of rainfall and snowmelt resulted in a flood stage of about 34 feet at Wilkes-Barre, PA. Although the existing system prevented flood damages of nearly $500 million, residual damages were estimated at about $6 million in the Wyoming Valley area. The average annual benefits amount to $27,143,000 essentially all for flood control, based on the final Phase II General Design Memorandum approved February 1996 at January 1993 price levels.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue construction of Wilkes-Barre & Hanover Township Levee	8,670,000
Initiate construction of Plymouth Levee	1,376,000
Continue construction of Stormwater Pump Stations	5,624,000
Continue construction of Recreation Facilities	271,000
Continue Non-Structural Measures	6,340,000
Planning, Engineering, and Design	11,000
Construction Management	800,000
Total	$23,092,000

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, and Replacement Costs
Provide lands, easements, and rights of way.	4,272,000	
Modify or relocate, utilities, roads, bridges (except railroad bridges) and other facilities where necessary in the construction of the project.	6,190,000	
Pay 18 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent and bear all costs of operation, maintenance and replacement of flood control facilities.	31,735,000	157,000
Pay one-half of the separable costs allocated to recreation (except recreational navigation) and bear all costs of operation, maintenance, repair, rehabilitation and replacement of recreation facilities.	1,803,000	35,000
Total Non-Federal Costs	$44,000,000	$192,000

STATUS OF LOCAL COOPERATION: The non-Federal sponsor is the Luzerne County Flood Protection Authority. The Pennsylvania Department of Environmental Protection has committed to provide 45 percent of the non-Federal share of project costs. Letters of intent to provide the required local cooperation requirements were furnished by Luzerne County (19 January 1995) and the Commonwealth of Pennsylvania (30 December 1994). A Project Cooperation Agreement was executed in October 1996. To date, the County has fully complied with the local requirements on the project.

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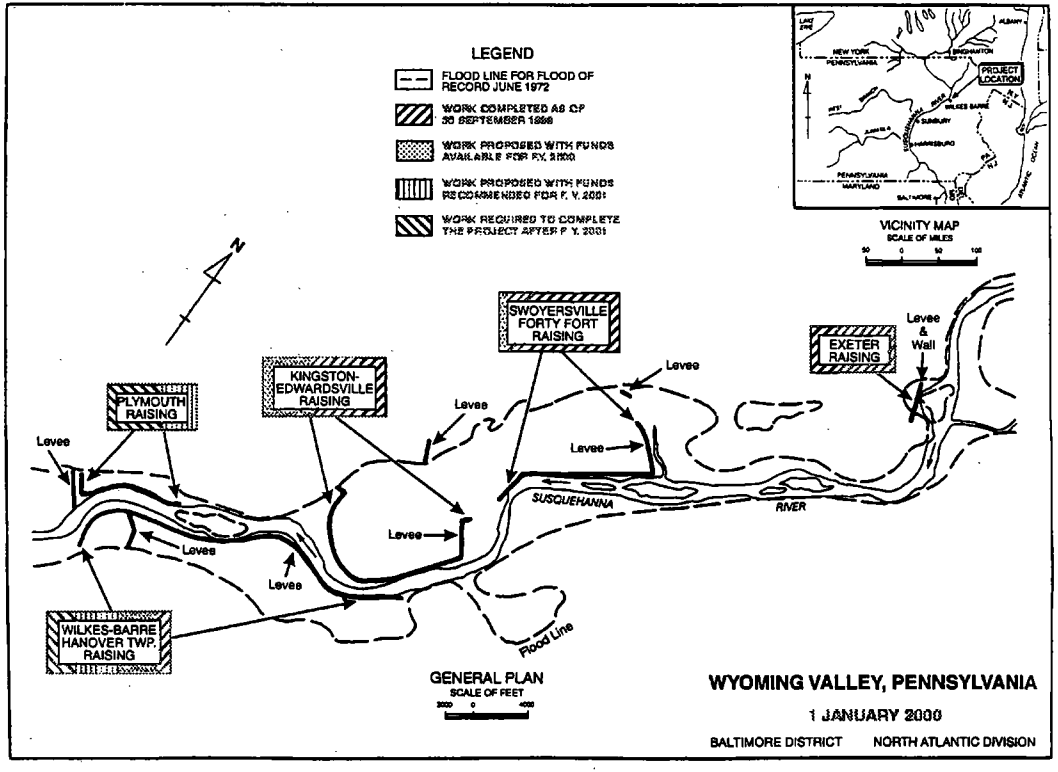
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $131,000,000 is an increase of $22,700,000 over the latest estimate ($108,300,000) submitted to Congress (FY 2000). This change includes the following items:

ITEM	AMOUNT
Other estimating adjustments	$22,700,000
Total	$22,700,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: A Supplemental Environmental Impact Statement is included in the final General Design Memorandum approved February 1996. The Record of Decision was signed 24 June 1996.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1984, and funds to initiate construction were appropriated in FY 1995.


LEGEND
FLOOD LINE FOR FLOOD OF RECORD JUNE 1972
WORK COMPLETED AS OF 30 SEPTEMBER 1999
WORK PROPOSED WITH FUNDS AVAILABLE FOR F.Y. 2000
WORK PROPOSED WITH FUNDS RECOMMENDED FOR F. Y. 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER F. Y. 2001
VICINITY MAP
SCALE OF MILES
PROJECT LOCATION
N
PLYMOUTH RAISING
KINGSTON-EDWARDSVILLE RAISING
SWOYERSVILLE FORTY FORT RAISING
EXETER RAISING
Levee & Wall
WILKES-BARRE HANOVER TWP. RAISING
Levee
SUSQUEHANNA RIVER
Flood Line
GENERAL PLAN
SCALE OF FEET
WYOMING VALLEY, PENNSYLVANIA
1 JANUARY 2000
BALTIMORE DISTRICT
NORTH ATLANTIC DIVISION

APPROPRIATION TITLE: Construction, General - Environmental Restoration

PROJECT: Anacostia River and Tributaries, MD & DC (Continuing)

LOCATION: The Anacostia River has a total drainage area of 170 square miles, of which 136 square miles are in Maryland and 34 square miles are in the District of Columbia. The Northeast and Northwest Branches originate in Maryland and flow through several highly urbanized areas before forming the Anacostia River about 9 miles upstream from its junction with the Potomac River. The project is located in Montgomery and Prince George's Counties in Maryland, and the District of Columbia.

DESCRIPTION: The project is comprised of 13 environmental measures to restore 80 acres of wetlands, restore 5 miles of stream, and create 33 acres of bottomland habitat within the Anacostia Basin. The 13 measures are comprised of 2 wetland restorations, development of 5 stormwater management wetlands, and restoration of 6 stream reaches.

AUTHORIZATION: Section 101 (8) of the Water Resources Development Act of 1996.

REMAINING BENEFIT - REMAINING COST RATIO: Not applicable.

TOTAL BENEFIT - COST RATIO: Not applicable.

INITIAL BENEFIT - COST RATIO: Not applicable

BASIS OF BENEFIT-COST RATIO: Not applicable.

SUMMARIZED FINANCIAL DATA			ACCUM. PCT. OF EST. FED COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$12,000,000				
Estimated Non-Federal Cost:		4,000,000		Entire Project	15	Sep 2001
Cash Contributions	$3,438,000					
Other Costs	$ 562,000					
Total Estimated Project Cost		$16,000,000				

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SUMMARIZED FINANCIAL DATA (CONT'D)

Allocations to 30 September 1999	3,049,000		
Conference Allowance for FY 2000	4,031,000		
Allocation for FY 2000	5,000,000	1/	
Allocations through FY 2000	8,049,000	67	
Allocation Requested for FY 2001	3,951,000	100	
Programmed Balance to Complete after FY 2001	0		
Unprogrammed Balance to Complete after FY 2001	0		

PHYSICAL DATA

Wetlands	- Restore 80 acres
Stream	- Restore 5 miles
Bottom Land Habitat	- Create 33 acres

1/ Reflects $574,000 reduction assigned as savings and slippage and $1,543,000 proposed reprogramming to the project.

JUSTIFICATION: Corps of Engineers involvement in the Anacostia River basin dates back more than 115 years, and includes projects and programs for navigation, flood control, debris removal, and aquatic vegetation control. Most of these actions predated the enactment of the National Environmental Policy Act of 1969, and contributed to the degradation of wetlands and fish and wildlife habitat within the basin. From 1902 through 1940, the District of Columbia portion of the river was channelized, seawalls were built, and Kingman Lake and East Lake were constructed, and more than 1,000 acres of mudflats and wetlands were filled with dredged material. The primary purpose of this work was to reduce the mosquito population in the area and thereby reduce the incidence of malaria experiences by Army troops stationed in the District of Columbia, as well as to provide a park for the eastern portion of the city. From 1952 to 1959, a flood control project was constructed in Prince George's County, Maryland, along the Northeast and Northwest Branches and the Anacostia River. A total of 28,000 feet of levee and 14,000 feet of channel were constructed to solve critical flood problems within the basin. This effort was successful; however, the construction resulted in a further loss of wetlands and fish and wildlife habitat within the basin. The feasibility study was completed in July 1994. Based on the study, the recommended project includes 13 actions including wetlands creation, riparian plantings, and creation of fisheries habitat. The environmental restoration actions are justified based on their contribution to significant fish and wildlife resources within the Anacostia River basin.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Fish and Wildlife Facilities	$3,237,000
Construction Management	714,000
Total	$3,951,000

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

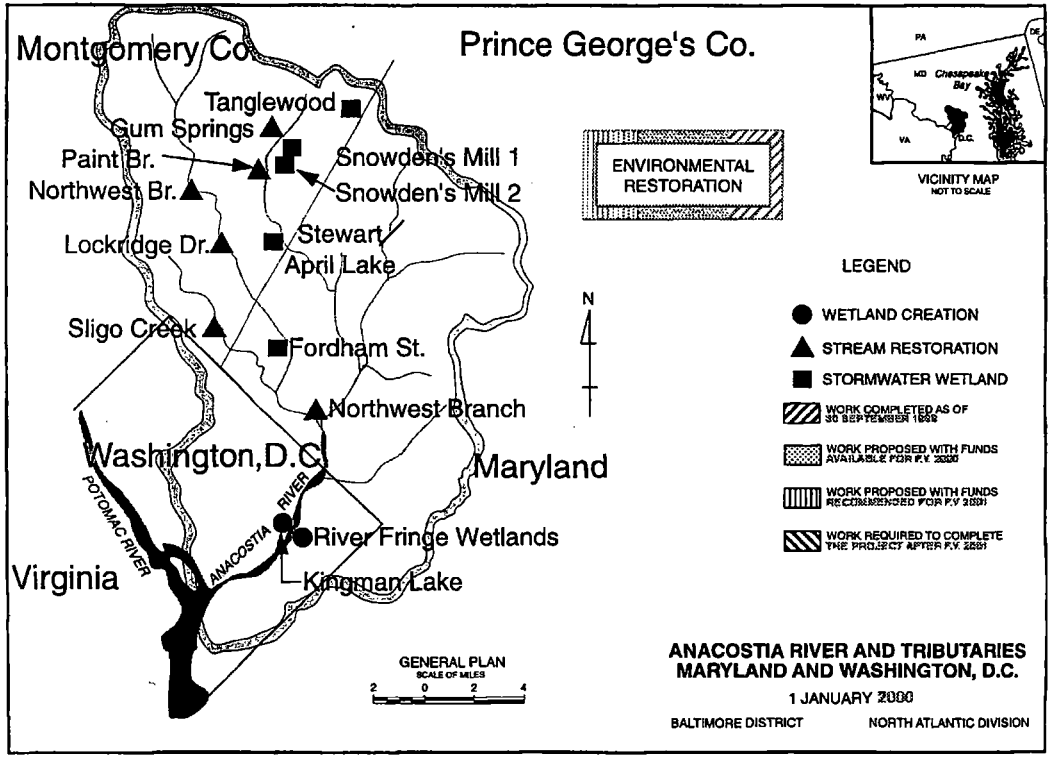
Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, and Replacement Costs
Provide lands, easements and rights of way, relocations and dredged material disposal areas	$ 562,000	
Pay 25 percent of the cost assigned to environmental restoration and bear all costs of operation and maintenance	$3,438,000	$ 41,000
Total Non-Federal Costs	$4,000,000	

STATUS OF LOCAL COOPERATION: The project will feature three separate Project Cooperation Agreements (PCA's), as the environmental restoration actions fall within three distinct political jurisdictions. Letters of intent to comply with requirements of local cooperation have been received from the three sponsors; The District of Columbia (30 June 1994), Montgomery County (30 June 1994) and Prince George's County (22 January 1994). The PCA's for Montgomery County and the District of Columbia were executed in October 1998 and January 1999, respectively. Execution of the PCA for Prince George's County is anticipated in May 2000. Letters of support have also been received from the National Park Service (10 January 1994) and the Maryland National Capital Park and Planning Commission (31 May 1994).

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $12,000,000 is the same as the latest estimate ($12,000,000) submitted to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An Environmental Impact Statement was included in the final Feasibility report dated July 1994. Due to changes since the EIS was prepared, a Finding of No Significant Impact for the Lockridge Drive Site was completed in January 1998.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1995, and funds to initiate construction were appropriated in FY 1998.


Montgomery Co.
Prince George's Co.
Tanglewood
Gum Springs
Paint Br.
Snowden's Mill 1
Northwest Br.
Snowden's Mill 2
Lockridge Dr.
Stewart
April Lake
Sligo Creek
Fordham St.
Northwest Branch
Washington,D.C.
Maryland
POTOMAC RIVER
ANACOSTIA RIVER
River Fringe Wetlands
Virginia
Kingman Lake
ENVIRONMENTAL RESTORATION
N
PA
DE
MD
Chesapeake Bay
WV
VA
D.C.
NC
VICINITY MAP
NOT TO SCALE
LEGEND
WETLAND CREATION
STREAM RESTORATION
STORMWATER WETLAND
WORK COMPLETED AS OF 30 SEPTEMBER 1999
WORK PROPOSED WITH FUNDS AVAILABLE FOR F.Y. 2000
WORK PROPOSED WITH FUNDS RECOMMENDED FOR F.Y. 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER F.Y. 2001
GENERAL PLAN
SCALE OF MILES
2 0 2 4
ANACOSTIA RIVER AND TRIBUTARIES
MARYLAND AND WASHINGTON, D.C.
1 JANUARY 2000
BALTIMORE DISTRICT
NORTH ATLANTIC DIVISION

980

APPROPRIATION TITLE: Construction, General - Environmental Restoration

PROJECT: Chesapeake Bay Environmental Restoration and Protection, Maryland, Virginia, and Pennsylvania (Rappahannock) (Continuing)

LOCATION: The project is located in the lower Rappahannock River, a major tributary to the Chesapeake Bay.

DESCRIPTION: The project consists of the construction of oyster reefs by the placement of shell in mounds forming three-dimensional broodstock sanctuary reef structures. The three areas identified for reef construction are namely Corrotoman, Drumming Ground, and Temple Bay. These sites, along with their associated enhanced harvest areas, will provide approximately 90 acres of optimized oyster habitat.

AUTHORIZATION: Section 510 of the Water Resources Development Act of 1996 (Public Law 104-303).

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable

TOTAL BENEFIT-COST RATIO: Not applicable

INITIAL BENEFIT-COST RATIO: Not applicable

BASIS OF BENEFIT-COST RATIO: Not applicable

SUMMARIZED FINANCIAL DATA:			ACCUM PCT. OF EST. FED COST	
Estimated Federal Cost		900,000		
Estimated Non-Federal Cost		300,000		
Cash Contributions	300,000			
Other Costs	0			
Total Estimated Project Cost		1,200,000		
Allocations to 30 September 1999		0		
Conference Allowance for FY 2000		340,000		
Allocation for FY 2000		292,000		1/
Allocations through FY 2000		292,000	32	
Allocation Requested for FY 2001		608,000	100	
Programmed Balance to Complete after FY 2001		0		

STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project	10	Sep 2001

PHYSICAL DATA	
New oyster mounds constructed	9

1/ Reflects $48,000 reduction assigned as savings and slippage

Division: North Atlantic District: Norfolk

Chesapeake Bay Environmental Restoration and Protection, MD, VA & PA (Rappahannock)

JUSTIFICATION: Oysters are pivotal organisms in the ecology of the Chesapeake Bay both for the habitat they create and for their water filtering capacity. In addition, their numbers have supported a substantial commercial fishery. Years of habitat destruction, harvesting, pollution, and disease-induced mortalities have severely impacted oyster populations throughout the Chesapeake Bay and tributaries. Recent restoration efforts by the Virginia Marine Resources Commission have shown much promise, but the scale of the efforts is limited by available funding and is not enough to reverse the long period of population decline. Activities to restore physical oyster habitat and maintain water quality are critical to the economic and environmental survival of the Chesapeake Bay. This project is one step in that direction.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Fish and Wildlife Facilities	$548,000
Construction Management	60,000
Total	$608,000

Non-Federal Costs: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986 and 1996, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction And Reimbursement	Annual Operation Maintenance and Replacement Costs
Pay 25 percent of the cost allocated to fish and wildlife restoration and bear all costs of operation, maintenance, repair, rehabilitation and replacement of fish and wildlife facilities	$300,000	$0
Total Non-Federal Costs	$300,000	

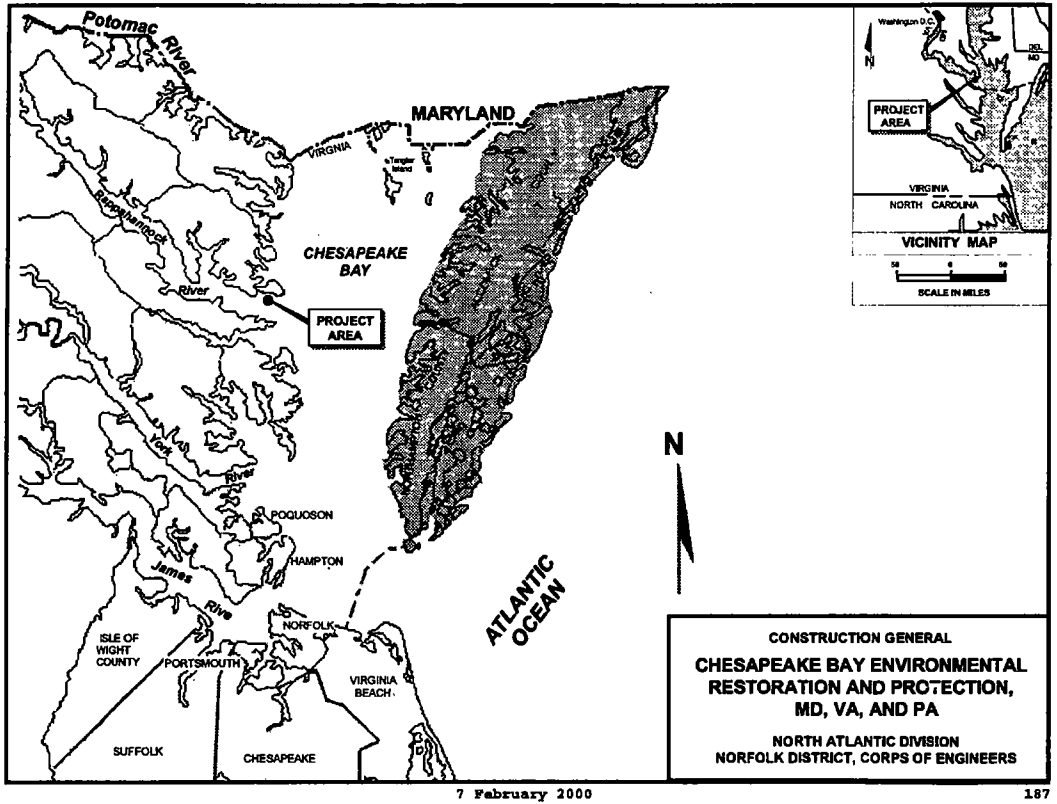
STATUS OF LOCAL COOPERATION: The Commonwealth of Virginia is the non-Federal project sponsor. The Project Cooperation Agreement between the Corps of Engineers and the Commonwealth of Virginia is scheduled for execution in May 2000.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal estimate of $900,000 is the initial estimate submitted to Congress.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An environmental assessment is scheduled for completion in May 2000.

OTHER INFORMATION: Funds to initiate construction were appropriated in FY 2000..

Division: North Atlantic District: Norfolk Chesapeake Bay Environmental Restoration and Protection, MD, VA & PA (Rappahannock)



7 February 2000

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APPROPRIATION TITLE: Construction, General - Environmental Restoration

PROJECT: Poplar Island, Maryland (Continuing)

LOCATION: Poplar Island is a group of islands located in the upper middle Chesapeake Bay approximately 34 nautical miles southeast of the Port of Baltimore.

DESCRIPTION: The project consists of reconstructing Poplar Island to its approximate size in 1847 (1,110 acres), using an estimated 38 million cubic yards of uncontaminated dredged material from maintenance dredging of the southern approach channels of the Baltimore Harbor and Channels navigation project. This will be accomplished through the construction of approximately 35,000 feet of dikes to contain the dredged material necessary to form the low and high marsh wetlands and upland habitat and to protect the 1,110-acre dredged material placement area from the severe wave activity in this region of the Chesapeake Bay.

AUTHORIZATION: Water Resources Development Act of 1996.

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable.

TOTAL BENEFIT-COST RATIO: Not applicable.

INITIAL BENEFIT-COST RATIO: Not applicable.

BASIS OF BENEFIT-COST RATIO: Not applicable.

SUMMARIZED FINANCIAL DATA		ACCUM PCT. OF EST. FED COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		320,000,000			
Estimated Non-Federal Cost:		107,000,000	Entire Project	12	Being determined
Cash Contributions	106,917,000				
Other Costs	83,000				
Total Estimated Project Cost		427,000,000			

SUMMARIZED FINANCIAL DATA: (CONT'D)

Allocations to 30 September 1999	36,612,000	
Conference Allowance for FY 2000	14,000,000	
Allocation for FY 2000	12,006,000	1/
Allocations through FY 2000	48,618,000	15
Allocation Requested for FY 2001	19,190,000	21
Programmed Balance to Complete after FY 2001	252,192,000	
Unprogrammed balance to Complete after FY 2001	0	

PHYSICAL DATA

Earth dikes	35,000 feet
Wetlands created	555 acres
Uplands created	555 acres
Submerged aquatic vegetation	1,000 acres

1/ Reflects $1,994,000 reduction assigned as savings and slippage.

JUSTIFICATION: Valuable island habitat at Poplar Island is being lost through erosion. Islands are preferentially selected by many fish and wildlife species as nesting/production areas. The lack of human disturbance and fewer predators make islands more productive. Poplar Island is currently eroding at more than 13 feet per year and will disappear by the turn of the century. The plan to restore the island using uncontaminated dredged material from maintenance dredging of the Baltimore Harbor and Channels navigation project has been developed through the cooperative efforts of many state and Federal agencies, as well as private organizations. The Port of Baltimore is rapidly reaching a point where available placement area capacity will be insufficient to meet the port's dredging needs. A disruption in the constant maintenance that is required to keep the Port of Baltimore operational would result in significant adverse effects to both the local and national economy.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Dredging	$ 7,432,000
Continue Phase 2 Dike Construction	10,658,000
Planning, Engineering, and Design	350,000
Construction Management	750,000
Total	$19,190,000

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

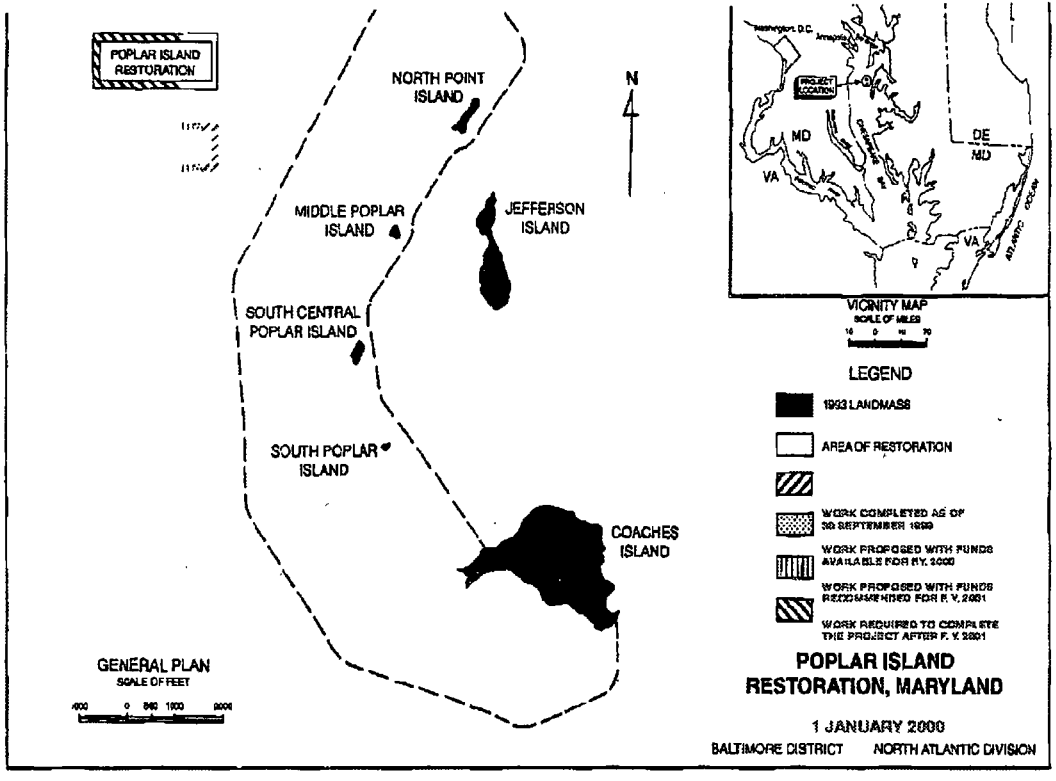
Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation Maintenance and Replacement Costs
Provide lands, easements, and rights-of-way	$ 83,000	
Pay 25 percent of the cost allocated to fish & wildlife restoration and bear all costs of operation, maintenance, repair, rehabilitation and replacement of fish and wildlife facilities.	106,917,000	400,000
Total Non-Federal Costs	$107,000,000	400,000

STATUS OF LOCAL COOPERATION: The State of Maryland is the non-Federal sponsor. By letter dated 16 May 1996, the State of Maryland stated its intent to be the non-Federal sponsor and participate in project cost sharing in accordance with the Water Resources Development Act of 1986. The Project Cooperation Agreement was executed in April 1997. To date, the State has fully complied with the local requirements on the project. By letter dated 30 December 1998, the State requested that the Corps proceed with Phase 2 construction of the project by January 2000.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $320,000,000 is the same as the latest estimate ($320,000,000) submitted to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The EIS was distributed for review and was finalized in February 1996 under the authority of Section 204 of the Water Resources Development Act of 1992.

OTHER INFORMATION: Planning for this project was accomplished under the authority of Section 204 of the Water Resources Development Act of 1992. The feasibility study was initiated in September 1994, completed in February 1996, and approved by the Assistant Secretary of the Army for Civil Works in September 1996. Funds to initiate construction were appropriated in FY 1997.



7 February 2000

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APPROPRIATION TITLE: Construction, General - Major Rehabilitation - Navigation

PROJECT: Cape Cod Canal Railroad Bridge, Massachusetts (Continuing)

LOCATION: The Cape Cod Canal is located about 50 miles south of Boston, Massachusetts, and extends from Cape Cod Bay 7.7 miles to Buzzards Bay. The railroad bridge is located close to the western end of the Canal near Buzzards Bay and provides rail access across the Canal.

DESCRIPTION: The bridge is 806 feet long and carries a single track on an open timber tie deck across the Cape Cod Canal. The bridge was constructed in 1935 and consists of a 550-foot moveable center span, flanked by a tower and 128-foot fixed span at each end. The bridge is normally kept in the raised position, with a vertical clearance of about 136 feet above mean high water to allow passage of marine traffic. The plan for rehabilitation includes replacement of the counterweight cables, counterweight trunion bearings, electrical control system and main switchboard; repair or replacement of steel members; and cleaning and painting of the steel superstructure. All work is programmed.

AUTHORIZATION: The existing Cape Cod Canal project is authorized by the Rivers and Harbors Act of 1935. Authorization to construct three bridges, two vehicular and one railroad, was included in the Public Works Administration Program of 1933.

REMAINING BENEFIT-REMAINING COST RATIO: 4.8 to 1 at 7 1/8 percent.

TOTAL BENEFIT-COST RATIO: 4.6 to 1 at 7 1/8 percent.

INITIAL BENEFIT-COST RATIO: 4.6 to 1 at 7 1/8 percent (FY 2000).

BASIS OF BENEFIT-COST RATIO: Benefits are based on a supplemental economic analysis to the Major Rehabilitation Report, Vertical Lift Railroad Bridge, Cape Cod Canal, Massachusetts, dated May 1997 at April 1997 price levels.

SUMMARIZED FINANCIAL DATA		ACCUMULATED PCT. OF EST. FED COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost	$31,400,000		Phase I	0	Being Determined
Estimated Non-Federal Cost	0		Phase II	0	Being Determined
Total Estimated Project Cost	$31,400,000 1/		Entire Project	0	Being Determined

1/ Excludes $300,000 in design funded by Operations & Maintenance Appropriation.

SUMMARIZED FINANCIAL DATA (Continued)		ACCUMULATED PCT. OF EST. FED COST	PHYSICAL DATA
Allocations to 30 September 1999	$ 0		Phase I
Conference Allowance for FY 2000	5,000,000		Repair or replace steel members.
Allocation for FY 2000	4,350,000 1/		Clean and paint steel superstructure.
Allocations through FY 2000	4,350,000	14	Phase II
Allocation Requested for FY 2001	8,600,000	41	Replace counterweight cables and trunion bearings.
Programmed Balance to Complete After FY 2001	18,450,000		Replace electrical control system and main switchboard.
Unprogrammed Balance to Complete After FY 2001	0		

1/ Reflects $712,000 assigned savings and slippage and $62,000 reprogrammed to the project.

JUSTIFICATION: The railroad bridge is a critical link connecting Cape Cod with the mainland of southeastern Massachusetts. The bridge is used primarily for waste removal with an average of four crossings per day, six days a week. Waste removal is extremely important as there are no refuse disposal facilities on Cape Cod and train service is the most economical method of transport. During the tourist season, the bridge is also used by passenger trains with service from New York. An inspection and condition report performed in 1984 revealed the need for major rehabilitation of the bridge to ensure reliable operation of the structure. An August 1995 inspection confirmed the critical need for rehabilitation work to arrest further deterioration and possible bridge replacement. Federal interest in the major rehabilitation of the Cape Cod Canal Railroad Bridge is contained in Article 16 of the 1935 Agreement with the railroad which states "It is understood and agreed that the Government shall sustain the obligation of the operation, maintenance, renewals and repairs of said new railroad bridge...". Failure of the bridge in the down position would close the canal to marine traffic for up to a year. Marine traffic would need to be rerouted around Cape Cod greatly increasing shipping costs and reducing navigational safety. Average annual benefits for the major rehabilitation project are $51,000,000 at April 1997 prices.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Construction	$7,320,000
Planning, Engineering and Design	80,000
Construction Management	1,200,000
Total	$8,600,000

NON-FEDERAL COSTS: None Required.

STATUS OF LOCAL COOPERATION: None Required.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $31,400,000 is an increase of $900,000 from the latest estimate ($30,500,000) submitted to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	$ 600,000
Design Changes	300,000
Total	$ 900,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Environmental Assessment and Finding of No Significant Impact were completed in May 1997.

OTHER INFORMATION: Preconstruction Engineering and Design (PED) efforts were initiated in Fiscal Year 1999 using Operation and Maintenance Appropriation funds. Funds to initiate construction were appropriated in FY 2000.

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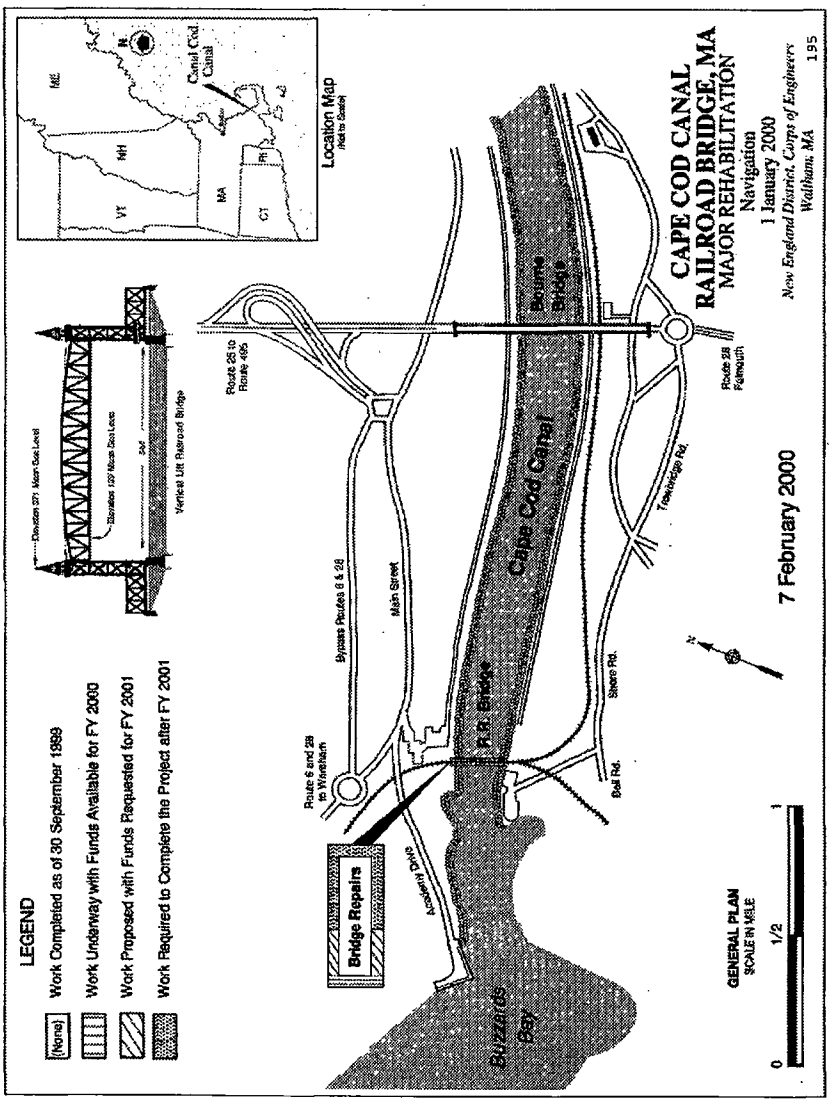
LEGEND
(None) Work Completed as of 30 September 1999
Work Underway with Funds Available for FY 2000
Work Proposed with Funds Requested for FY 2001
Work Required to Complete the Project after FY 2001
Bridge Repairs
Vertical Lift Railroad Bridge
Location Map
Not to Scale
ME
NH
VT
MA
RI
CT
NY
Cape Cod Canal
CAPE COD CANAL
RAILROAD BRIDGE, MA
MAJOR REHABILITATION
Navigation
1 January 2000
New England District, Corps of Engineers
Waltham, MA
7 February 2000
GENERAL PLAN
SCALE IN MILE
0
1/2
1
Buzzards Bay
R.R. Bridge
Bourne Bridge
Main Street
Bypass Routes 6 & 28
Route 6 and 28 to Wareham
Route 25 to Route 495
Route 28 Falmouth
Academy Drive
Bell Rd.
Shore Rd.
Trowbridge Rd.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. Navigation

a. Channels and Harbors

The budget estimate of **$ 143,813,000** provides for essential operation and maintenance work on **63** channel and harbor projects named in the list which follows. The work to be accomplished under this activity consists of operating and maintaining the coastal navigation channels, harbors and anchorages by means of dredging, constructing bulkheads and dredged material disposal areas, snagging and repairing channel stabilization works, navigation structures, and harbor jetties, all as authorized in the laws pertaining to river and harbor projects.

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reason for change in Operations from FY 2000 to FY 2001(10% +/-) 2. Major Maintenance items budgeted in FY 2001 (Threshold $ 500,000)
Delaware			
IWW, from Delaware River to Chesapeake Bay, DE & MD	15,606,000 (2,220,000) (13,386,000)	19,707,000 (2,323,000) (17,384,000)	1. None. 2. Replace sheetpile bulkhead-project office and Demolition contract-St. George's Bridge.
IWW Rehoboth Bay to Delaware Bay	50,000 (50,000) (0)	433,000 (43,000) (390,000)	1. None. 2. None.
Wilmington Harbor	8,361,000 (620,000) (7,741,000)	3,217,000 (462,000) (2,755,000)	1. Dredged Material Management Plan study-FY 2000. 2. Dredge navigation channel.

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APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

1. **Navigation** (Cont'd)

a. **Channels and Harbors** (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	 FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
District of Columbia			
Potomac River below Washington	1,741,000 (0) (1,741,000)	235,000 (0) (235,000)	1. None. 2. Maintenance dredging in FY 2000 and FY 2001.
Washington Harbor	36,000 (0) (36,000)	38,000 (0) (38,000)	1. None. 2. None.
Maine			
Wells Harbor	(0) (0) (0)	1,455,000 (0) (1,455,000)	1. None. 2. Dredge navigation channel.
Maryland			
Baltimore Harbor and Channels	16,614,000 (1,855,000) (14,759,000)	16,354,000 (2,255,000) (14,099,000)	1. Continue study of placement sites for the deposition of dredged material. 2. None.

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

1. Navigation (Cont'd)

a. Channels and Harbors (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Maryland (Cont'd)			
Honga River and Tar Bay	3,000 (0) (3,000)	55,000 (0) (55,000)	1. None. 2. None.
Ocean City Harbor and Inlet and Sinepuxent Bay	368,000 (0) (368,000)	1,810,000 (0) (1,810,000)	1. None. 2. Maintenance dredging and repair to the south jetty in FY 2001.
Rhodes Point to Tylerton	0 (0) (0)	70,000 (0) (70,000)	1. None. 2. None.
St Jerome Creek	0 (0) (0)	175,000 (0) (175,000)	1. None. 2. None.

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APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

1. Navigation (Cont'd)

a. Channels and Harbors (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Maryland (Cont'd)			
Tolchester Channel	5,658,000 (0) (5,658,000)	5,801,000 (0) (5,801,000)	1. None. 2 None.
Twitch Cove and Big Thorofare River	1,000 (0) (1,000)	75,000 (0) (75,000)	1. None. 2. None.
Upper Thorofare River	0 (0) (0)	220,000 (0) (220,000)	1. None. 2. None.
Wicomico River	773,000 (0) (773,000)	740,000 (0) (740,000)	1. None. 2. None.

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

1. **Navigation** (Cont'd)

a. **Channels and Harbors** (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Massachusetts			
Cape Cod Canal	10,816,000 (5,036,000) (5,780,000)	8,787,000 (4,036,000) (4,751,000)	1. Inspect Bourne and Railroad Bridge FY 2000. 2. Repair pavement on Bourne Bridge.
New Bedford and Fairhaven Harbor	230,000 (230,000) (0)	310,000 (310,000) (0)	1. Dredged material management study FY 2001. 2. None.
Plymouth Harbor	0 (0) (0)	500,000 (0) (500,000)	1. None. 2. Repair dike.
Salem Harbor	175,000 (175,000) (0)	200,000 (200,000) (0)	1. Dredged material management study FY 2001. 2. None.

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APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

1. **Navigation** (Cont'd)

a. **Channels and Harbors** (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
New Jersey			
Barnegat Inlet	2,470,000 (0) (2,470,000)	1,400,000 (0) (1,400,000)	1. None. 2. Dredge navigation channel.
Cold Spring Inlet	545,000 (0) (545,000)	580,000 (0) (580,000)	1. None. 2. None.
Delaware River, Philadelphia to the Sea, PA, NJ and DE	14,199,000 (1,135,000) (13,064,000)	16,355,000 (1,330,000) (15,025,000)	1. Perform channel examination. 2. Dredge navigation channel.
Delaware River at Camden	0 (0) (0)	19,000 (19,000) (0)	1. Perform channel examination. 2. None.

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

1. Navigation (Cont'd)

a. Channels and Harbors (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
New Jersey (Cont'd)			
Delaware River, Philadelphia to Trenton, NJ	3,460,000 (380,000) (3,080,000)	3,180,000 (390,000) (2,790,000)	1. None. 2. Dredge navigation channel.
Newark Bay, Hackensack, & Passaic Rivers	165,000 (0) (165,000)	120,000 (0) (120,000)	1. None. 2. None.
New Jersey Intracoastal Waterway	2,126,000 (324,000) (1,802,000)	2,005,000 (355,000) (1,650,000)	1. None. 2. None.
Raritan River	1,941,000 (0) (1,941,000)	120,000 (0) (120,000)	1. None. 2. Dredge navigation channel FY 2000/2001.

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APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

1. Navigation (Cont'd)

a. Channels and Harbors (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
New Jersey (Cont'd)			
Raritan River to Arthur Kill Cut-Off	700,000 (0) (700,000)	140,000 (0) (140,000)	1. None. 2. Dredge navigation channel FY 2000/2001.
Salem River	940,000 (0) (940,000)	278,000 (0) (278,000)	1. None. 2. Dredge navigation channel.
Shrewsbury River	70,000 (0) (70,000)	175,000 (0) (175,000)	1. None. 2. None.
New York			
East River	150,000 (0) (150,000)	750,000 (0) (750,000)	1. None. 2. Dredge navigation channel.

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APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

1. **Navigation** (Cont'd)

a. **Channels and Harbors** (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
New York (Cont'd)			
East Rockaway Inlet	250,000 (0) (250,000)	2,250,000 (0) (2,250,000)	1. None. 2. Dredge navigation channel.
Fire Island Inlet	810,000 (0) (810,000)	1,000,000 (0) (1,000,000)	1. None. 2. None.
Fire Island Inlet to Jones Inlet	2,308,000 (0) (2,308,000)	340,000 (0) (340,000)	1. None. 2. Dredge navigation channel FY 2000.
Flushing Bay and Creek	325,000 (0) (325,000)	490,000 (0) (490,000)	1. None. 2. None.

1000

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

1. **Navigation** (Cont'd)

a. **Channels and Harbors** (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
New York (Cont'd)			
Great South Bay	288,000 (0) (288,000)	1,540,000 (0) (1,540,000)	1. None. 2. Dredge navigation channel.
Hudson River Channel	200,000 (0) (200,000)	1,265,000 (0) (1,265,000)	1. None. 2. Dredge navigation channel.
Hudson River (Maintenance and O&C)	2,640,000 (1,425,000) (1,215,000)	3,825,000 (1,485,000) (2,340,000)	1. None. 2. Dredge navigation channel.
Jamaica Bay	250,000 (0) (250,000)	1,410,000 (0) (1,410,000)	1. None. 2. Dredge navigation channel.

1001

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

1. **Navigation** (Cont'd)

a. **Channels and Harbors** (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
New York (Cont'd)			
Jones Inlet	100,000 (0) (100,000)	200,000 (0) (200,000)	1. None. 2. None.
Long Island Intra-Coastal Waterway	200,000 (0) (200,000)	2,190,000 (0) (2,190,000)	1. None 2. Dredge navigation channel.
Moriches Inlet	70,000 (0) (70,000)	980,000 (0) (980,000)	1. None. 2. Dredge navigation channel.
New York Harbor	4,625,000 (3,370,000) (1,255,000)	12,319,000 (1,039,000) (11,280,000)	1. Variation in environmental/monitoring studies. 2. Dredge Sandy Hook and Ambrose channels and Red Hook Flats Anchorage area.

1002

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

1. Navigation (Cont'd)

a. Channels and Harbors (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
New York (Cont'd)			
New York & New Jersey Channels	775,000 (0) (775,000)	6,720,000 (0) (6,720,000)	1. None. 2. Dredge navigation channel.
Portchester Harbor	60,000 (0) (60,000)	200,000 (0) (200,000)	1. None. 2. None.
Sag Harbor	700,000 (0) (700,000)	1,600,000 (0) (1,600,000)	1. None. 2. Repair breakwater FY 2000/2001.
Shinnecock Inlet	100,000 (0) (100,000)	2,000,000 (0) (2,000,000)	1. None. 2. Dredge navigation channel.

1003

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

1. **Navigation** (Cont'd)

a. **Channels and Harbors** (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Pennsylvania			
Schuylkill River	2,564,000 (50,000) (2,514,000)	740,000 (50,000) (690,000)	1. None. 2. Maintenance dredging in FY 2000/2001.
Rhode Island			
Providence River & Harbor	3,906,000 (0) (3,906,000)	584,000 (0) (584,000)	1. None. 2. Dredge navigation channel.
Vermont			
Narrows of Lake Champlain	536,000 (10,000) (526,000)	46,000 (10,000) (36,000)	1. None. 2. None.

1004

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

1. **Navigation** (Cont'd)

a. **Channels and Harbors** (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Virginia			
Appomattox River	379,000 (0) (379,000)	593,000 (0) (593,000)	1. None. 2. None.
Atlantic Intracoastal Waterway (ACC) & (DSC)	2,293,000 (1,819,000) (474,000)	3,075,000 (1,890,000 (1,185,000)	1. None. 2. Maintain locks & salt water control structures.
Channel to Newport News	45,000 (45,000) (0)	120,000 (45,000) (75,000)	1. None. 2. None.
Chincoteague Inlet	717,000 (40,000) (677,000)	877,000 (36,000) (841,000)	1. None. 2. None.

1005

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

1. **Navigation** (Cont'd)

a. **Channels and Harbors** (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Virginia (Cont'd)			
James River Channel	4,947,000 (278,000) (4,669,000)	4,294,000 (287,000) (4,007,000)	1. None. 2. Dredge navigation channel.
Little Wicomico River	51,000 (0) (51,000)	605,000 (0) (605,000)	1. None. 2. Maintenance dredging and repair breach FY 2001.
Norfolk Harbor	6,305,000 (180,000) (6,125,000)	6,105,000 (275,000) (5,830,000)	1. Channel surveys to identify shoals. 2. Continued raising of the dikes and levees, and installation of strip drains at Craney Island
Pagan River	141,000 (0) (141,000)	145,000 (0) (145,000)	1. None. 2. None.

1006

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

1. **Navigation** (Cont'd)

a. **Channels and Harbors** (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Virginia (Cont'd)			
Potomac River at Mt. Vernon	395,000 (0) (395,000)	410,000 (0) (410,000)	1. None. 2. None.
Rudee Inlet	872,000 (0) (872,000)	646,000 (0) (646,000)	1. None. 2. None.
Starlings Creek	0 (0) (0)	551,000 (0) (551,000)	1. None. 2. Dredge navigation channel.
Thimble Shoal Channel	3,447,000 (190,000) (3,257,000)	204,000 (204,000) (0)	1. None. 2. Periodic dredging.

1007

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

1. Navigation (Cont'd)

a. Channels and Harbors (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Virginia (Cont'd)			
Waterway on the Coast of Virginia	1,149,000 (270,000) (879,000)	1,185,000 (270,000) (915,000)	1. None. 2. None.
Other Projects Maintained Periodically	15,203,000 (0) (15,203,000)	0 (0) (0)	
Total-Channels & Harbors	**143,849,000** **(19,702,000)** **(124,147,000)**	**143,813,000** **(17,314,000)** **(126,499,000)**	
b. Locks and Dams: NONE			
TOTAL NAVIGATION	**143,849,000** **(19,702,000)** **(124,147,000)**	**143,813,000** **(17,314,000)** **(126,499,000)**	

1008

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

2. Flood Control

a. Reservoirs

The budget estimate of **$34,142,000** provides for the operation of **51** flood control reservoirs. Requirements include: operation and ordinary maintenance of project facilities, labor, supplies, materials, and parts for day-to-day functioning; periodic maintenance, repairs and replacements; and contract law enforcement. The requested amount also includes application of special recreation use fees for recreation areas.

STATE / Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	ESTIMATED OBLIGATIONS FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Connecticut			
Black Rock Lake	328,000 (282,000) (46,000)	309,000 (265,000) (44,000)	1. None. 2. None.
Colebrook River Lake	412,000 (363,000) (49,000)	399,000 (362,000) (37,000)	1. None. 2. None.
Hancock Brook Lake	232,000 (206,000) (26,000)	269,000 (231,000) (38,000)	1. Perform periodic inspection and report. 2. None.
Hop Brook Lake	797,000 (734,000) (63,000)	819,000 (673,000) (146,000)	1. None. 2. None.

1009

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

2. Flood Control (Cont'd)

a. Reservoirs (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Connecticut (Cont'd)			
Mansfield Hollow Lake	512,000	335,000	
	(466,000)	(240,000)	1. Perform periodic inspection and seismic study in FY 2000.
	(46,000)	(95,000)	2. None.
Northfield Brook Lake	290,000	344,000	
	(275,000)	(300,000)	1. None.
	(15,000)	(44,000)	2. None.
Thomaston Dam	556,000	581,000	
	(428,000)	(513,000)	1. Perform periodic inspection.
	(128,000)	(68,000)	2. None.
West Thompson Lake	418,000	506,000	
	(418,000)	(405,000)	1. None.
	(0)	(101,000)	2. None.

1010

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

2. Flood Control (Cont'd)

a. Reservoirs (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Maryland			
Jennings Randolph Lake	1,581,000 (1,474,000) (107,000)	1,616,000 (1,460,000) (156,000)	1. None. 2. None.
Massachusetts			
Barre Falls Dam	494,000 (444,000) (50,000)	368,000 (302,000) (66,000)	1. Perform periodic inspection and report FY 2000. 2. None.
Birch Hill Dam	423,000 (369,000) (54,000)	439,000 (357,000) (82,000)	1. None. 2. None.
Buffumville Lake	443,000 (413,000) (30,000)	361,000 (230,000) (131,000)	1. Perform periodic inspection and report FY 2000. 2. None.

1011

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

2. Flood Control (Cont'd)

a. Reservoirs (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Massachusetts (Cont'd)			
Charles River Natural Valley Storage Area	202,000 (202,000) (0)	213,000 (164,000) (49,000)	1. Realignment of Operation and Maintenance costs. 2. None.
Conant Brook Lake	168,000 (152,000) (16,000)	147,000 (103,000) (44,000)	1. Perform environmental and dam safety inspection in FY 2000. 2. None.
East Brimfield Lake	375,000 (355,000) (20,000)	267,000 (185,000) (82,000)	1. Perform periodic inspection and report FY 2000. 2. None.
Hodges Village Dam	381,000 (322,000) (59,000)	462,000 (335,000) (127,000)	1. None. 2. None.

1012

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

2. **Flood Control** (Cont'd)

a. **Reservoirs** (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Massachusetts (Cont'd)			
Knightville Dam	362,000 (328,000) (34,000)	390,000 (329,000) (61,000)	1. None. 2. None.
Littleville Lake	395,000 (337,000) (58,000)	461,000 (365,000) (96,000)	1. None. 2. None.
Tully Lake	391,000 (346,000) (45,000)	436,000 (324,000) (112,000)	1. None. 2. None.
West Hill Dam	550,000 (508,000) (42,000)	647,000 (457,000) (190,000)	1. None. 2. None.

1013

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

2. Flood Control (Cont'd)

a. Reservoirs (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Massachusetts (Cont'd)			
Westville Lake	414,000 (414,000) (0)	342,000 (241,000) (101,000)	1. Perform periodic inspection and report FY 2000. 2. None.
New Hampshire			
Blackwater Dam	361,000 (333,000) (28,000)	389,000 (318,000) (71,000)	1. None. 2. None.
Edward MacDowell Lake	394,000 (367,000) (27,000)	412,000 (341,000) (71,000)	1. None. 2. None.
Franklin Falls Dam	502,000 (398,000) (104,000)	478,000 (364,000) (114,000)	1. None. 2. None.

1014

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

2. Flood Control (Cont'd)

a. Reservoirs (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
New Hampshire (Cont'd)			
Hopkinton Everett Lakes	941,000 (884,000) (57,000)	984,000 (826,000) (158,000)	1. None. 2. None.
Otter Brook Lake	479,000 (435,000) (44,000)	554,000 (415,000) (139,000)	1. None. 2. None.
Surry Mountain Lake	485,000 (449,000) (36,000)	469,000 (366,000) (103,000)	1. Realignment of operation and maintenance costs. 2. None.
New York			
Almond Lake	432,000 (406,000) (26,000)	468,000 (428,000) (40,000)	1. None. 2. None.

1015

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

2. Flood Control (Cont'd)

a. Reservoirs (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
New York (Cont'd)			
Arkport Dam	221,000 (207,000) (14,000)	257,000 (235,000) (22,000)	1. Periodic inspection of the project in FY 2001. 2. None.
East Sidney Lake	449,000 (367,000) (82,000)	473,000 (375,000) (98,000)	1. None. 2. None.
Whitney Point Lake	526,000 (444,000) (82,000)	517,000 (417,000) (100,000)	1. None. 2. None.
Pennsylvania			
Alvin R. Bush Dam	728,000 (636,000) (92,000)	608,000 (493,000) (115,000)	1. Sediment survey being performed in FY 2000. 2. None.

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

2. Flood Control (Cont'd)

a. Reservoirs (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Pennsylvania (Cont'd)			
Aylesworth Creek Lake	220,000 (207,000) (13,000)	216,000 (195,000) (21,000)	1. None. 2. None.
Beltzville Lake	909,000 (681,000) (228,000)	832,000 (812,000) (20,000)	1. Survey monitoring. 2. None.
Blue Marsh Lake	2,401,000 (2,071,000) (330,000)	2,121,000 (2,071,000) (50,000)	1. None. 2. None.
Cowanesque Lake	1,766,000 (1,335,000) (431,000)	1,785,000 (1,294,000) (491,000)	1. None. 2. None.

1017

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

2. Flood Control (Cont'd)

a. Reservoirs (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001$) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Pennsylvania (Cont'd)			
Curwensville Lake	783,000 (559,000) (224,000)	659,000 (542,000) (117,000)	1. None. 2. None.
Foster Joseph Sayers Dam	695,000 (605,000) (90,000)	713,000 (604,000) (109,000)	1. None. 2. None.
Francis E. Walter Dam	809,000 (535,000) (274,000)	663,000 (658,000) (5,000)	1. Survey monitoring. 2. None.
General Edgar Jadwin Dam and Reservoir	248,000 (248,000) (0)	321,000 (321,000) (0)	1. Survey monitoring. 2. None.

1018

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

2. Flood Control (Cont'd)

a. Reservoirs (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Pennsylvania (Cont'd)			
Prompton Lake	916,000 (885,000) (31,000)	437,000 (432,000) (5,000)	1. Hydro-Deficiency design memo in FY 2000. 2. None.
Raystown Lake	3,836,000 (2,358,000) (1,478,000)	3,533,000 (2,341,000) (1,192,000)	1. None. 2. None.
Stillwater Lake	372,000 (334,000) (38,000)	334,000 (291,000) (43,000)	1. Periodic inspection of bridges in FY 2000. 2. None.
Tioga-Hammond Lakes	1,933,000 (1,799,000) (134,000)	2,382,000 (1,675,000) (707,000)	1. None. 2. Equipment and facility maintenance.

1019

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

2. Flood Control (Cont'd)

a. Reservoirs (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Pennsylvania (Cont'd)			
York Indian Rock Dam	533,000 (491,000) (42,000)	517,000 (460,000) (57,000)	1. None. 2. None.
Vermont			
Ball Mountain Lake	703,000 (566,000) (137,000)	607,000 (434,000) (173,000)	1. Dam safety study in FY 2000. 2. None.
North Hartland Lake	511,000 (435,000) (76,000)	561,000 (421,000) (140,000)	1. None. 2. None.
North Springfield Lake	631,000 (546,000) (85,000)	583,000 (474,000) (109,000)	1. Decrease in operational activities. 2. None.

1020

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

2. Flood Control (Cont'd)

a. Reservoirs (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Vermont (Cont'd)			
Townshend Lake	724,000 (510,000) (214,000)	629,000 (456,000) (173,000)	1. Conduct periodic inspection and report FY 2000. 2. None.
Union Village Dam	520,000 (384,000) (136,000)	464,000 (369,000) (95,000)	1. None. 2. None.
Virginia			
Gathright Dam and Lake Moomaw	1,519,000 (1,272,000) (247,000)	1,465,000 (1,060,000) (405,000)	1. Operation of dams and reservoirs. 2. None.
Total reservoirs	**35,271,000** **(29,583,000)** **(5,688,000)**	**34,142,000** **(27,329,000)** **(6,813,000)**	

1021

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

2. **Flood Control** (Cont'd)

a. **Reservoirs** (Cont'd)

Scheduling Reservoir Operations

The **$140,000** requested in FY 2001 supports preparation, review and updating of water control manuals, real-time data collection to monitor hydrologic conditions, and the issuance of gate regulation instructions as necessary at 2 non-Corps dam and reservoir projects at which the Corps is responsible for flood control.

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Maryland	82,000 (82,000) (0)	85,000 (85,000) (0)	1. None. 2. None.
Pennsylvania	58,000 (58,000) (0)	55,000 (55,000) (0)	1. None. 2. None.
Total Scheduling of Reservoir Operations	**140,000** **(140,000)** **(0)**	**140,000** **(140,000)** **(0)**	
Total Reservoirs and Scheduling of Reservoir Operations	**35,411,000** **(29,723,000)** **(5,688,000)**	**34,282,000** **(27,469,000)** **(6,813,000)**	

1022

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

2. **Flood Control** (Cont'd)

b. Channel Improvements

The budget estimate of **$2,096,000** provides for the essential annual requirement of 5 local flood protection projects, including 10 separate units of the Southern New York projects.

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Connecticut			
Stamford Hurricane Barrier	340,000 (306,000) (34,000)	311,000 (231,000) (80,000)	1. Conduct periodic inspection and report FY 2000. 2. None.
Maryland			
Cumberland, MD and Ridgeley, WV	136,000 (136,000) (0)	141,000 (141,000) (0)	1. None. 2. None.
Massachusetts			
New Bedford, Fairhaven & Acushnet Hurricane Barrier	280,000 (190,000) (90,000)	480,000 (248,000) (232,000)	1. Conduct periodic inspection and report. 2. None.

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1023

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

2. Flood Control (Cont'd)

b. Channel Improvements (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
New Jersey			
Passaic River Flood Flood Warning System	425,000 (425,000) (0)	425,000 (425,000) (0)	1. None. 2. None.
New York			
Southern New York Projects	714,000 (231,000) (483,000)	739,000 (229,000) (510,000)	1. None. 2. None.
Total Channel Improvements	**1,895,000** **(1,288,000)** **(607,000)**	**2,096,000** **(1,274,000)** **(822,000)**	

1024

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

2. Flood Control (Cont'd)

b. Channel Improvements (Cont'd)

Inspection of Completed Works and Miscellaneous Maintenance

The **$764,000** requested in FY 2001 supports inspections at flood control projects constructed by the Corps and operated and maintained by non-Federal interests. The inspections are conducted to determine the extent of compliance with legal standards and to advise local interests, as necessary, of corrective measures required to ensure that project structures and facilities will continue to safely provide flood protection benefits. These projects consist of features such as channels, levees, flood walls. drainage structures and pumping plants.

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Connecticut	33,000 (33,000) (0)	33,000 (33,000) (0)	1. None. 2. None.
District of Columbia	7,000 (7,000) (0)	6,000 (6,000) (0)	1. None. 2. None.
Maine	15,000 (15,000) (0)	15,000 (15,000) (0)	1. None. 2. None.
Maryland	34,000 (34,000) (0)	33,000 (33,000) (0)	1. None. 2. None.

1025

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

2. Flood Control (Cont'd)

b. Channel Improvements (Cont'd)

Inspection of Completed Works and Miscellaneous Maintenance (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Massachusetts	72,000 (72,000) (0)	72,000 (72,000) (0)	1. None. 2. None.
New Hampshire	10,000 (10,000) (0)	10,000 (10,000) (0)	1. None. 2. None.
New Jersey	54,000 (54,000) (0)	54,000 (54,000) (0)	1. None. 2. None.
New York	263,000 (263,000) (0)	260,000 (260,000) (0)	1. None. 2. None.
Pennsylvania	136,000 (136,000) (0)	136,000 (136,000) (0)	1. None. 2. None.

1026

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

2. Flood Control (Cont'd)

b. Channel Improvements (Cont'd)

Inspection of Completed Works and Miscellaneous Maintenance (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Rhode Island	5,000 (5,000) (0)	5,000 (5,000) (0)	1. None. 2. None.
Vermont	28,000 (28,000) (0)	28,000 (28,000) (0)	1. None. 2. None.
Virginia	73,000 (73,000) (0)	93,000 (93,000) (0)	1. Inspection of Civil Works projects. 2. None.
West Virginia	20,000 (20,000) (0)	19,000 (19,000) (0)	1. None. 2. None.

1027

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

2. Flood Control (Cont'd)

b. Channel Improvements (Cont'd)

Inspection of Completed Works and Miscellaneous Maintenance (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Total Inspection and Miscellaneous Maintenance	**750,000** **(750,000)** **(0)**	**764,000** **(764,000)** **(0)**	
Total Channel Improvements, Inspections and Miscellaneous Maintenance	**2,645,800** **(2,038,000)** **(607,000)**	**2,860,000** **(2,038,000)** **(822,000)**	
TOTAL-FLOOD CONTROL	**38,056,000** **(31,761,000)** **(6,295,000)**	**37,142,000** **(29,507,000)** **(7,635,000)**	

1028

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

3. **Multiple Purpose Power Projects** - NONE

4. **Protection of Navigation**

The budget estimate of $9,065,000 provides for accomplishing the work essential to the administration and enforcement of specific laws enacted for the protection of navigation, including the prevention of obstructive and injurious deposits in the tidal waters of three major harbors; removal of drift and debris.

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Prevention of Obstructive and Injurious Deposits:			
Baltimore Harbor, MD	610,000 (610,000) (0)	710,000 (710,000) (0)	1. Variation in operational requirements. 2. None.
New York Harbor, NY & NJ	740,000 (740,000) (0)	740,000 (740,000) (0)	1. None. 2. None.
Norfolk Harbor, VA	274,000 (274,000) (0)	225,000 (225,000) (0)	1. Year round patrol to meet performance goals of 100% response. 2. None.

1029

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

4. Protection of Navigation (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Collection and Removal of Drift:			
Baltimore Harbor Drift Removal, MD	407,000 (0) (407,000)	455,000 (0) (455,000)	1. None. 2. None.
New York Harbor Drift Removal, NY & NJ	4,855,000 (0) (4,855,000)	5,030,000 (0) (5,030,000)	1. None. 2. None.
Removal of Drift & Debris from the Potomac and Anacostia River, DC	831,000 (0) (831,000)	910,000 (0) (910,000)	1. None. 2. None.
Hampton Roads Drift Removal, VA	892,000 (0) (892,000)	995,000 (0) (995,000)	1. None. 2. None.
Total Protection of Navigation	**8,609,000** **(1,624,000)** **(6,985,000)**	**9,065,000** **(1,675,000)** **(7,390,000)**	

1030

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

4. Protection of Navigation (Cont'd)

a. Project Condition Surveys

The **$8,111,000** requested in FY 2001 supports hydrographic surveys, inspections, and studies to determine the condition of navigation channels that do not have any other maintenance work included in the budget request and disseminate the information to users of the projects. For the projects that do not require maintenance, surveys are performed at many of them in order to determine the degree of sedimentation so that the users can be advised of channel conditions and future maintenance can be scheduled.

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Connecticut	840,000	802,000	
	(840,000)	(802,000)	1. None.
	(0)	(0)	2. None.
Delaware	50,000	50,000	
	(50,000)	(50,000)	1. None.
	(0)	(0)	2. None.
District of Columbia	31,000	32,000	
	(31,000)	(32,000)	1. None.
	(0)	(0)	2. None.
Maine	568,000	508,000	
	(568,000)	(508,000)	1. Variation in survey schedule due to periodic maintenance dredging.
	(0)	(0)	2. None.

1031

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

4. Protection of Navigation (Cont'd)

Project Condition Surveys (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Maryland	298,000 (298,000) (0)	306,000 (306,000) (0)	1. None. 2. None.
Massachusetts	1,265,000 (1,265,000) (0)	1,367,000 (1,367,000) (0)	1. None. 2. None.
New Hampshire	194,000 (194,000) (0)	136,000 (136,000) (0)	1. None. 2. None.
New Jersey	(321,000 (321,000) (0)	698,000 (698,000) (0)	1. Variation in survey schedule due to periodic maintenance dredging. 2. None.
New York	1,200,000 (1,200,000) (0)	873,000 (873,000) (0)	1. Variation in survey schedule due to periodic maintenance dredging. 2. None.

1032

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

4. Protection of Navigation (Cont'd)

Project Condition Surveys (Cont'd)

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Rhode Island	360,000 (360,000) (0)	300,000 (300,000) (0)	1. Variation in survey schedule due to periodic maintenance dredging. 2. None.
Virginia	721,000 (721,000) (0)	729,000 (729,000) (0)	1. None. 2. None.
Disposal Area Monitoring	1,030,000 (1,030,000) (0)	1,060,000 (1,060,000) (0)	1. None. 2. None.
Long Island Sound, CT and NY	0 (0) (0)	1,250,000 (1,250,000) (0)	1. Prepare Environmental Impact Statement for dredged material disposal. 2. None.
Total Project Condition Survey	**6,878,000** **(6,878,000)** **(0)**	**8,111,000** **(8,111,000)** **(0)**	

1033

APPROPRIATION TITLE: Operation and Maintenance, General FY 2001 (Cont'd)

4. Protection of Navigation (Cont'd)

b. Surveillance of Northern Boundary Waters.

The **$17,000** requested in FY 2001 supports meeting US obligations under provisions of boundary water treaties and other international agreements. Data collection includes current velocity measurements, presence and intensity of ice, water levels, land use patterns and estimating potential damages caused by extreme levels. This information can be used to enhance water level forecasts, develop crises response plans, ad provide advance warning to area residents and waterway users of impending floods or ice jams.

STATE Project Name	ESTIMATED OBLIGATIONS FY 2000($) Total (Operations) (Maintenance)	 FY 2001($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items
Maine			
International St. Croix River Board	17,000 (17,000) (0)	17,000 (17,000) (0)	1. None. 2. None.
Total Surveillance of Northern Boundary Waters	**17,000** **(17,000)** **(0)**	**17,000** **(17,000)** **(0)**	
Total Protect. of Navig., Project Condition Survey & Surveillance of Northern Boundary Waters	**15,504,000** **(8,519,000)** **(6,985,000)**	**17,193,000** **(9,803,000)** **(7,390,000)**	
GRAND TOTAL-NORTH ATLANTIC DIVISION	**197,409,000** **(59,982,000)** **(137,427,600)**	**198,148,000** **(56,624,000)** **(141,524,000)**	

1034

U.S. ARMY CORPS OF ENGINEERS
CIVIL WORKS PROGRAM

CONGRESSIONAL SUBMISSION
FISCAL YEAR 2001

(1035)

NORTHWESTERN DIVISION

Budgetary information will not be released
Outside the Department of the Army until
7 February 2000

Justification of Estimates for Civil Function Activities
Department of the Army, Corps of Engineers
Fiscal Year 2001

NORTHWESTERN DIVISION

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NORTHWESTERN DIVISION

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	Flood Mitigation, Pierre, SD	105
	Garrison Dam and Powerplant, NE (Major Rehabilitation)	136
	Lower Columbia River Basin Bank Protection, OR	77
	Lower Snake River Fish and Wildlife Compensation, ID, OR & WA	128
	Missouri National Recreational River, NE and SD	67
	Missouri River Fish and Wildlife Mitigation, IA, NE, KS, & MO	109
	Missouri River Levee System, IA, NE, KS & MO	48
	Mount St. Helens Sediment Control, WA	86
	Mud Mountain Dam, WA (Dam Safety Assurance)	132
	Perry Creek, IA	58
	The Dalles Powerhouse, OR (Major Rehabilitation)	144
	Willamette River Temperature Control, OR	113
	Wood River, Grand Island, NE	72
Operation and Maintenance		148

Justification of Estimates for Civil Functions Activities
Department of the Army, Corps of Engineers
Fiscal Year 2001

SUMMARY NORTHWESTERN DIVISION

	FY 2000 Allocations	FY 2001 Request	Increase or Decrease
General Investigations			
Surveys	$ 4,033,000	$ 5,062,000	$ +1,029,000
Preconstruction Engineering and Design	4,894,000	3,338,000	-1,556,000
Subtotal General Investigations	8,927,000	8,400,000	-527,000
Construction, General			
Construction	131,231,000	156,788,000	+25,557,000
Dam Safety Assurance	7,050,000	2,000,000	-5,050,000
Major Rehabilitation	18,234,000	18,410,000	+176,000
Subtotal Construction, General	156,515,000	177,198,000	+20,683,000
Operation and Maintenance, General			
Project Operations	102,986,000	102,679,000	-307,000
Project Maintenance	120,194,000	122,869 000	+2,675,000
Subtotal Operation and Maintenance	223,180,000 1/	225,548,000 1/	+2,368,000 1/
GRAND TOTAL, NORTHWESTERN DIVISION	$ 388,622,000	$ 411,146,000	$ +22,524,000

1/ For Northwestern Division-North Pacific Region power projects, specific power costs and joint-use costs associated to power will be directly funded by Bonneville Power Administration.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
1. SURVEYS - NEW:					
a. Navigation Studies: None					
b. Flood Damage Prevention Studies: None					
c. Shoreline Protection Studies: None					
d. Special Studies: None.					
e. Comprehensive Studies: The amount of $1,000,000 is requested to start two new cost-shared studies.					
MISSOURI					
Missouri and Middle Mississippi Rivers Enhancement Kansas City District	500,000	0	0	500,000	0

The project will complement the Missouri River Bank Stabilization and Navigation Project, the Missouri River Fish and Wildlife Mitigation Project, and authorized flood control, navigation, and environmental restoration projects on the Middle Mississippi River. Habitat development and enhancement projects primarily within the river channels would be constructed at 65 percent Federal, 35 percent non-Federal cost and operated and maintained by a non-Federal sponsor. Projects developed under this authority would enable the States and Federal government to assemble corridors of environmentally revitalized river channel habitat which would have a multiplying and reinforcing effect on similar types of environmental restoration activities accomplished under other authorities.

The initial phase, per Section 514 (b)(1)(A) of WRDA 1999, would be the identification of a plan consisting of potential projects to protect and enhance fish and wildlife habitat without adversely affecting the water-related needs of the region surrounding the Missouri River and the middle Mississippi River. Concurrently, the several Districts within the area covered by the Section 514 authority would begin consultation with the affected States, primarily through the fish and wildlife agencies. These consultations would focus on the criteria for identifying locations for appropriate fish and wildlife habitat enhancement within the banks of the rivers and within the Missouri River mainstem reservoirs.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

1e. Comprehensive Studies, MISSOURI, Missouri and Middle Mississippi Rivers Enhancement (cont'd)

The implementation of the individual projects would consist of two phases: Planning and Design Analysis (PDA) and construction. Sites would be identified and prioritized in the initial phase in consultation with the States. The Federal Government would fund a Planning and Design Analysis at each individual site. The Planning and Design Analysis would include the public participation mandated in Section 514(d). The total cost including the Planning and Design Analysis and the Construction Cost would be cost-shared at the time construction begins under a Project Cooperation Agreement with the non-Federal sponsor.

Fiscal Year 2001 funds will be used to initiate and complete the PDA phase in cooperation with the States and identify target levels of non-Federal participation. The process will be focused on identification of one or more prototype sites that could be designed.

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This study is authorized under Section 514(b)(1) of the 1999 Water Resources Development Act.

The preliminary estimated cost of the study is $667,000, which is to be shared on a 75-25 basis by Federal and non-Federal interests. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$667,000
Federal	500,000
Non-Federal	167,000

The study is scheduled for completion in September 2001.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
1e. Comprehensive Studies (cont'd)					
MONTANA					
Yellowstone River Corridor Omaha District	2,000,000	0	0	500,000	1,500,000

An interagency study of the Yellowstone River corridor from Gardiner, Montana, to the confluence of the Missouri River to determine the hydrologic, biological and socioeconomic cumulative impacts as authorized by Section 431 of Water Resources Development Act of 1999.

The Yellowstone River corridor, defined linearly as approximately 600 river miles in Montana and North Dakota and lateral from the channel as the upper riverine terrace formed from historic fluvial processes, has been subject to natural and human interactive factors affecting ecosystem health and recovery. Flooding in 1996 and 1997 caused damage to private landowners and public facilities with a subsequent increase in regulatory actions under Section 10 of the Rivers and HarborsAct/Section 404 of the Clean Water Act as well as Corps of Engineers emergency technical assistance. Given the natural and historic heritage of this river corridor, issues regarding the long term effects of bank stabilization and the potential for significant adverse cumulative impacts have been raised by public and private sector and environmental interests. In contrast, issues regarding an individuals right to protect property and more local control of floodplain/riverine activities have been evident from the landowner and local government interest groups. The primary goal of this study is to develop a set of publicly supported river corridor management recommendations that address effects of channel modifications on the human community and riparian ecosystem along the Yellowstone River corridor. The corridor study will be used to develop 1) the formulation of management and protection objectives; 2) evaluate trade-offs among objectives; 3) use environmental impacts as a factor in determining the acceptability of management objectives as contrasted with potential long-term riparian deterioration. The study will also determine the advisability of Corps participation in environmental restoration and flood damage reduction projects along the Yellowstone River.

Omaha District is currently executing the Upper Yellowstone River Study as directed by the FY 99 Energy and Water Development Appropriation Regulatory Program Senate Report 105-206. This special area management plan study from Gardiner to Springdale, MT, is assessing the long-term effects of streambank stabilization.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

1e. Comprehensive Studies, MONTANA, Yellowstone River Corridor (cont'd)

The proposed study would incorporate and expand the existing Upper Yellowstone River technical studies to the remainder of the riparian corridor. The Upper Yellowstone Study should be finalized prior to completion of the entire corridor study. The ongoing Upper Yellowstone study design involves a comparison of altered vs. unaltered reaches in terms of hydraulics/channel geomorphology, cottonwood recruitment, fish and wildlife utilization as well as socioeconomic analyses.

For the remainder of the corridor, a less detailed comparative analysis would be conducted. The remaining corridor would be subdivided into similar hydrogeomorphic reaches and comparative analyses of altered vs. unaltered reaches conducted. These sub-corridor analyses would form the basis for formulation of management and protection objectives in concert with the local public/ private sector interest groups. Sites within each sub-corridor would be identified for environmental restoration or non-structural solutions (floodplain easements), or generic floodplain management strategies.

The preliminary estimated cost of the study is $2,667,000, which is to be shared on a 75-25 percent basis by Federal and non-Federal interests. The non-Federal share may all be in-kind services, cash, or a combination. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$ 2,667,000
Federal	2,000,000
Non-Federal	667,000

In accordance with Section 431 of P. L. 106-53, this study is to be performed in consultation with the United States Fish and Wildlife Service (USFWS), United States Geological Survey (USGS), Natural Resources Conservation Service (NRCS) and with full participation of the State of Montana, and tribal and local entities, and provide for public participation. Funding for the consultation efforts of the USFWS, USGS, and NRCS during the study should be obtained by each respective agency. The completion date of the study is being determined.

f. Review of Authorized Projects: None

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
2. a. Navigation Studies: The amount of $250,000 is requested to continue one study.					
WASHINGTON					
Puget Sound Confined Disposal Site(s) Seattle District	2,124,000	1,166,000	182,000	250,000	526,000

The State of Washington verified the need for public multi-user disposal sites which can accommodate contaminated sediments from navigation projects and cleanup of contaminated sediment sites. The widespread public interest is for confined disposal sites which meet the needs of both Federal and non-Federal navigation projects and sediment clean-up for low and moderately contaminated dredged material. In May 1991, the U.S. EPA approved the Puget Sound Water Quality Management Plan as the Federal Comprehensive Conservation and Management Plan (CCMP) for Puget Sound. The CCMP calls for identification of contaminated sediment areas and subsequent clean-up of these areas. Because of recognized technical expertise, the Corps of Engineers was asked to undertake in partnership with the State of Washington, U.S. EPA, and Puget Sound public ports, further studies which could lead to establishment of public multi-user confined disposal sites on Puget Sound and thereby result in substantial navigation and environmental restoration benefits.

Senator Slade Gorton, in a letter to ASA(CW) dated 13 January 1994, requested Corps involvement in the study and expressed strong interest in environmentally safe disposal of contaminated sediments. By letter dated 28 March 1994, Dr. John Zirschky, Acting ASA(CW), expressed support for such involvement by the Corps. The Feasibility Cost Sharing Agreement (FCSA) was signed in July 1997 with the State of Washington.

Fiscal Year 2000 and 2001 funds will be used to continue the feasibility study. The estimated cost of the feasibility phase is $3,458,000 which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$ 3,853,000
Reconnaissance Phase (Federal)	395,000
Feasibility Phase (Federal)	1,729,000
Feasibility Phase (Non-Federal)	1,729,000

The reconnaissance phase was completed in July 1997. The feasibility phase completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
2b. Flood Damage Prevention Studies: The amount of $957,000 is requested to continue six studies.					
IDAHO					
Boise River, Boise Walla Walla District	800,000	0	100,000	165,000	535,000

The Boise River is a tributary of the Snake River located entirely in Idaho. It is a snow-fed river with high flows in early summer months resulting from melting snowpack. The Corps of Engineers Lucky Peak Dam and reservoir is located on the Boise River, upstream of Boise, Idaho, along with Bureau of Reclamation's Anderson Ranch and Arrowrock projects. These three reservoirs are operated jointly for flood control and irrigation storage. These reservoirs were built between 1917 and 1955 and the total space is available for flood control as needed. A series of non-continuous non-Federal levees line the Boise River below Lucky Peak Dam, the lowermost dam, through developed areas in downtown Boise and in Garden City, Nampa and Caldwell within Ada and Canyon counties. Both the Boise River reservoir system and levee system through downtown Boise and Garden City provide a level of flood control well below the 100-year level. Several emergency flood fights and rehabilitation projects have been completed since the 1970's. The channel through Boise is a very sensitive environmental zone which make channel and levee improvements difficult.

The City of Boise and its foothills have experienced rapid growth and development over the past several years. Land use along the Boise River Basin is also changing due to urban and farming encroachment. Ada and Canyon counties have just recently been named as the nation's fourth fastest growing urban area. These conditions have impacted flood protection and water resources. A reconnaissance study was completed in 1995, but the study has been inactive due to lack of further sponsorship. These recent changes in growth have sparked a renewed interest and urgency in improving flood protection, environmental protection and restoration to include habitat preservation of indigenous plants and animals along the Boise River by Federal, State, and local governments.

This study will serve several communities within Ada and Canyon counties including the cities of Boise, Garden City, Nampa, Eagle, Caldwell, and Middleton. Local Flood control districts are also interested in the study. Idaho Parks and Recreation Department is interested in environmental study efforts. Ada and Canyon Counties are potential sponsors. The Water Resources Development Act of 1999 is the study authority for this project.

Study	Total Estimated Federal Cost	Allocation Prior to FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional to Complete After FY 2001
	$	$	$	$	$

2b. Flood Damage Prevention Studies, IDAHO, Boise River, Boise (cont'd)

Fiscal Year 2000 funds are being used to fully fund the reconnaissance phase at full Federal expense. If the reconnaissance report is certified to be in accord with policy, Fiscal Year 2001 would be used to initiate the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $1,400,000, which is to be shared 50-50 by Federal and non-Federal interests. Up to one-half of the non-Federal share maybe in-kind services. A summary of study cost sharing is as follows:

Total estimated Study Cost	$ 1,500,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	700,000
Feasibility Phase (Non-Federal)	700,000

The reconnaissance phase is scheduled for completion in January 2001. The feasibility study completion date is being determined.

Kootenai River at Bonners Ferry Seattle District	400,000	0	50,000	60,000	290,000

The town of Bonners Ferry is located in Boundary County Idaho, approximately 90 miles northeast of Spokane, Washington. Bonners Ferry is located adjacent to the Kootenai River 50 miles downstream of Libby Dam.

The study will evaluate flooding problems along the Kootenai River in Boundary County, WA. Increased river flows from Libby Dam, to assist in sturgeon recovery efforts, are causing additional or increased erosion of non-federal levees. The study will focus on flood damage reduction alternatives.

Flood damage reduction and ecosystem restoration are consistent with Administration policy. Authorization is Senate Resolution dated 27 July 1962 on Columbia River and Tributaries and Section 209 of the 1962 Flood Control Act (P.L. 84-874).

FY 2000 funds are being used to initiate the reconnaissance phase at full Federal expense. FY 2001 funds would be used to complete the reconnaissance phase and initiate the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $ 600,000, which is to be shared 50-50 by Federal and non-Federal interests. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$ 700,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	300,000
Feasibility Phase (Non-Federal)	300,000

The reconnaissance phase is scheduled for completion in January 2001. The feasibility completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
2b. Flood Damage Prevention Studies, IDAHO (cont'd)					
Little Wood River, Gooding Walla Walla District	800,000	0	100,000	165,000	535,000

The Little Wood River bank armoring project work began in the fall of 1937. The project was funded by the Works Projects Administration (WPA) and was constructed by the Civilian Conservation Corps (CCC). The project ended in 1941 with the start of World War II. Considerable straightening of the river channel was performed. Repair of the origional armoring project is now required. Since the project now has historical significance it must be repaired in a manner that resembles existing construction. The length of the channel that has this bank armoring is approximately 1.8 miles and is located within the city limits of Gooding, Idaho. High flows and ice jams have severely damaged the walls causing localized failures. Erosion could cause damage to roads, bridges, and buildings if the localized failures are not repaired or replaced.

The City of Gooding, Idaho is the potential sponsor for this project.

Fiscal Year 2000 funds are being used to fund the reconnaissance phase at full Federal expense. If the reconnaissance report is certified to be in accord with policy, Fiscal year 2001 funds would be used to initiate the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $ 1,400,000, which is to be shared 50-50 by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows.

Total Estimated Study Cost	$1,500,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	700,000
Feasibility Phase (Non-Federal)	700,000

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
2b. Flood Damage Prevention Studies, IDAHO, Little Wood River , Gooding (cont'd)					
The reconnaissance phase is scheduled for completion in December 2000. The feasibility study completion date is being determined.					
IOWA					
Indian Creek, Council Bluffs Omaha District	350,000	84,000	16,000	80,000	170,000

Indian Creek is located in Pottawattamie County in western Iowa and flows through the City of Council Bluffs, Iowa. Indian Creek is a tributary of the Missouri River and originates about 4 miles north of the city limits and flows in a southerly direction through the city and then outlets into the Missouri River south of the city. Indian Creek basin has a drainage area of approximately 15 square miles. A concrete conduit approximately 8,000 feet in length conveys flows through the downtown region of Council Bluffs. Concrete lined channel segments exist both upstream and downstream of the conduit. The entire concrete channel/conduit reach is about 5 miles long, was constructed in the 1930's, and was designed for a 10 year event. The creek has a sizeable 100 year floodplain, affects 8,800 people and 4,000 housing units, and has resulted in disinvestment in the downtown area. Since the conduit/channel was constructed in 1936, major flooding occurred in 1942 and 1947 and minor flooding occurred in 1948 and 1965. Flood history after 1981 currently is unknown.

The Corps prepared the Flood Insurance Study (FIS) for Indian Creek in 1976. Since then, the Natural Resource Conservation Service has constructed two multipurpose detention dams that provide some flood control storage. The Corps is currently updating the FIS hydrologic analysis of Indian Creek for FEMA (to be completed in 1999) and has incorporated the two detention dams in the modeling analysis. The discharges are reduced about 20 percent with the two detention dams, however, this does not remove the flood hazard associated with Indian Creek. The potential sponsor, City of Council Bluffs, understands the cost sharing requirements of the feasibility study.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

2b. Flood Damage Prevention Studies, IOWA, Indian Creek, Council Bluffs (cont'd)

The reconnaissance study will survey the extent of the flood hazard associated with Indian Creek, develop alternatives to mitigate this hazard, outline the proposed public improvements necessary to reduce or eliminate the flood hazard, and determine if opportunities for environmental restoration exist.

The Fiscal Year 2000 funds are being used to complete the reconnaissance phase at full Federal expense. If the reconnaissance report is certified to be in accord with policy, then funds requested for Fiscal Year 2001 will be used to initiate the feasibility phase.

The preliminary estimated cost of the feasibility phase is $500,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost is as follows:

Total Estimated Study Cost	$ 600,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	250,000
Feasibility Phase (Non-Federal)	250,000

The reconnaissance phase is scheduled for completion in April 2000. The completion date for the feasibility study is being determined.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
2b. Flood Damage Prevention Studies, (cont'd)					
NEBRASKA					
Lower Platte River and Tributaries Omaha District	2,431,000	1,448,000	496,000	217,000	270,000

The authorized study area is in the eastern third of the state of Nebraska. The area includes the Lower Platte River from just below the confluence with the Wood River to the confluence with the Missouri River, the Loup River from Fullerton to the confluence with the Lower Platte, Salt Creek from above Lincoln to the confluence with the Lower Platte, and the Elkhorn River from Norfolk to the confluence with the Lower Platte. There are two major and seven minor tributaries to the Platte River in the study reach, 27 communities, and several environmentally sensitive areas yielding a complex study. This area, about 750 square miles, with over 6,000 square miles of contributing area, is subject to frequent, severe flooding that causes estimated annual damages of nearly $14 million. Existing projects prevent about $6 million a year in damages. The significant flooding occurred 7-21 March 1993, forcing the evacuation of 1,400 people from their homes. The flood killed two people and devastated road and bridge systems, public and private utilities, and farm equipment and facilities. Interstate 80 near Lincoln was closed for more than 24 hours. The water system for the city of Lincoln was seriously damaged; and there was damage in the towns of Norfolk, West Point, Scribner, Winslow, Nickerson, Arlington, Waterloo, Fullerton, Columbus, Schuyler, and Cedar Creek. Damages totaled over $25 million. The declared disaster area included 14 counties. All damages occurred outside of the 13 existing flood protection projects in the basin. These projects prevented over $18 million in damages for this event alone, and prevented an additional $10 million in damages from the summer 1993 flooding.

The completed reconnaissance study reviewed hydrology of the Lower Platte River, including contributions from the Elkhorn and Loup Rivers; reexamined flood and related erosion and sedimentation damages, and formulated feasible alternative solutions. The Reconnaissance Report was completed in May 1996, recommending proceeding into the feasibility phase. The feasibility study was initiated with the signing of the Feasibility Cost Sharing Agreement in January 1998. Concurrence was received from HQUSACE to develop a scope of work that merges the Section 503 of WRDA 96, "Lower Platte River watershed, Nebraska," with this study. Section 503 provides authority for technical, planning, and design assistance to non-Federal interests for carrying out watershed management, restoration, and development projects.

The Sand Creek Watershed (Lake Wanahoo) Feasibility Study/Environmental Impact Study is a separate study derived from the Lower Platte River and Tributaries study. The Corps determined that further study of the Sand Creek watershed in the nature of an Interim Feasibility Study was warranted. The goal of the integrated Feasibility Study/Environmental Impact Study will be to determine the alternative that provides a desired combination of environmental restoration, reduction of sedimentation and water quality improvement, while also providing flood damage reduction and recreational benefits.

The State of Nebraska, the Nebraska Natural Resources Commission (NNRC), the Lower Platte South Natural Resources District (NRD), Papio-Missouri River NRD, and the Lower Platte North NRD are the cost sharing partners for the feasibility study and any resulting projects.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

2b. Flood Damage Prevention Studies, NEBRASKA, Lower Platte River and Tributaries (cont'd)

Fiscal Year 2000 funds will be used to continue the feasibility study. Fiscal Year 2001 funds will be used to continue the feasibility study. The preliminary estimated cost of the feasibility phase is $3,550,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$ 4,206,000
Reconnaissance Phase (Federal)	656,000
Feasibility Phase (Federal)	1,775,000
Feasibility Phase (Non-Federal)	1,775,000

The reconnaissance phase was completed in January 1998. The completion date for the feasibility study is being determined.

WASHINGTON Skagit River Seattle District	2,547,000	1,226,000	269,000	270,000	782,000

The Skagit River Basin is located in the northwest corner of the state of Washington and encompasses a total drainage area of 3,140 square miles. The entire floor of the Skagit River Valley, located in Skagit County, Washington comprise the flood plain, approximately 74,000 acres. This flood plain has flooded often since the area was first settled in the mid-1800s. This flood plain is currently protected to some degree by over 50 miles of levees in the delta below Sedro Wooley(river mile 23) the maximum safe channel capacity varies from 100,000 cubic feet per second (cfs) to 146,000 cfs.
Since 1908, 100,000 cfs has been exceeded 17 times. In November 1990, the previous flood of record, the flood peaked at 152,000 cfs (9.4 feet above flood stage) at the city of Mount Vernon (river mile 12). During the most recent severe flooding in late November 1995, the flood peaked at 159,000 cfs at Concrete, (a new record) and 135,000 cfs at Mount Vernon (9.3 feet above flood stage). Average annual flood damages total $11.1 million despite the fact that there are about 50 miles of existing levees in the delta.

The November 1990 floods caused the most severe damage on record throughout the lower basin. Major damage was experienced on Fir Island, downstream of Mount Vernon, and in mid-basin at Cockreham Island and the town of Hamilton. The most severe flooding occurred as a result of the double levee failures at Fir Island on November 11th and 25th. These failures caused heavy losses to public and private property throughout Fir Island, opening prime farmland to scour and deposition and salt water flooding. The total damage, public and private, from the two November 1990 floods is estimated at approximately $45 million. The severe floods of 1995 and 1996 caused less damages than in 1990.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

2b. Flood Damage Prevention Studies, WASHINGTON, Skagit River (cont'd)

A major levee improvement project for the delta was authorized in 1966, modified by a GDM in 1979, but deauthorized in 1995 because of lack of plan acceptance by basin citizens. Skagit County now believes that a modified version of the 1979 project would serve the basin and gain widespread acceptance and support. By letter dated 28 December 1990, Skagit County officials requested Corps of Engineers assistance in finding a solution to the flooding problems in the basin. A Feasibility Cost Sharing Agreement (FCSA) was signed on 28 July 1997 with Skagit County and the feasibility study immediately began.

Fiscal Year 2000 and Fiscal Year 2001 funds will be used to continue the feasibility study. The estimated cost of the feasibility phase is $3,968,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interest. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$ 4,531,000
Reconnaissance Phase (Federal)	563,000
Feasibility Phase (Federal)	1,984,000
Feasibility Phase (Non-Federal)	1,984,000

The reconnaissance phase was completed in July 1997. The feasibility study completion date is being determined.

2c. Shoreline Protection Studies: The amount of $100,000 is requested to continue one study.

WASHINGTON					
Ocean Shores Seattle District	850,000	100,000	50,000	100,000	600,000

The city of Ocean Shores, is located in Grays Harbor County, Washington, is situated on the Pacific Ocean coastline, immediately north of the Corps of Engineer's North Jetty at the entrance to Grays Harbor.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

2c. Shoreline Protection Studies, WASHINGTON, Ocean Shores (cont'd)

There are two separate, but related storm damage problems that must be addressed at Ocean Shores. The first problem involves recession of the Pacific Ocean shoreline which threatens to breach the primary dune. Breaching will result in an immediate threat of storm surge flooding and damage to existing public infrastructure (streets, underground utilities, new wastewater treatment plant) and private residential development (single family homes, condominiums, timeshare resorts). The second problem involves storm surge overtopping of the North Jetty. This occurred in April 1997, February 1998, and on three occasions between January and early March 1999. These events flooded a large residential area. The March 1999 storm caused widespread flooding, severely damaged Ocean Shores Boulevard, and flooded underground electrical vaults. It also scoured a channel parallel to the jetty which threatened to undermine the perimeter embankment of the City's new wastewater treatment plant and undermine the City's sewer outfall line.

Alternative plans that will be further evaluated during the feasibility phase include no action, partial retreat and construction of an artificial protective dune, total retreat and removal of all structures and infrastructure from the affected area, beach nourishment or offshore placement of dredged sand, and a variety of structural measures (bulkheads/revetments, tidal structures, jetty modification, floating breakwater, offshore reef).
There is strong congressional support for addressing this problem. The study authority is a House Committee on Transportation and Infrastructure study resolution dated October 9, 1998.

Fiscal Year 2000 funds are being used to initiate the feasibility phase and Fiscal Year 2001 funds would be used to continue the feasibility phase. The preliminary estimated cost of the feasibility phase is $1,500,000, which is to be shared on a 50-50 basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total estimated Study Cost	$ 1,600,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	750,000
Feasibility Phase (Non-Federal)	750,000

The reconnaissance phase is scheduled to be completed by April 2000. The feasibility phase completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
2d. Special Studies: The amount of $1,213,000 is requested to continue eight studies.					
OREGON					
Tillamook Bay and Estuary (Ecosystem Resatoation) Portland District	1,808,000	268,000	184,000	274,000	1,082,000

Designated as a significant tidal estuary in the National Estuary Project and a component of the Oregon Coastal Salmon Restoration Initiative (Oregon Plan), Tillamook Bay and its watershed are economically and ecologically valuable for the state of Oregon. Tillamook Bay is located in Tillamook County in northwestern Oregon, about 70 miles west of Portland. Five rivers: the Miami, Kilchis, Wilson, Trask, and Tillamook, all rise in the coast range and flow into the bay. The lower valleys of these rivers merge to form a broad alluvial plain to the east end, south of the bay on which the city of Tillamook is located.

Four problems in Tillamook Bay and watershed have been identified by the Tillamook Bay National Estuary Project: 1) bacterial and pathogenic contamination; 2) sedimentation which affects freshwater and saltwater flows and habitat for shellfish and fish; 3) significant habitat degradation which affects salmon and trout spawning, increases stream temperatures, and contributes to bay sedimentation; and 4) flooding, which affects both human and environmental values. In the Oregon Plan, the Tillamook Bay system has been identified as having poor freshwater habitat for native coastal salmon. Modeling shows that salmon populations may experience a higher risk of extinction because of this condition.

Declared a Federal disaster area because of the February 1996 flood, Tillamook County suffered over $53 million in damage, which amounted to 148 percent of the county's annual budget. The county suffered significant public losses because of the tremendous disruption caused to Highway 101, the major North-South arterial along the coast. The lower portions of the rivers overflow frequently because channel capacity is inadequate to handle heavy flows during severe rainstorms when combined with high tides. The resulting flooding cut off access to Highway 101 and inundated residential, commercial, and pasture areas. No vehicular access was possible between the north and south portions of the county; emergency and service vehicles could not go north and ambulances could not get to the hospital on the southwest side of the city. Even during the 98-99 flood season, which was considered relatively benign, damages due to flooding resulted in $5 million in the study area.

The reconnaissance phase was completed in August 1999. Key areas addressed in the reconnaissance report include opportunities to modify existing flood plain features, stream channels, and the estuary in order to restore natural wetlands, high value estuarine habitats, and coastal salmon habitats while reducing flood damages. Some of the measures to be considered include reconnecting wetland and floodplain areas with the rivers to absorb greater flood flows; channel modifications to restore flood capacity; restoring structural complexity in stream channels and the estuary; and riparian habitat development.

Study	Total Estimated Federal Cost	Allocation Prior to FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional to Complete After FY 2001
	$	$	$	$	$

2d. Special Studies, OREGON, Tillamook Bay and Estuary (Ecosystem Restoration) (Cont'd)

A Feasibility Cost Sharing Agreement was executed in July 1999 with Tillamook County Soil and Water Conservation District. The feasibility study will analyze in detail problems and opportunities associated with flood damage reduction and ecosystem restoration within the study area. A sophisticated hydrodynamic model will be developed to formulate and evaluate alternatives. An Environmental Impact Statement (EIS) will be prepared in conjunction with the feasibility study.

Fiscal Year 2000 funds are being used to continue the feasibility phase. Fiscal Year 2001 funds requested will be used to continue the feasibility phase of the study. The estimated cost of the feasibility phase is $3,382,000, which will be shared on a 50-50 percent basis by the Corps and the Sponsor. Of the non-Federal share, $827,000 is in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$ 3,499,000
Reconnaissance Phase (Federal)	117,000
Feasibility Phase (Federal)	1,691,000
Feasibility Phase (Non-Federal)	1,691,000

The feasibility study completion date is to be determined.

Willamette River Environmental Dredging Portland District	1,100,000	0	86,000	114,000	900,000

The Willamette River basin occupies a 12,000 square mile area in western Oregon. The 187-mile river begins in the Cascade and Coast Ranges and flows through local watersheds affected by logging, farming, and urban development before it empties into the Columbia River at Portland Oregon. From Willamette Falls at river mile 26.5 to the mouth at river mile 0, the river passes through the city of Portland where the waterfront is highly developed. Approximately 2 million people live within the lower Willamette River drainage from just above Willamette Falls to the river mouth. The lower Willamette River in Portland is also part of the Columbia and Lower Willamette Rivers federal navigation project. The project supports a thriving deep draft vessel shipping port in a regional economy where one in five jobs in the Portland/Vancouver area are related to export of grain, mineral resources or manufactured products. A yearly average of 7 million tons of grain is exported yearly through Portland, many through from river miles 0 to 14 and contributes to Portland being the tenth largest exporter in the nation. Petroleum products and mineral ores are the dominant imports at Willamette River facilities.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

2d. Special Studies, OREGON, Willamette River Environmental Dredging (cont'd)

Industrial and urban activity in and along the waterway has adversely affected water and sediment quality. Degraded spawning and rearing and migratory habitats have contributed to declines of native populations of salmon, steelhead and trout. In March and April of 1999 the National Marine Fisheries Service (NMFS) listed five local fish populations as "threatened" under the Endangered Species Act, for the first time extending protection to populations in heavily urbanized areas within the Pacific Northwest. Two fish populations, the Lower Columbia River Chinook and Columbia River Chum salmon rear in urban streams. The Coastal Cutthroat spends much or all of their life in streams of the Columbia and lower Willamette up to Willamette Falls. Upper Willamette River Chinook and Steelhead rear and migrate through the lower Willamette River.

During the last few decades, much has been done to improve water quality in the river by reducing industrial and municipal point source pollutant discharges. Efforts continue to improve water quality through separation of sewer systems and point and non-point source pollution controls. Over the past few years the state of Oregon has pursued cleanup of specific sites along the river that include impacted sediments. In the fall of 1998, with the help of several companies and public agencies and in coordination with natural resource trustees, the state began developing the Portland Harbor Sediment Management Plan, a framework for a harbor-wide investigation and cleanup of sediments. The framework includes a comprehensive approach to identify and address site specific contaminant sources and clean up sediment contamination where necessary. The plan is an attempt to focus on harbor wide issues but is funded primarily by individual responsible parties. While these efforts represent a major step in the right direction, a significant opportunity exists for a cooperative local, state and Corps venture to further leverage resources and achieve restoration objectives. Potential restoration measures could include dredging for in-stream water and sediment improvements and to keep contaminants from entering the navigation channel, establishing alternatives for contaminated material management, and beneficial use of dredged materials.

A local sponsor is interested in partnering on this cooperative venture and is preparing a letter of support. Stakeholders include the Port of Portland, the City of Portland, other state agencies including the Department of Environmental Quality, and Department of Fish and Wildlife. Further collaboration with NMFS, the Environmental Protection Agency, the U.S. Fish and Wildlife Service, and other federal agencies would also occur. The potential sponsor understands the cost sharing requirements of the feasibility and implementation phases of the potential project.

The feasibility phase scope of work would be prepared in concert with and support of the Portland Harbor Sediment Management Plan. Although there are two major Corps projects within the lower Willamette River, the navigation channel and the potential deepening of the channel as part of the

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

2d. Special Studies, OREGON, Willamette River Environmental Dredging (cont'd)

Columbia River Channel Improvements study, neither project addresses improvement to sediment and water quality which could be accomplished by dredging. Both projects could benefit from improvements to sediment quality.

Fiscal Year 2000 funds are being used to initiate the reconnaissance phase. Fiscal Year 2001 funds will be used to complete the reconnaissance phase and initiate the feasibility phase. The estimated cost of the feasibility phase is $2,000,000, which will be shared on a 50-50 percent basis by the Corps and the non-Federal sponsor. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

The reconnaissance study was initiated in November 1999 and is scheduled for completion in March 2000. The feasibility completion date is being determined.

The study authority is Section 312 of the Water Resources Development Act of 1990, as amended by Section 224 of the Water Resources Development Act of 1999.

Willamette River Floodplain Restoration Portland District	1,515,000	150,000	15,000	200,000	1,150,000

After a thirty-year absence, major flooding became a real and powerful presence in February 1996 for the Willamette River Basin in Oregon. Flood frequencies ranged from a 2- to 200-year event. Twenty-three counties were declared disaster areas. Cities suffering major damage include Portland, Tualatin, Lake Oswego, Salem, Keizer, Oregon City as well as many other communities. Damages throughout the state are estimated in excess of $286 million dollars, including about $40 million in housing losses, $30 million in business losses, $28 million in agricultural losses, and $188 million in local government facility losses. The existing Willamette reservoir system only controls about 27 percent of the basin runoff. The 1996 flood emphasizes an urgent need for additional flood damage reduction measures for the Willamette Basin. Traditional measures, such as large storage projects, are no longer practical or environmentally feasible. The proposed floodplain restoration project assesses opportunities to modify existing flood plain features in the Willamette Valley to reduce flood damages while restoring natural wetlands and promoting ecosystem restoration.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

2d. Special Studies, OREGON, Willamette River Floodplain Restoration (cont'd)

A conceptual study to assess the hydrologic feasibility and benefits of restoring floodplains for natural flood management in the Willamette Valley was commissioned in 1995 by River Network, a national non-profit conservation group. Their study concluded that feasible floodplain restoration opportunities exist to reduce flood hazards to homes, public structures and farms while allowing for fish and wildlife habitat restoration. A restored floodplain would act to absorb excess flood waters, slow the velocity of flood waters, and create habitat for a wide variety of plants and animals, including fish species, such as bull trout and Willamette spring chinook salmon, petitioned for ESA listing. Numerous Federal, state and local entities have expressed strong support for this effort. Following the major flood event in February 1996, FEMA officials strongly promoted this concept as a promising approach for flood hazard mitigation. The State of Oregon is fully supportive of the proposed study and project, and the Governor's office is working with local groups to identify the appropriate state agency as the non-Federal sponsor. Environmental organizations, such as Oregon Trout and Ducks Unlimited, have expressed support and interest in the project. The floodplain restoration concept was favorably received when presented in local papers.

Regional interest and financial support for flood damage reduction and ecosystem restoration measures is high. This floodplain restoration project offers an excellent opportunity to provide additional flood protection for the Willamette Basin through non-structural floodplain restoration measures. The proposed study and project focus on priority benefits of flood damage reduction and ecosystem restoration. The successful implementation of this project would encourage further private and public partnerships in the region in the prudent and beneficial uses of floodplains.

If the reconnaissance report is certified to be in accord with policy, Fiscal Year 2000 funds will be used to initiate Phase I of the feasibility study. The District is proposing taking a phased approach to feasibility studies. The first phase would use a comprehensive framework study of the entire Willamette Basin to be followed by sub-basin or reach specific feasibility studies in Phase II. Fiscal Year 2001 funds will be used to continue the Phase I feasibility study. The estimated cost of Phase I is $2,730,000, which will be shared on a 50-50 percent basis by the Corps and the non-Federal sponsor. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$ 2,880,000
Reconnaissance Phase (Federal)	150,000
Feasibility Phase (Federal)	1,365,000
Feasibility Phase (Non-Federal)	1,365,000

The reconnaissance phase was initiated in April 1998 and is scheduled for completion in April 2000. The feasibility study completion date is being determined.

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APPROPRIATION TITLE: General Investigations, Fiscal Year 2001

Northwestern Division

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
2d. Special Studies (cont'd)					
WASHINGTON					
Bellingham Bay, Whatcom County Seattle District	400,000	0	50,000	60,000	290,000

Bellingham Bay is located in northern Puget Sound, approximately 100 miles north of Seattle, in Whatcom County Washington.

A coalition of state agencies, tribes, federal agencies, and the Port of Bellingham have developed a comprehensive demonstration project, titled the Bellingham Bay Pilot Project, to address dredging, environmental cleanup, and habitat restoration in the estuary and watershed. The bay and surrounding environment have changed radically in the past 100 years. Loss of intertidal shoreline areas, loss of habitat and species diversity, degredation of water quality and sediment contamination has significantly impacted the bay and the watershed draining into it. The reconnaissance study will evaluate the Federal interest of implementing portions of the Bellingham Bay Pilot Project, and will address environmental dredging, operation and maintenance, and ecosystem restoration authorities.

Authorization is Sec 209 of the 1962 FC Act, (PL 84-874).

FY 2000 funds are being used to initiate the reconnaissance phase at full Federal expense. FY 2001 funding would be used to complete the reconnaissance phase at full Federal expense and if the reconnaissance report is certified to be in accord with policy, FY 2001 funds would also be used to initiate the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $ 600,000, which is to be shared 50-50 by Federal and non-Federal interests. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$ 700,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	300,000
Feasibility Phase (Non-Federal)	300,000

The reconnaissance phase is scheduled for completion in Jan 2001. The feasibility completion date is being determined.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
2d. Special Studies, WASHINGTON (cont'd)					
Chehalis River Basin Flood Control & Ecosystem Restoration Seattle District	700,000	0	86,000	150,000	464,000

The Chehalis River Basin is located in central western Washington and includes portions of Grays Harbor, Thurston, and Lewis Counties and is 80 miles south of Seattle. The Chehalis River rises in the southern Cascade mountains and empties into Grays Harbor and the Pacific Ocean.

Watershed analysis is very important to state and local agencies. This Chehalis River Basin Flood Control & Ecosystem Restoration study will evaluate flood reduction and ecosystem restoration for the entire Chehalis River basin excluding Chehalis River at Centralia , a separate study funded under PED.

Authorization is Section 209 of the Flood Control Act of 1962 (PL 84-874)

FY 2000 funds are being used to initiate the reconnaissance phase at full Federal expense. FY 2001 funds would be used to complete the reconnaissance phase at full Federal expense and if the reconnaissance report is certified to be in accord with policy, FY 2001 funds would also be used to initiate the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $1,200,000, which is to be shared 50-50 by Federal and non-Federal interests. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,300,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	600,000
Feasibility Phase (Non-Federal)	600,000

The reconnaissance phase is scheduled for completion in Dec 2000. Feasibility completion date being determined.

1059

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
2d. Special Studies, WASHINGTON (cont'd)					
Puget Sound Nearshore Marine Habitat Restoration Seattle District	700,000	0	86,000	65,000	549,000

Puget Sound Nearshore study area is located in and around the waters of Puget Sound and adjacent to the shores of Pierce, King, and Snohomish Counties, in western Washington State.

The study purpose is to evaluate fisheries ecosystem restoration within Puget Sound. This would complement plans and measures being conducted by the counties. This study is strongly supported by multiple local, state, and Federal agencies, and would be part of an ongoing effort to restore and improve anadromous fish habitat throughout Puget Sound, especially following the eight species of salmon Endangered Species Act listings of March 1999. The entire Puget Sound shoreline has been degraded. There has been extensive elimination of important intertidal, estuarian habitat and significant degredation of small perennial streams that flow into Puget Sound. Over the past 100 years, more than 95% of the original shallow water habitat has been lost.

Authorization is Section 209 of the Flood Control Act of 1962 (PL 84-874)

FY 2000 funds are being used to initiate the reconnaissance phase at full Federal expense. This would include preparation of a Feasibility cost-sharing Agreement, and a Project Study Plan. FY 2001 funding would be used to complete the reconnaissance phase at full Federal expense and if the reconnaissance report is certified to be in accord with policy, FY 2001 funds would also be used to initiate the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $1,200,000, which is to be shared 50-50 by Federal and non-Federal interests. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$ 1,300,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	600,000
Feasibility Phase (Non-Federal)	600,000

The reconnaissance phase is scheduled for completion in Jan 2001. The feasibility phase completion date is being determined.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
2d. Special Studies, WASHINGTON (cont'd)					
Skokomish River Flood Control & Ecosystem Restoration Seattle District	600,000	100,000	10,000	100,000	390,000

The Skokomish River, located in Mason County, Washington, is the primary drainage basin for the southeast region of the Olympic Peninsula, carrying flow from its headwaters in the Olympic Mountains to its outlet in Hood Canal.

The Skokomish River has a long history of flooding. The riverbed has been filling with sediment and capacity has been greatly diminished. Parts of the valley are flooded multiple times a year with the entire valley floor commonly flooded at least once a year. The problems in the river have been well documented in numerous studies performed by various agencies and consultants. The study effort culminated in the 1997 adoption of a County/ Tribal/State Skokomish River Comprehensive Flood Hazard Management Plan. This plan identified a wide array of proposed land use practices, non-structural measures, and structural measures for reducing flood hazards. Land use practices would include new mapping of flood hazard zones and specific restrictive land use regulations for the valley. Non-structural efforts have included: acquisitions of flood-prone properties, installation of flow gages, and implementation of flood warning system components. Notable among the structural goals and objectives are the requirements to significantly increase the hydraulic capacity of the main-stem Skokomish River channel.

The project will use the existing Skokomish River basin studies as a foundation for developing an implementation plan. Problems and opportunities will be examined within the context of the entire watershed. Potential solutions will include an array of structural as well as non-structural measures. The project will involve a cost-effective solution for reducing flood hazards and restoring the riverine ecosystem, which may be implemented by a variety of partners.

Authorization is Section 209 of the Flood Control Act of 1962 which continues to provide authority for investigations in the Puget Sound region. Fiscal Year 2000 funds will be used to initate the feasibility phase. Fiscal Year 2001 funds are being used to continue the feasibility phase. The preliminary estimated cost of the feasibility phase is $1,000,000; which is to be shared on a 50-50 percent basis by Federal and non-Federal interests.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

2d. Special Studies, WASHINGTON, Skokomish River Flood Control & Ecosystem Restoration (cont'd)

Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	500,000
Feasibility Phase (Non-Federal)	500,000

The reconnaissance phase is scheduled for completion in June 2000. The feasibility study completion date is being determined.

Tri-Cities Rivershore Restoration, Tri-Cities Walla Walla District	$800,000	100,000	$169,000	$250,000	$281,000

The Tri-Cities levees were constructed as part of the McNary Dam project on the Columbia River in the early 1950's. They were constructed, in lieu of purchasing and removing from the floodplain portions of the three cities (Kennewick, Pasco and Richland, WA), to prevent McNary Dam backwater from flooding areas of the three cities. The levees are gravel and rock with little, or no vegetation, and block the river from view in many areas of the cities. The Hanford Reach of the Columbia River, immediately upstream of the project area, is the last free-flowing section of the river above Bonneville Dam. It is a vital migration corridor for anadromous fish and contains some of the most productive spawning areas in the Northwest, and produces an estimated 80 percent of the Columbia Basin's fall Chinook. Salmon smolts from the Columbia and Snake River traverse the Tri-Cities levee system, which provides little habitat through the 19-mile levee section. Local interests propose to improve the shoreline habitat to discourage predator species of fish and provide better habitat for the migrating smolts. The project would also restore habitat for birds and animals, muskrat, beaver, waterfowl, songbirds, shorebirds, raptors, and other mammals, reptiles, and amphibians.

Restoration plans include levee lowering, and covering the levee riprap with topsoil and planting of riparian vegetation. In-water fill areas would be constructed to produce irregular shallow water areas along the toe of portions of the levees, and the Clover Island extension will provide rearing areas for chinook salmon. Bendway weir type structures would provide some protection for the riparian zones constructed. The island and shoreline fills will be gradually sloped about 1:7), with minimal bulkheads and other potential predator hiding areas. The island to be modified adjacent to Two Rivers Park would be planted to riparian and wetland vegetation.

1062

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

2d. Special Studies, WASHINGTON, Tri-Cities Rivershore Restoration (cont'd)

Six potential sponsors for this project are: cities of Kennewick, Richland, and Pasco, the Port of Kennewick, and Benton and Franklin Counties, Washington. All have expressed their interest in letters of intent to the Corps of Engineers. The Washington Department of Fish and Wildlife and the Lower Columbia Basin Audubon Society are supporting the study. Resolution by Senate Committee on Public Works adopted 27 July 1962 (Columbia River and Tributaries) is the study authority for this project.

Fiscal Year 2000 are being used to initiate the feasibility phase and Fiscal Year 2001 funds would be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $1,400,000, which is to be shared 50-50 by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows.

Total Estimated Study Cost	$ 1,500,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	700,000
Feasibility Phase (Non-Federal)	700,000

The reconnaissance phase was completed in January 2000. The feasibility study completion date is being determined.

1063

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
2e. Comprehensive Studies: An amount of $210,000 is requested to continue one study.					
OREGON					
Willamette River Basin Review Portland District	2,284,000	1,848,000	125,000	210,000	101,000

Willamette River Basin, containing an area of approximately 12,000 square miles, is located in northwestern Oregon. As the most populated area in Oregon, the basin is highly developed. Many miles of levees and channel improvements have been constructed for flood protection. During the last 40 years, 13 Corps reservoirs have been constructed to control floods, generate power, and provide water for navigation and irrigation. Present problems include flood damages, which are still considerable; fish and wildlife conservation; municipal and industrial water supply; and development of additional recreation opportunities. In addition, projected irrigation development in the basin has not materialized at the rate previously envisioned, leaving considerable uncontracted water available for other vendible purposes. Local interests seek a re-examination of Corps reservoirs with a view toward authorizing additional project purposes and modifying reservoir operation. The State of Oregon has expressed strong support for the study because of its desire to implement a new Comprehensive Management Plan for the basin. A Feasibility Cost Sharing Agreement (FCSA) was executed on 31 May 1996 with the State of Oregon. The feasibility study will determine if modifying the operation and storage allocation of the existing Corps system of 13 reservoir projects would better serve current and anticipated future water resource needs.

The current high priority issue in the Willamette Basin is the March 1999 listing by National Marine Fisheries Service (NMFS) of three species of anadromous fish as either "Threatened" or as a "candidate" for listing under the Endangered Species Act (ESA). These fish include the Upper Willamette River Chinook Salmon, the Upper Willamette River Steelhead, and the Coastal Cutthroat (as a potential candidate). NMFS specifically states in the Federal Register (Vol. 64. No. 57, March 25, 1999) that habitat blockage and habitat degradation have probably adversely affected fish within the basin. The listing of these species has triggered the Corps to initiate a "Biological Assessment" (BA) of the Corps Projects. Upon completion of the BA the NMFS will issue a "Biological Opinion" (BO) that will outline their position on the now perceived adverse affects of the Corps projects. The BA is scheduled to be completed in the spring of 1999 and the BO will be done by late summer 2000.

The reconnaissance phase was completed in May 1996. The feasibility study completion date is being determined. Fiscal Year 2000 and 2001 funds will be used to continue the feasibility study. The estimated cost of the feasibility phase is $2,900,000, which is shared on a 50-50 percent basis by Federal and non-federal interests. Of the Federal share, $361,000 will be in-kind services. A current summary of Study cost-sharing is as follows:

1064

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

2e. Comprehensive Studies, OREGON, Willamette River Basin Review (cont'd)

Total Estimated Study Cost:	$ 3,734,000
Reconnaissance Phase:	834,000
Feasibility Phase:	1,450,000
Feasibility Phase (Non-Federal):	1,450,000

This study completion has been delayed by uncertainties regarding recovery plans for fish species listed as threatened in the Willamette Basin by the National Marine Fisheries Service under the Endangered Species Act (ESA). Because of the direct relationship between reservoir operations and fisheries, the development of final study alternatives for operation of the Willamette Reservoirs has been delayed until completion of NMFS' Biological Opinion. The study team and non-federal sponsors do not believe it is possible to establish these alternatives until after operating requirements for listed fish species have been clearly established.

In accordance with Section 7 of ESA, the Corps is preparing a Biological Assessment (BA) addressing the impacts of operation of the Willamette reservoirs on the listed species. We expect the final BA to conclude that the reservoirs do adversely affect listed species. In response, NMFS will prepare a Biological Opinion (BO) recommending "reasonable and prudent actions" the Corps should undertake to prevent further take of listed species and support their recovery. Based on preliminary consultation, it appears NMFS will recommend significant actions to modify structures and operation of the existing Corps Willamette projects. Expected recommendations include, but are not limited to, improvement of fish passage, temperature control facilities, upstream and downstream habitat restoration and flow augmentation. The BO is currently scheduled for completion in summer 2000.

We believe it will be necessary to rescope the study to address NMFS' recommended actions at the time the BO is completed. Study objectives previously described under the Project Study Plan and agreed to with the non-federal sponsor will be completed. In addition, we propose to undertake a system configuration study to evaluate and prioritize NMFS' recommendations. This will be followed by detailed technical and design studies leading to implementation of high priority endangered species recovery actions. These follow-on study activities would be funded at 100% Federal cost if the BO does in fact determine that the existing Federal projects do have a detrimental affect under ESA. The scope of this additional work will not be known until after the BO is completed, but the current estimated cost is approximately $3 million. These costs are not included in the current program. Use of the current study authority to address ESA actions would allow the Corps to be proactive and responsive in addressing environmental issues in the basin.

1065

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
2f. Review of Authorized Projects: An amount of $1,332,000 is requested to continue five studies.					
COLORADO					
Chatfield, Cherry Creek, and Bear Creek Omaha District	1,350,000	218,000	292,000	250,000	590,000

The study area includes the three Corps of Engineers? projects (Tri-Lakes) located in the Denver metropolitan area. Because of the potential impacts that may be identified during the study, the study area also includes the South Platte and Platte Rivers downstream from the Corps? projects. Water supply storage in the Front Range area of Colorado is in increasingly short supply and several interests have expressed the desire to store water in the Tri-Lakes. The purpose of this study is to examine, under the 1958 Water Supply Act, as amended, the potential for reallocating storage in the Chatfield project. Storage reallocation in the Cherry Creek project will not be examined at this time because of the concerns about the ability of Cherry Creek to safely pass the Probable Maximum Flood (PMF) flows. Storage reallocation in the Bear Creek project will not be examined at this time due to lack of sponsor interest.

At the direction of the Governor of Colorado, the Colorado Water Conservation Board (CWCB) is leading a group of local and regional water suppliers in examining all water supply and water storage options in the Front Range area, and will be the sponsor for the Reallocation Feasibility study. In the reallocation study, a range of storage values and operational criteria will be selected and examined to determine the impacts in and downstream from the reservoirs. The
major potential impacts that will be examined include downstream impacts on flood protection and fish and wildlife (particularly on Threatened and Endangered species in Nebraska), and recreation and water quality on the projects themselves.

Available Fiscal Year funding is being used to initiate the feasibility phase of the study. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $2,500,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$ 2,600,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,250,000
Feasibility Phase (Non-Federal)	1,250,000

The reconnaissance phase was completed in October 1999. The completion date for the feasibility study is being determined.

1066

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
2f. Review of Authorized Projects (con't)					
KANSAS					
Topeka Kansas City District	1,287,000	786,000	111,000	200,000	190,000

The Kansas River runs through the center of Topeka, Kansas, the state's capital. All of Topeka and most of south Topeka are located in the protected flood plain. Construction of a flood protection project at Topeka was completed in Fiscal Year 1974 at a total Federal cost of $21,175,000. The project has prevented an estimated $229,280,000 in flood damages through December 1994, with an estimated $57,792,000 prevented in July and August 1993.

Hydraulic analysis by the State of Kansas Department of Transportation and the Corps of Engineers indicates that significant portions of the existing levee system at Topeka are inadequate to protect against the design frequency flood event at the time of levee construction. Concerns include changes in the Kansas River and the fact that a number of upstream flood control lakes, assumed to be in place when design discharges were being determined, were never constructed. The direct impact to Topeka is that uncontrolled flood discharges and stages are greater than originally envisioned, and the level of protection at Topeka is correspondingly lessened. The growing industrial/commercial and residential development protected by the levee system is estimated to have a total value of several billion dollars. Failure of the levee system by overtopping could result in millions of dollars in damages and the loss of life. The reconnaissance study, completed in September 1997 and certified in May 1998, recommended that a feasibility study be conducted based on the potential federal interest in project modifications. The reconnaissance phase was completed with execution of the FCSA in July 1998. The feasibility study was initiated in August 1998.

Both FY 2000 funds and the funds requested for FY 2001 will be used to continue the feasibility study. The estimated cost of the feasibility phase is $1,900,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. In-kind services estimated by the sponsor total $50,000. A summary of cost sharing is as follows:

Total Estimated Study Cost	$ 2,237,000
Reconnaissance Phase (Federal)	337,000
Feasibility Phase (Federal)	950,000
Feasibility Phase (Non-Federal)	950,000

The feasibility study completion date is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
2f. Review of Authorized Projects (con't)					
MISSOURI					
Kansas Citys Kansas City District	2,460,000	750,000	200,000	312,000	1,198,000

The existing Kansas Citys, Missouri and Kansas Local Protection Project consists of seven units along both banks of the Missouri and Kansas Rivers in the Kansas City Metropolitan area. These units were designed to protect intensely developed and heavily industrialized areas with a current estimated value of $9 billion. In July 1993, flood waters from both the Missouri and Kansas Rivers were within inches of overtopping several of the units and endangering life and the huge economic investment. People, equipment, and aircraft were evacuated from areas behind the units located at the confluence of the Missouri and Kansas Rivers due to fear of levee failure and overtopping. The project has prevented approximately $8.5 billion in damages through 1996 of which $3.9 billion were prevented in 1993 alone.

Based upon the 1993 flood, it is evident that the original hydrologic and hydraulic design data are no longer valid. The original design assumed the existence of three lakes in the Kansas River Basin that were never constructed. In addition, actual water surface elevations for specific Missouri River discharges are substantially higher than design stage-discharge assumptions. An Initial Appraisal Report documenting the need for this restudy was completed in June 1995.

The local sponsors are the Citys of Kansas City, Missouri, North Kansas City, Missouri, the Kaw Valley Drainage District, the Birmingham Drainage District, and the Fairfax-Jersey Creek Drainage District. Formal letters requesting a restudy of the completed project were received from the City of Kansas City, Missouri, and the Kaw Valley Drainage District following the 1993 flood. The two public entities are the total or partial sponsors for six of the seven units. The remaining sponsors also informally requested the reevaluation after the 1993 flood. Kansas City, Missouri, in a letter dated 30 May 1995, expressed understanding that the Feasibility phase of the study would be cost shared equally by Federal and non-Federal interests. The most recent expression of interest was provided by the city of Kansas City, Kansas, in a letter dated 16 May 1997. The letter stated that it is critical to initiate the study and implement corrective action. The city also indicated understanding of revised cost sharing for phases beyond the feasibility phase. Local interests and the Missouri-Arkansas Basin Association solicited support from their Congressional delegations to initiate the study in Fiscal Year 1998. Congressional redirection of the reconnaissance study resulted in a traditional reconnaissance approach in which the report was completed in August 1999. This study is authorized under Section 216 of the 1970 Flood Control Act.

Fiscal Year 2000 are being used to complete the reconnaissance phase and, if the reconnaissance report is certified to be in accord with policy, to initiate the feasibility study. The funds being requested for FY 2001 will be used to continue the feasibility study.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

2f. Review of Authorized Projects, MISSOURI, Kansas Citys (cont'd)

The preliminary estimated cost of the feasibility phase is $3,320,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$ 4,070,000
Reconnaissance Phase (Federal)	850,000
Feasibility Phase (Federal)	1,610,000
Feasibility Phase (Non-Federal)	1,610,000

The reconnaissance phase is scheduled for completion in August 2000. The feasibility study completion date is being determined.

Missouri River Levee System, Units L455 and R460-471 Kansas City District	1,570,000	938,000	198,000	220,000	214,000

Missouri River Levee System, Units L455 and R460-471 were authorized as part of a comprehensive plan in the Flood Control Act of 1944. Construction of Unit L455 was completed in 1967 at a cost of $4.7 million, and construction of Unit R460-471 was completed in 1968 at a cost of $3.9 million. The two levee units are located on opposite banks of the Missouri River in and near St. Joseph, Missouri. These two levee units were designed and constructed to provide flood protection for a Missouri River flow of 325,000 cubic feet per second with 2 feet of freeboard. Flood flows crested on 26 July 1993 at an estimated 335,000 cubic feet per second. The main stem flood control lakes constructed by the Corps upstream of the area lowered the river stage approximately 2.7 feet. Unit L455 protected 7,500 acres of industrial, residential, and farmland preventing approximately $176 million in damages; but flood waters were inches from overtopping the levee. Overtopping would have caused catastrophic damages to an industrial area with estimated assets of $1 billion and an annual payroll in excess of $50 million. Unit R460-471 was constructed to protect Elwood and Wathena, Kansas, Rosecrans Memorial Airport and Air National Guard Base in Missouri, and 10,800 acres of farmland; but this unit failed from overtopping during the 1993 flood causing over $97.5 million in damages.

The reconnaissance study found Federal interest in a number of measures to increase flood protection. Structural measures were feasible for L455 and for R460-471. Potential measures include raising existing levees and improvement in seepage control.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

2f. Review of Authorized Projects, MISSOURI, Missouri River Levee System, Units L455 and R460-471 (cont'd)

The study of Unit L455 was requested by the South St. Joseph Drainage and Levee District and the St. Joseph Area Chamber of Commerce in letters dated 14 and 21 April 1994, respectively. The levee district's letter indicated an understanding of the cost sharing requirements. Letters requesting a study of Unit R460-471 were received from the city of Elwood, Kansas, dated 21 April 1994; the city of Wathena, Kansas, dated 18 April 1994; and the Elwood-Gladden Drainage District dated 31 May 1994. The drainage district's letter indicated an understanding of cost sharing requirements. The Feasibility Cost Sharing Agreement was executed 13 May 1999. Both FY 2000 funds and the funds requested for FY 2001 will be used to continue the feasibility study.

The estimated cost of the feasibility phase is $1,400,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services.

A summary of study cost sharing is as follows:

Total Estimated Study Cost	$ 2,270,000
Reconnaissance Phase (Federal)	870,000
Feasibility Phase (Federal)	700,000
Feasibility Phase (Non-Federal)	700,000

The feasibility study completion date is being determined.

1070

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
2f. Review of Authorized Projects, (cont'd)					
WASHINGTON					
Lake Washington Ship Canal Water Conservation Project Seattle District	2,566,000	544,000	727,000	350,000	945,000

The Lake Washington Basin is located in and around Seattle, Washington and includes Lake Washington, Lake Sammamish, the Cedar River, and tributaries. The basin is a critical source of salmon production in the Northwest. Lake Washington has the largest sockeye salmon run in the continental United States. In March 1999 Puget Sound stocks of Chinook salmon were listed as a threatened species under the Endangered Species Act. The purpose of this study is to evaluate ways to improve salmon survival in the basin. The Lake Washington Ship Canal and Hiram A. Chittenden Locks, Seattle, WA, is an 8-mile canal with a double lock and fixed dam with gated spillways between Puget Sound and Lake Washington. It is a key point through which all Lake Washington salmon, both adult and juvenile, must migrate. In 1990 the City of Seattle asked the Corps to evaluate conserving water at the locks so the City of Seattle could divert more water from the Cedar River. This study went inactive in 1992 because of water rights issues. The reconnaissance study was resumed in 1997 at the request of King County and Seattle to consider water conservation at the locks to improve salmon passage, along with other environmental restoration projects, primarily for salmon. These include modifications to a major hatchery, and the enhancement of historical spawning and rearing areas throughout the basin.

Both King County and the City of Seattle are sponsors of this study. Feasibility studies were initiated when FCSAs were signed with the City of Seattle in May 1999 and with King County in July 1999.

Fiscal Year 2000 and Fiscal Year 2001 funds will be used to continue the feasibility study. The preliminary estimated cost of the feasibility phase is $4,194,000; which is to be shared on a 50-50 percent basis by Federal and non-Federal interests, up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$ 4,663,000
Reconnaissance Phase (Federal)	469,000
Feasibility Phase (Federal)	2,097,000
Feasibility Phase (Non-Federal)	2,097,000

The Reconnaissance Phase was completed in May 1999. The feasibility study completion date is being determined.

1071

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

3. PRECONSTRUCTION ENGINEERING AND DESIGN (PED) – NEW: None

4. PRECONSTRUCTION ENGINEERING AND DESIGN (PED) – CONTINUING:

a. Watershed/Ecosystem: The amount of $547,000 is requested to continue PED on three projects.

WASHINGTON					
Duwamish/Green River Basin (Fish and Wildlife Restoration) Seattle District	825,000	0	0	222,000	603,000

The Duwamish River originates in the Cascade Mountains about 60 miles southeast of Seattle, Washington. The total drainage area is 438 square miles. The Green River flows through King County west and north to the historical mouth forming the Duwamish River at river mile and then empties into Elliott Bay in Puget Sound. Howard A. Hanson Dam, located at R.M. 64.5 on the Green River, provides flood control to the lower Green River Basin. There is a Federal Navigation channel and sediment catch basin in the lower Duwamish (R.M. 6.4). Historically a significant amount of wetlands and fish and wildlife habitat in the basin have been degraded or destroyed through a number of actions including fill from a Federally constructed and maintained navigation project. Over 98 percent of the original estuary wetlands have been lost. Critical areas of juvenile fish habitat are limited in this watershed. Low summer flows and high temperatures are also minimizing the effectiveness of what limited habitat remains. This degradation has caused a significant subsequent reduction in the number of fish and wildlife being produced or residing in the basin. What once was a natural fishery that supported millions of chum, chinook, pink salmon and steelhead is in jeopardy. The degradation of this habitat along with other rivers in the area is partially responsible for a significant reduction in the anadromous fishery resources in the Puget Sound area. In March 1999 Puget Sound stocks of Chinook salmon were listed as a threatened species under the Endangered Species Act. A comprehensive plan for corrective measures is required to restore fish and wildlife habitat. The goal of the proposed project is to restore ecological functions and improve fish and wildlife resources. The Green/Duwamish Basin also lies on the North American Flyway and the restoration of migratory bird habitat in this basin has been identified under the Pacific Coast Joint Venture Strategic Plan. This study is strongly supported by multiple local, state, and Federal agencies. The Feasibility Cost Sharing Agreement (FCSA) was signed in September 1997 with King County. Feasibility schedule for completion October 2000, 9 months later than reported last year due to sponsor delays.

1072

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

4a. Watershed/Ecosystem, Washington, Duwanish/Green River Basin (cont'd)

Fiscal Year 2001 funds will be used to initiate Preconstruction Engineering and Design (PED). PED will ultimately be cost shared at the rate for the project to be constructed but will be financed through the PED period at 25% non-Federal. Any adjustment that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated PED Cost	$ 1,100,000	Total Estimated PED Cost	$ 1,100,000
Initial Federal share	825,000	Ultimate Federal share	715,000
Initial non-Federal share	275,000	Ultimate non-Federal share	385,000

The PED phase completion schedule is being determined.

Stillaguamish River Basin (Fish and Wildlife Restoration) Seattle District	825,000	0	0	225,000	600,000

The Stillaguamish River basin is located primarily in northwestern Snohomish County with a portion of the basin in southwestern Skagit County. The Stillaguamish River flows into Puget Sound about 20 miles northeast of Everett. Approximately one-third of the upper basin lies in Skagit County and the remainder in Snohomish County. The Stillaguamish basin has a drainage area of 685 square miles. Historically, a significant amount of wetlands and fish and wildlife habitat in the Stillaguamish River basin and estuary have been degraded or destroyed through a number of actions, including impacts from a Federally constructed revetment and river straightening project that is located in the lower part of the basin. These projects eliminated habitats that are critical in providing for feeding and refuge areas for juvenile salmonids, as well as providing a needed water quality component for minimizing upstream impacts associated with forest practices. The loss of this habitat may be one of the primary causes of the significant reduction in the anadromous fishery resources in the Puget Sound area. This degradation has caused a significant reduction in the number of fish and wildlife being produced or residing in the basin. The current fish runs on the Stillaguamish River include several wild runs of coho, chinook, and pink salmon and winter and summer runs of steelhead. Several of these species have been proposed as threatened under the Endangered Species Act. In March 1999 Puget Sound stocks of Chinook salmon were listed as a threatened species under the Endangered Species Act (ESA). Bull Trout are currently proposed as an threatened species in Puget Sound and coastal Washington. The summer and fall chinook and the coho runs on the Stillaguamish are significantly depressed and fishing on these stocks has been eliminated because escapement goals have not been reached. The historic runs estimated to once number in the millions have now been closed to commercial fishing. The Stillaguamish River Estuary has been designated as a target area for the restoration of migratory bird habitat in this basin in the Strategic Plan of the Pacific Coast Venture, Washington Steering Committee of the North American Waterfowl Management Plan: Several parcels near the mouth of the river have been targeted for acquisition by the Pacific Coast Venture. Snohomish County is the sponsor of this study and signed the FCSA on 12 August 1998.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

4a. Watershed/Ecosystem, WASHINGTON, Stillaguamish River Basin (cont'd)

Fiscal Year 2000 funds are being used to complete the feasibility study. Fiscal Year 2001 funds will be used to initiate the Preconstruction Engineering and Design (PED) phase on approximately 13 separate sites throughout the basin. These projects range from landslide stabilization in the upper basin to establishing salt water habitat in Port Susan at the rivers mouth.

PED will ultimately be cost shared at the rate for the project to be constructed but will be financed through the PED period at 25% non-Federal. Any adjustment that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated PED Cost	$ 1,100,000	Total Estimated PED Cost	$ 1,100,000
Initial Federal share	825,000	Ultimate Federal share	715,000
Initial non-Federal share	275,000	Ultimate non-Federal share	385,000

The PED phase completion date is being determined.

WYOMING

Jackson Hole Restoration, WY Walla Walla District	525,000	0	0	100,000	425,000

The Upper Snake River drains through a series of steep river canyons into the Jackson Hole, Wyoming area, which is protected by a series of Federally constructed levees authorized in 1954. The Jackson Hole Federal flood protection system, completed in 1964, covers approximately 23 miles and begins about 4 miles below the Snake River Bridge near Moose, and extends downstream 4 miles below the Jackson-Wilson Bridge in Wyoming. Many non-Federal levees were also constructed in the Jackson Hole area in the 1960's as well. Since the 1960's several Corps of Engineer flood damage reduction studies have been conducted, but no additional Federal levee projects have been constructed for lack of economic justification. The Water Resources Development Act of 1986, Section 840, directed the Corps to assume responsibility for maintenance and operation of the levees in the Jackson Hole area, which was accomplished in 1990.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

4a. Watershed/Ecosystem, WYOMING, Jackson Hole Restoration (cont'd)

The Jackson Hole, Wyoming feasibility study responds to a June 1990 Congressional directive, which authorized the Corps to study fish and wildlife impacts resulting from the Jackson Hole project, as well as the need to complete earlier flood control investigations conducted under the Snake River in Wyoming Interim Study. In 1993, Teton County (local sponsor) and other local interests requested the Corps to combine all ongoing studies into a single, comprehensive study. This was accomplished and a reconnaissance report was completed in June 1993. Following subsequent extensive negotiations with the sponsor, a cost shared feasibility study was initiated in July 1996.

The feasibility study will determine the extent of impacts to fish and wildlife resources resulting from the Federal levee project and identify opportunities for habitat restoration, as well as the need for additional flood control improvements in the Jackson Hole area. The feasibility study is scheduled to be completed in May 2000.

Fiscal year 2001 funds will be used to initiate Preconstruction Engineering and Design studies of environmental and flood damage reduction restoration features identified in the feasibility report. Restoration features will include gravel removal to create additional pools and channels; pile and rock brush fences to restore riparian habitat; anchored woody debris to create fish and riparian habitat and rock spur dikes to protect levees and create instream fish habitat. Designs will provide significant restoration features while still providing for 100-year flood protection as identified by FEMA in 1973. The project sponsor, Teton County, has been working closely with the Corps to identify a preferred alternative which they are capable of cost sharing. PED will ultimately be cost shared at the rate for the project to be constructed but will initially be financed through the PED period at 25% non Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Cost During PED		Costs During Construction	
Total Estimated Pre-construction Engineering, and Design Costs	$ 700,000	Total Estimated Pre-construction, Engineering, and Design Costs	$ 700,000
Initial Federal Share	525,000	Ultimate Federal Share	455,000
Initial Non-Federal Share	175,000	Ultimate Non-Federal Share	245,000

PED completion date is being determined.

1075

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
4b. Navigation: The amount of $923,000 is requested to complete PED on one project.					
OREGON					
Columbia River Navigation Channel Deepening Study Portland District	1,800,000	12,000	865,000	923,000	0

Lower Columbia River ports have been the primary shipping point for West Coast grain and feed grain exports for many years. More than 38 million tons of commerce valued at more than $9 billion were shipped to or from Lower Columbia River ports in 1995. Increasing trade between the Pacific Northwest states and the Pacific Rim nations has accentuated the need for a deepened navigation channel in the Lower Columbia River, to accommodate larger, deeper-draft vessels. The existing authorized 40-foot channel depth restricts larger bulk carrier vessels to partial loading, or to delay sailing until the right combination of river flow and tides exist. For these reasons, a coalition of the Lower Columbia River Ports (the Ports of Portland, Astoria, and St. Helens in Oregon, and Vancouver, Kalama, Longview, and Woodland in Washington) requested a study to evaluate the potential for deepening the navigation channel. This would allow deeper draft vessels to sail safely with fewer delays thereby reducing commodity movement costs. In a letter dated 17 January 1990, representatives from the Lower Columbia Ports coalition supported the reconnaissance phase study and stated that they were willing to comply with the cost sharing requirements of the WaterResources Development Act of 1986. The Reconnaissance Report was approved on 14 August 1992, and released for public distribution on 19 October 1992. The Feasibility Cost Sharing Agreement (FCSA) was signed on 21 June 1994, and the feasibility study initiated in July 1994. The local sponsor for the feasibility study was the Port of Portland. The Port enacted third party agreements with the remaining six Lower Columbia Ports to establish their roles and financial support of the feasibility study. The feasibility study was completed and Chief's Report signed on 23 December 1999.

The project area begins at the mouth of the Columbia River and extends upstream to the vicinity of the Port of Vancouver, Washington (approximately river mile 105), and also includes the Lower Willamette River from its confluence with the Columbia River (river mile 101.5) upstream to the vicinity of downtown Portland (approximately river mile 11). The draft Feasibility Report includes a current working estimated benefit-to-cost ratio of 1.9 to 1 for a project that would deepen the channel by three feet to 43 feet. Project cost sharing will include requirements for non-Federal interests to pay 25 percent of the project cost during construction, and an additional 10 percent to be repaid over a period not exceeding 30-years.

1076

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

4b. Navigation, Oregon, Columbia River Navigation Channel Deepening Study (cont'd)

Fiscal Year 2000 funds are being utilized to continue preconstruction engineering and design (PED). Funds requested for Fiscal Year 2001 will be used to complete PED. PED will ultimately be cost shared at the rate for the project to be constructed but will be financed through the PED period at 25% non-Federal. Any adjustment that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$ 2,400,000	Total Estimated Preconstruction Engineering and Design Costs	$ 2,400,000
Initial Federal share	1,800,000	Ultimate Federal Share	1,560,000
Initial Non-Federal Share	600,000	Ultimate Non-Federal Share	840,000

PED is scheduled to be completed in September 2001.

The project has been authorized for construction in Section 101(b)(13) of the Water Resources Development Act of 1999, dated 17 August 1999, Public Law 106-53, 113 Stat.269, at a total cost of $183,623,000, with an estimated Federal cost of $106,132,000 and an estimated non-Federal cost of $77,491,000, if a favorable report of the Chief is completed not later than December 31, 1999. The authorized project cost as stated in the Chief's Report dated 23 December 1999 is $188,319,000.

4c. Flood Control: The amount of $1,868,000 is requested to complete PED on one project and continue PED on five others.

KANSAS					
Turkey Creek Basin, Kansas and Missouri Kansas City District	1,285,000	490,000	357,000	353,000	85,000

The Turkey Creek basin is a 23-square-mile area within Kansas City, Kansas and suburbs in Johnson and Wyandotte Counties. The basin is nearly 100 percent urbanized, and a significant amount of development exists in the flood plain. A dual flood threat exists in the study area which consists of Turkey Creek overbank flows and localized hillside runoff. Either flood source can cause considerable damage. Six damaging floods have occurred since 1977. The flood of record occurred in July 1993 causing one fatality and damages estimated at $20 million.

1077

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

4c. Flood Control, Kansas, Turkey Creek Basin (cont'd).

The recommended project is estimated to cost $42.9 million, with an estimated Federal cost of $25.6 million and an estimated non-Federal cost of $17.3 million, including construction of channel modification and tributary flood water diversion. The average annual benefits amount to $5.5 million, all for flood control. The benefit-cost ratio is 1.5 to 1 based upon the latest economic analysis completed in 1998. The cities of Kansas City, Missouri, and Kansas City, Kansas, will become joint sponsors. Latest evidence of sponsor support for design and construction is letters of support dated November 1998 from Kansas City, Missouri, and Kansas City, Kansas. The feasibility study was completed with publishing of the Division Engineer's Notice in December 1998. Preconstruction Engineering and Design will ultimately be cost shared at the rate for the project to be constructed but will be financed through the Preconstruction Engineering and Design period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$ 1,713,000	Total Estimated Preconstruction Engineering and Design Costs	$ 1,713,000
Initial Federal Share	1,285,000	Ultimate Federal Share	1,113,000
Initial Non-Federal Share	428,000	Ultimate Non-Federal Share	600,000

The cost sharing for the project will be 65 percent Federal and 35 percent non-Federal in accordance with the Water Resources Development Act of 1996.

Fiscal Year 2000 funds are being used to continue preparation of plans and specifications. The funds requested for FY 2001 will be used to complete plans and specifications and initiate preparation of the PCA. The PED completion date is being determined.

1078

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
4c. Flood Control (cont'd)					
MISSOURI					
Swope Park Industrial Area, Kansas City Kansas City District	750,000	0	0	170,000	580,000

The Blue River drains a 272 square-mile area, much of which is a highly urbanized part of the Kansas City Metropolitan Region. About 56 percent of the basin lies in Johnson County, Kansas, and the remainder is in Cass and Jackson Counties, Missouri. Flooding has been a major problem in the basin for many years. Several additional Corps of Engineers flood damage reduction projects are either constructed, under construction, or authorized for construction in the vicinity of the Swope Park Industrial Area. These include the Federal Complex floodwall/levee at Bannister Road (constructed) two miles upstream, the Dodson levee project (authorized) 1 mile upstream, and the channel modification on the lower 12-mile reach of the Blue River approaching the Missouri River (under construction).

The recommended project is estimated to cost $6 million, with an estimated Federal cost of $3.9 million and an estimated non-Federal cost of $2.1 million. The average annual benefits amount to $.81 million, all for flood control. The benefit-cost ratio is 1.4 based upon the latest economic analysis dated May 1999. The city of Kansas City, Missouri, will be the sponsor for the project. Latest evidence of sponsor support is execution of the Feasibility Cost Sharing Agreement which was signed in August 1997. Preconstruction Engineering and Design will ultimately be cost shared at the rate for the project to be constructed but will be financed through the Preconstruction Engineering and Design period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$1,000,000	Total Estimated Preconstruction Engineering and Design Costs	$1,000,000
Initial Federal Share	750,000	Ultimate Federal Share	650,000
Initial Non-Federal Share	250,000	Ultimate Non-Federal Chare	350,000

The cost sharing for the project will be 65 percent Federal and 35 percent non-Federal in accordance with the Water Resources Development Act of 1996.

Fiscal Year 2001 funds will be used to initiate work on preconstruction engineering and design. The PED completion date is being determined.

1079

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
4c. Flood Control (cont'd)					
NEBRASKA					
Antelope Creek, Lincoln Omaha District	375,000	0	100,000	275,000	0

Antelope Creek is a right bank tributary of Salt Creek in Lincoln, Nebraska. Antelope Creek causes flood problems because of reductions in the drainage way and rapid runoff resulting from urbanization of the area downstream of Holmes Park Dam. A feasibility study is currently in progress and is scheduled for completion in March 2000. The city of Lincoln, the Lower Platte South Natural Resources District, and the University of Nebraska are all sponsoring the project. The sponsors? support is clearly demonstrated by the progress of their Antelope Valley Major Investment Study which includes Antelope Creek flood control along with transportation and community redevelopment. They are working actively with local, state and Federal agencies and have integrated their study with the Antelope Creek Feasibility Study. PED will ultimately be cost shared at the rate for the project to be constructed but will be financed through the PED period
at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction		Total Estimated Preconstruction	
Engineering and Design Costs	$500,000	Engineering Design Costs	$500,000
Initial Federal Share	375,000	Ultimate Federal Share	325,000
Initial Non-Federal Share	125,000	Ultimate Non-Federal Share	175,000

Fiscal Year 2001 funds will be used for completion of PED in September 2001.

Sand Creek Watershed, Wahoo Omaha District	788,000	0	176,000	220,000	392,000

The Sand Creek Watershed Feasibility Study/Environmental Impact Study is a separate study derived from the Lower Platte River and Tributaries study. This study area is located in southeastern Nebraska in Saunders County and has a drainage area of approximately 87 square miles at the

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

4c. Flood Control, NEBRASKA, Sand Creek Watershed, Wahoo (cont'd)

proposed location of the Highway 77 bypass north of Wahoo. This location is on Wahoo Creek, downstream of the confluence of Sand Creek and Duck Creek. This integrated Feasibility Study/Environmental Impact Study will assess the environmental and flood control benefits of Lake Wanahoo with the proposed Highway 77 bypass as the embankment for Lake Wanahoo. The interim feasibility study will also address several other possible measures and/or structures to provide watershed restoration in the form of sediment control and wetland development, as well as flood control for the affected downstream areas. This separate feasibility study is scheduled for completion in March 2000. This project will be constructed in conjunction with a state Department of Roads highway bypass circumventing the City of Wahoo. The plan will substitute a highway bridge structure with a reservoir embankment with highway constructed on top. The Lower Platte North Natural Resources District is the cost sharing partner for the PED effort.

PED will ultimately be cost shared at the rate for the project to be constructed but will be financed through the PED period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction		Total Estimated Preconstruction	
Engineering and Design Costs	$ 1,050,000	Engineering and Design Costs	$ 1,050,000
Initial Federal Share	788,000	Ultimate Federal Share	683,000
Initial Non-Federal Share	262,000	Ultimate Non-Federal Share	367,000

Fiscal Year 2001 funds will be used to continue the Sand Creek Watershed PED activities. The completion date for the PED is being determined.

WASHINGTON

Chehalis River at Centralia, WA	11,000,000	2,190,000	1,250,000	250,000	7,310,000

The Chehalis River basin drains a total area of 2,114 square miles (sq.mi.) in southwest Washington state and empties into Grays Harbor on the Pacific Coast. The Centralia-Chehalis urban area of Lewis County forms the major flood damage center in the upper Chehalis River basin, where the Skookumchuck and Newaukum Rivers join with the Chehalis River (828 sq.mi. drainage area). During major flood events, about 9,200 acres are flooded with about a quarter of those supporting urban development. The maximum Chehalis River flood of record that occurred in February 1996 carried about 57,200 cubic feet per second (cfs.) flow at Centralia and is now considered to be a 100-year event.

1081

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

4c. Flood Control, WASHINGTON, Chehalis River at Centralia (con't)

Total flood damages resulting from flooding since 1990 are estimated by Lewis County officials to exceed $60 million, even neglecting impacts (estimated at more than $30 million/day) caused by the closures lasting almost a week in both 1990 and 1996 of Interstate Highway 5, the main north-south railroads in Washington, and numerous county roads and city streets, blocking north-south travel in western Washington.

The project's Feasibility Report was completed in FY 1983 and the project authorized by WRDA 1986 to modify an existing private dam on the Skookumchuck River to provide a maximum of 28,500 acre-feet of flood storage, reducing flood damages in the Skookumchuck valley, the town of Bucoda, and the city of Centralia. The recommended project, estimated to cost $20.5 million (1986 price level), with the estimated Federal cost being $15.4 million and the non-Federal cost $5.1 million, would have reduced the Skookumchuck River then 200-year flood flow from 13,300 cfs. to 6,700 cfs. (a reduction in depth of 2-5 feet in Centralia). Average annual benefits were estimated at $2.9 million and the project had a benefit-to-cost ratio of 1.4 to 1.0. Preconstruction Engineering and Design (PED) was started in FY 1988 with the city of Centralia as local sponsor. PED was stopped at the end of FY 1990 because studies indicated that the recommended plan probably lacked economic justification.

Following disastrous 1990 and 1996 flood events, Lewis County, using local and state funding, conducted review studies that identified modifications to the authorized project that could result in a potentially economically justified project. In May 1998, Lewis County completed a "Pre-Feasibility Analysis of Alternatives" report (similar in scope to a reconnaissance study) that identified a plan that appeared to be economically justified and warranted further consideration. On 7 July 1998, Lewis County requested that the Corps resume PED work with a view to combining additional measures with the authorized dam modification element to form a complete flood damage reduction plan for the Centralia-Chehalis urban area. They agreed to serve as local sponsor and provide the appropriate cost sharing. Lewis County's current plan combines the authorized dam modification with overbank excavation and a flood bypass in a $66 million (1998 price level) project that appears to have a benefit-to-cost ratio of 1.3 to 1.0. Using available funds, PED work was resumed in July 1998.

The current PED cost estimate is $16,000,000, of which $11,000,000 is Federally funded. Since PED was initiated prior to the change requiring pay-as-you-go cost sharing, the $11,000,000 Federal PED cost is considered "grandfathered," with no cost sharing of PED cost required until payment of local share in the first year of construction. The other $5,000,000 is for concurrent design effort being funded and conducted by local interests. Although no formal cost sharing agreement exists for this local effort, local interests are expected to pursue including the $5,000,000 as part of the total authorized project cost so they can receive credit for it.

1082

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

4c. Flood Control, WASHINGTON, Chehalis River at Centralia (con't)

Total Estimated PED Costs	$16,000,000	Total Estimated PED Costs	$ 16,000,000
Initial Federal share	11,000,000	Ultimate Federal share	12,000,000
Initial non-Federal share	5,000,000	Ultimate non-Federal share	4,000,000

The project is authorized for construction by Section 401 of WRDA 1986 with the following cost sharing requirements: local interests are required to provide lands, easements, rights-of-way, modify or relocate buildings, utilities, roads, and other facilities, except railroad bridges, where necessary in the construction of the project, and pay costs allocated to flood control, so that the total contribution of the local interests is equal to 25% of the cost allocated to flood control, and bear all costs of operation, maintenance, and replacement of flood control facilities. The enlarged project will exceed the Corps' authority for post authorization changes and would require additional Congressional action prior to construction.

Fiscal Year 2000 funds were used to complete a Project Study Plan for the preparation of a General Reevaluation Report (GRR) that will probably recommend expansion of the 1986 construction authority to include the additional measures currently under consideration and any other appropriate measures that may be developed focusing on the Centralia-Chehalis area. Fiscal Year 2000 funds are also being used to accomplish detailed design and planning studies and environmental coordination. Fiscal Year 2001 funds will be used to continue the preparation of the GRR, including an Environmental Impact Statement Supplement.

PED completion date is being determined.

Howard Hanson Dam, Additional Water Storage *Seattle District*	6,300,000	934,000	1,845,000	600,000	2,921,000

Howard A. Hanson Dam is located on the Green River about 35 miles southeast of Seattle and about 35 miles due east of Tacoma in King County, Washington. The dam is an existing Federal earth- and rock-fill dam which provides winter flood control and summer low-flow enhancement. The project was completed by the Corps of Engineers in 1962 and earlier studies have indicated that there is an opportunity to significantly increase summer water storage at the reservoir to provide needed municipal and industrial water supply; restore degraded Green River system functions and structures; and incidentally improve downstream recreation. A severe 1987 drought and a recent 1992 drought in the Pacific Northwest, intensified the need for additional sources of water supply in the rapidly growing Seattle-Tacoma urban area, and Howard Hanson Dam and Reservoir could provide a least-cost source of water to satisfy this demand.

1083

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

4c. Flood Control, WASHINGTON, Howard Hanson Dam Additional Water Storage (cont'd)

Changes to the dam and reservoir include water supply storage, low-flow augmentation storage, fish passage, and fish and wildlife habitat improvements. The US Fish and Wildlife Service, National Marine Fisheries Service, and Washington State Department of Fish and Wildlife have formally supported this project in
letters issued in March and April 1996. The sponsor, City of Tacoma, is cost sharing the PED phase of this project.

Fiscal Year 2000 and Fiscal Year 2001 funds will be used to continue the Preconstruction Engineering and Design (PED) activities. PED will ultimately be cost shared at the rate for the project to be constructed but will be financed through the PED period at 25% non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated PED Costs	$ 8,400,000	Total Estimated PED Costs	$ 8,400,000
Initial Federal share	6,300,000	Ultimate Federal share	4,049,000
Initial non-Federal share	2,100,000	Ultimate non-Federal share	4,351,000

PED completion schedule is being determined.

1084

APPROPRIATION TITLE: Construction, General - Local Protection Projects (Flood Control)

PROJECT: Missouri River Levee System, Iowa, Nebraska, Kansas, and Missouri (Active Units) (Continuing)

LOCATION: Along both sides of the Missouri River, Sioux City, Iowa, to the Mouth.

DESCRIPTION: A series of levee units and appurtenant works along both sides of the Missouri River from Sioux City, Iowa, to the Mouth, for protection of agricultural lands and small communities against floods.

AUTHORIZATION: 1941 and 1944 Flood Control Acts

REMAINING BENEFIT - REMAINING COST RATIO: 3.9 to 1 at 2 1/2 percent (Unit L385 only)

TOTAL BENEFIT-COST RATIO: Information is not available due to completion of individual units at various times since 1948.

INITIAL BENEFIT-COST RATIO: 1.5 to 1 at 2 1/2 percent (FY 1948)

BASIS OF BENEFIT-COST RATIO: Remaining benefit - remaining cost ratio is for Unit L385 only. Unit L385 benefit and cost data is at 1 October 1996 values and is based on a Limited Reevaluation Report dated 31 January 1997 and approved 24 April 1997. Economic data for Units L142 and L15 are not available pending completion of their General Reevaluation Reports (decision document).

SUMMARIZED FINANCIAL DATA			PHYSICAL DATA	
Estimated Federal Cost		$140,518,000 1/	LEVEES	
Estimated Non-Federal Cost		41,758,000 1/ 2/	Average Height 14 feet	
Cash Contributions	$22,163,000		Length	468 miles
Required $10,293,000			Area Protected 367,500 acres	
Voluntary 11,870,000				
Other Costs	19,595,000			
Total Estimated Project Cost		$182,276,000 1/		

1/ Entire Project (Completed and Active Units)
2/ In addition, numerous flood control works have been constructed over many years by individuals and groups as land along the Missouri River has developed for agricultural use. The total cost of these improvements is unknown.

		ACCUM PCT OF EST FED COST
Allocations to 30 September 1999	$98,561,000	
Conference Allowance for FY 2000	3,000,000	
Allocation for FY 2000	1,395,000 3/	
Allocations thru FY 2000	99,956,000	71

Division: Northwestern

District: Kansas City

Missouri River Levee System, Iowa, Nebraska, Kansas, and Missouri

SUMMARIZED FINANCIAL DATA (Continued)

		ACCUM PCT OF EST
Allocation Requested for FY 2001	4,400,000	74
Programmed Balance to Complete after FY 2001	18,716,000	
Unprogrammed Balance to Complete after FY 2001	17,446,000	

3/ Reflects $427,000 reduction assigned as savings and slippage and $-1,178,000 reprogrammed from the project.

STATUS (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Completed Units:		
L624-627, R616, L611-614, R613, L601, L594, R580, L575, R573, R562, L550-561, R548, L536, R520, R512-513, R500, Kimsey-Holly Creek, L497, L488, R482, L476, R460-471, L455, L443-448, R440, L408, L400, R351, & L246	100	Complete
Active Units:		
Riverside-Quindaro Bend Levee District (L385)	27	Being Determined
Jefferson City (L142)	11	Unscheduled
Consolidated North County Levee District (L15)	40	Unscheduled
Entire Project (Completed and Active Units)	70	Unscheduled

JUSTIFICATION: During FY 1998, Federal reservoirs and levees within Missouri River Division boundaries prevented an estimated $32.6 million in damages. Since completion, these projects have prevented damages estimated to total $37.3 billion through FY 1998. Annual benefits are all flood control.

FISCAL YEAR 2001: The requested amount of $4,400,000 will be applied as follows:

Item	Amount
Initiate Construction for Unit L385	$3,900,000
Continue Planning, Engineering and Design for Unit L142	273,000
Complete Planning, Engineering and Design for Unit L15	227,000
Total	$4,400,000

1086

Division: Northwestern

District: Kansas City

Missouri River Levee System,
Iowa, Nebraska, Kansas, and Missouri

NON-FEDERAL COSTS: Total non-Federal cost is $41,758,000. Under cost sharing principles in effect at the time earlier units were under construction, non-Federal sponsors provided lands, easements, rights-of-way and relocations valued at $8,324,000, and contributed $400,000 for interior drainage work. The sponsors are also providing operation, maintenance, and replacements at a current annual cost of $792,000 (1 October 1999).

Remaining Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Unit L385 - In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986 and in accordance with the Project Cooperation Agreement signed 25 September 1997, the non-Federal sponsor must comply with the requirements listed below:		
Provide lands, easements and rights-of-way	$3,313,000	
Modify or relocate buildings, utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project	1,188,000	
Contingencies	769,000	
Pay 16 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent of Unit L385, and bear all costs of operation maintenance, and replacement of flood control facilities	8,880,000	$40,000 (1 October 1999)
Total Non-Federal Required Costs	14,150,000	
In addition voluntary special cost sharing will be provided by the non-Federal interests to pay 100 percent of costs allocated to land development	11,870,000	
Total Non-Federal Costs During Construction (L385)	26,020,000	

The non-Federal sponsor understands that payments are required during project construction.

Division: Northwestern District: Kansas City Missouri River Levee System, Iowa, Nebraska, Kansas, and Missouri

62-630 00 – 35

1087

NON-FEDERAL COSTS: (Continued)

Remaining Requirements of Local Cooperation (Continued)	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Unit L142 - In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:		
Provide lands, easements and rights-of-way	$1,897,000	
Modify or relocate buildings, utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project	1,854,000	
Contingencies	639,000	
Pay 5 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent of Unit L142, and bear all costs of operation, maintenance, and replacement of flood control facilities	1,110,000	$41,000 (1 October 1999)
Total Non-Federal Costs During Construction (L142)	5,500,000	
The non-Federal sponsor understands that payments are required during project construction.		

1088

NON-FEDERAL COST: (Continued)

Remaining Requirements of Local Cooperation (Continued)	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Unit L15 - In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:		
Provide lands, easements and rights-of-way	$848,000	
Modify or relocate buildings, utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project	34,000	
Contingencies	344,000	
Pay 5 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent of Unit L15, and bear all costs of operation, maintenance, and replacement of flood control facilities	288,000	$17,000 (1 October 1999)
Total Non-Federal Costs During Construction (L15)	1,514,000	
The non-Federal sponsor understands that payments are required during project construction.		

1089

STATUS OF LOCAL COOPERATION:

Unit L385 - Sponsor of Unit L385 is the Riverside-Quindaro Bend Levee District. The sponsor agreed to assume additional voluntary cost sharing for costs associated with land development in the Quindaro Bend portion of the project to obtain Washington-level project support. Unit L385 was approved for a new construction start in FY 1994. The Limited Reevaluation Report was approved 24 April 1997. The Project Cooperation Agreement was executed 23 September 1997.

Unit L142 – By letter dated 11 January 1999 from the Mayor of Jefferson City, Missouri, and a City Council Resolution dated 2 November 1998, the City has expressed a commitment to sponsor the project and indicated that it has reviewed the draft General Reevaluation Report and understands the requirements herein. Scheduled Project Cooperation Agreement execution date is first quarter of Fiscal Year 2003.

Unit L15 - Consolidated North County Levee District officials provided a letter dated 24 June 1996 which expressed an intent and interest in working with the Corps of Engineers on this project.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $140,518,000 for the entire Project (Completed and Active Units) is an increase of $1,325,000 from the latest estimate ($139,193,000) presented to Congress (FY 2000). This change includes the following:

Item	Amount
Price Escalation on Construction Features and Changes in Projected Inflation Rates	$ +1,253,000
Post Contract Award and Other Estimating Adjustments	+72,000
Total	$ +1,325,000

1090

STATUS OF ENVIRONMENTAL IMPACT STATEMENTS: The final Environmental Impact Statement for Unit L385 was filed with the Environmental Protection Agency on 18 November 1983.

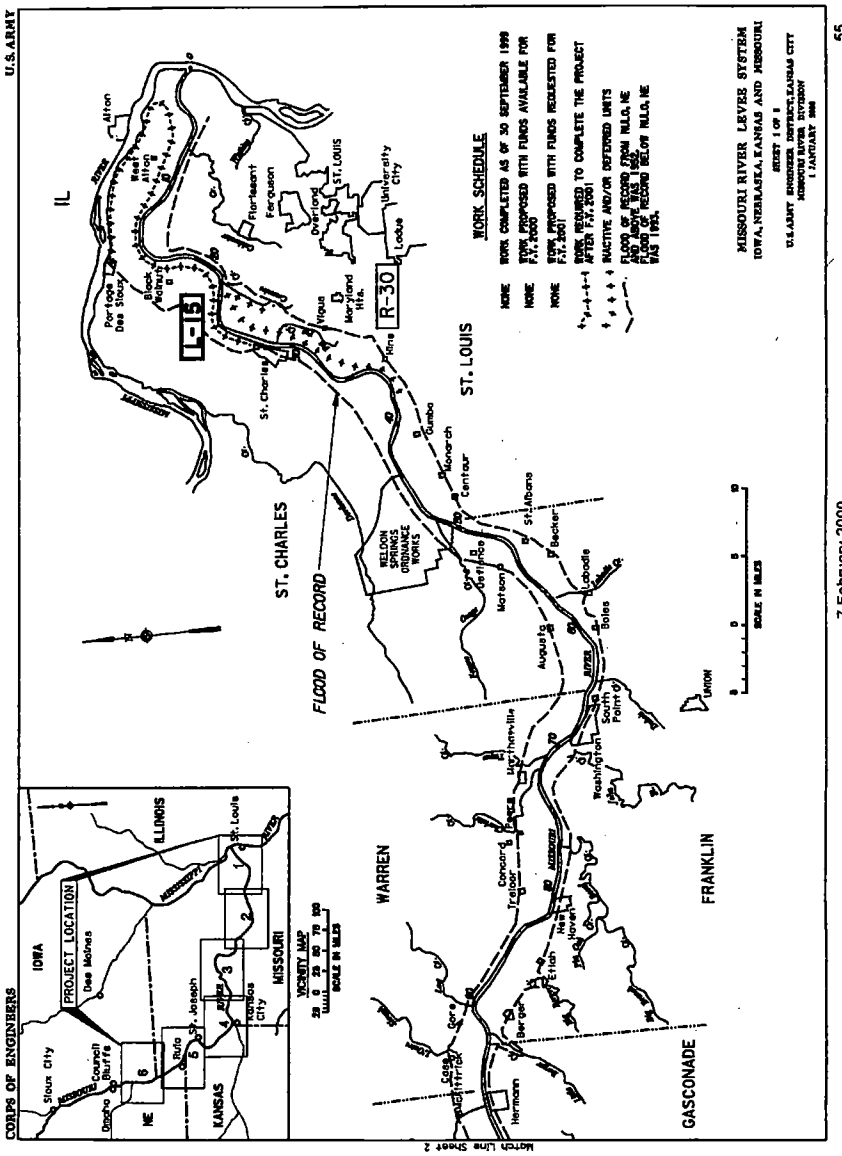
OTHER INFORMATION: Funds to initiate preconstruction planning were appropriated in FY 1946 and to initiate construction in FY 1948.

Unit L385: Construction is scheduled to start in FY 2001 for this unit.

Unit L142: This unit was reclassified to the active category in May 1991 based on the preliminary results of an Initial Appraisal Report prepared in response to a request from the City of Jefferson City, Missouri. The Initial Appraisal Report, approved in August 1991, concluded that a flood control project could be feasible based on preliminary benefit and cost data and recommended proceeding with detailed planning, engineering and design. Funds to initiate preparation of a General Reevaluation Report were appropriated in FY 1993. The July 1993 flood event devastated the entire area being evaluated. A new economic survey, study of alternate levee alignments, and new cost estimates were required as a result of the flood damages. After the flood of 1993, several properties were bought out under the Federal Emergency Management Hazard Mitigation Grant Program. Cooperating Federal and State agencies have worked extensively on this challenging issue. The completion schedule for the GRR has been modified accordingly. The GRR is scheduled for completion in September 2000. Draft analysis and documentation indicates that a project is feasible and can be economically justified. The preparation of plans and specifications is scheduled to be initiated in early Fiscal Year 2001. Construction is not yet scheduled.

Unit L15: This unit was reclassified to the active category in October 1996 based upon the preliminary results of an Initial Appraisal Report (IAR) dated April 1996. This report was prepared in response to a request from the Consolidated North County Levee District (CNCLD). The CNCLD request was due largely to the consequences of the Floods of 1993 and 1995 which severely impacted the people and property within the L15 area. The principal conclusion contained within the IAR is that a flood control project appears to be feasible. The IAR also included the recommendation that additional studies be conducted to further assess project feasibility. The General Reevaluation Report (GRR) has been approved by the Mississippi Valley Division, contingent upon a revised cost estimate, schedule, and Levee Damage Minimization Plan. It contains an update on project costs, benefits, and the likely environmental effects of pursuing the authorized project. An informational public workshop is scheduled for 13 January 2000. Final approval is expected in the second quarter of FY 2000. FY 2000 funds will be used to initiate plans and specifications for the first item of construction. FY 2001 funds will be used to complete plans and specifications for the first item of construction. Construction is not yet scheduled.

1091


U.S. ARMY
CORPS OF ENGINEERS
IOWA
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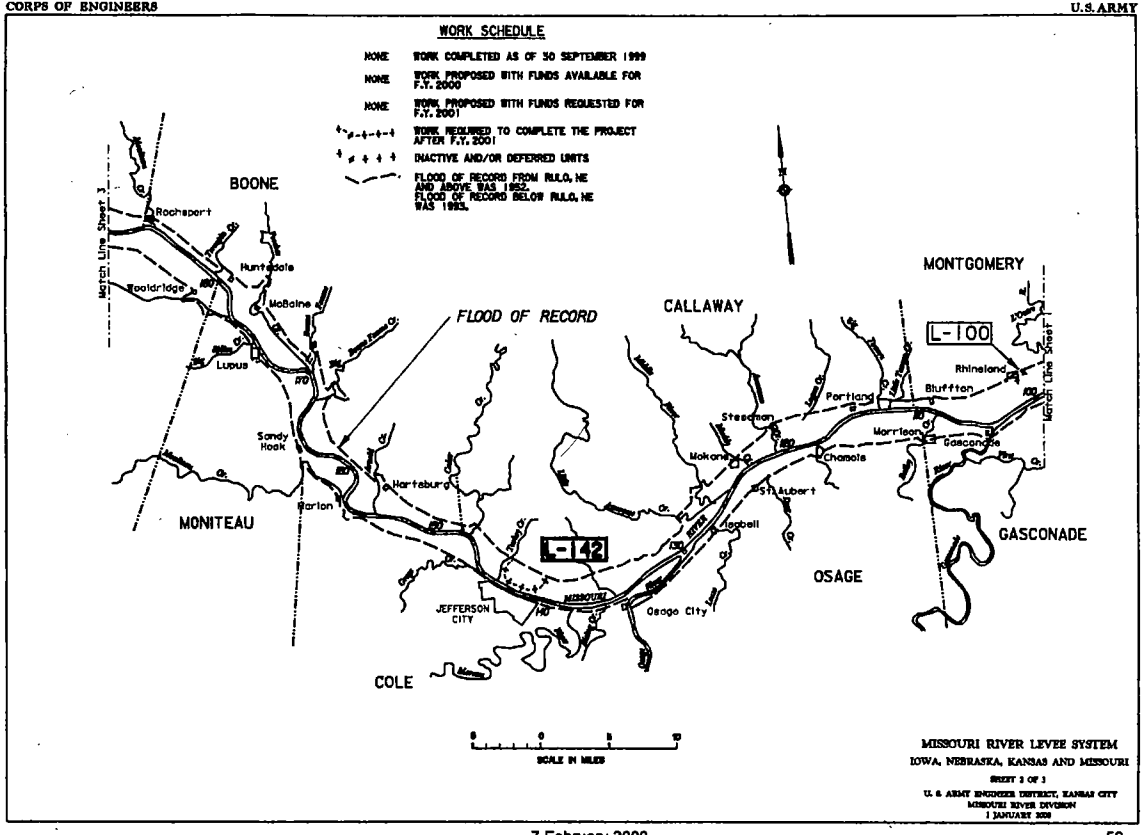
MISSOURI
PROJECT LOCATION
Sioux City
Council Bluffs
Omaha
Des Moines
Rulo
St. Joseph
Kansas City
St. Louis
VICINITY MAP
SCALE IN MILES
IL
L-15
R-30
ST. CHARLES
ST. LOUIS
FLOOD OF RECORD
WARREN
FRANKLIN
GASCONADE
WORK SCHEDULE
NONE WORK COMPLETED AS OF 30 SEPTEMBER 1999
NONE WORK PROPOSED WITH FUNDS AVAILABLE FOR F.Y. 2000
NONE WORK PROPOSED WITH FUNDS REQUESTED FOR F.Y. 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER F.Y. 2001
INACTIVE AND/OR DEFERRED UNITS
FLOOD OF RECORD FROM RULO, NE AND MOUTH OF MISSOURI RIVER FLOOD OF RECORD BELOW RULO, NE WAS 1993.
MISSOURI RIVER LEVEE SYSTEM
IOWA, NEBRASKA, KANSAS AND MISSOURI
SHEET 1 OF 1
U.S. ARMY ENGINEER DISTRICT, KANSAS CITY
MISSOURI RIVER DIVISION
1 JANUARY 1988
SCALE IN MILES
7 February 2000
55


WORK SCHEDULE
NONE WORK COMPLETED AS OF 30 SEPTEMBER 1999
NONE WORK PROPOSED WITH FUNDS AVAILABLE FOR F.Y. 2000
NONE WORK PROPOSED WITH FUNDS REQUESTED FOR F.Y. 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER F.Y. 2001
INACTIVE AND/OR DEFERRED UNITS
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MONTGOMERY
CALLAWAY
MONITEAU
OSAGE
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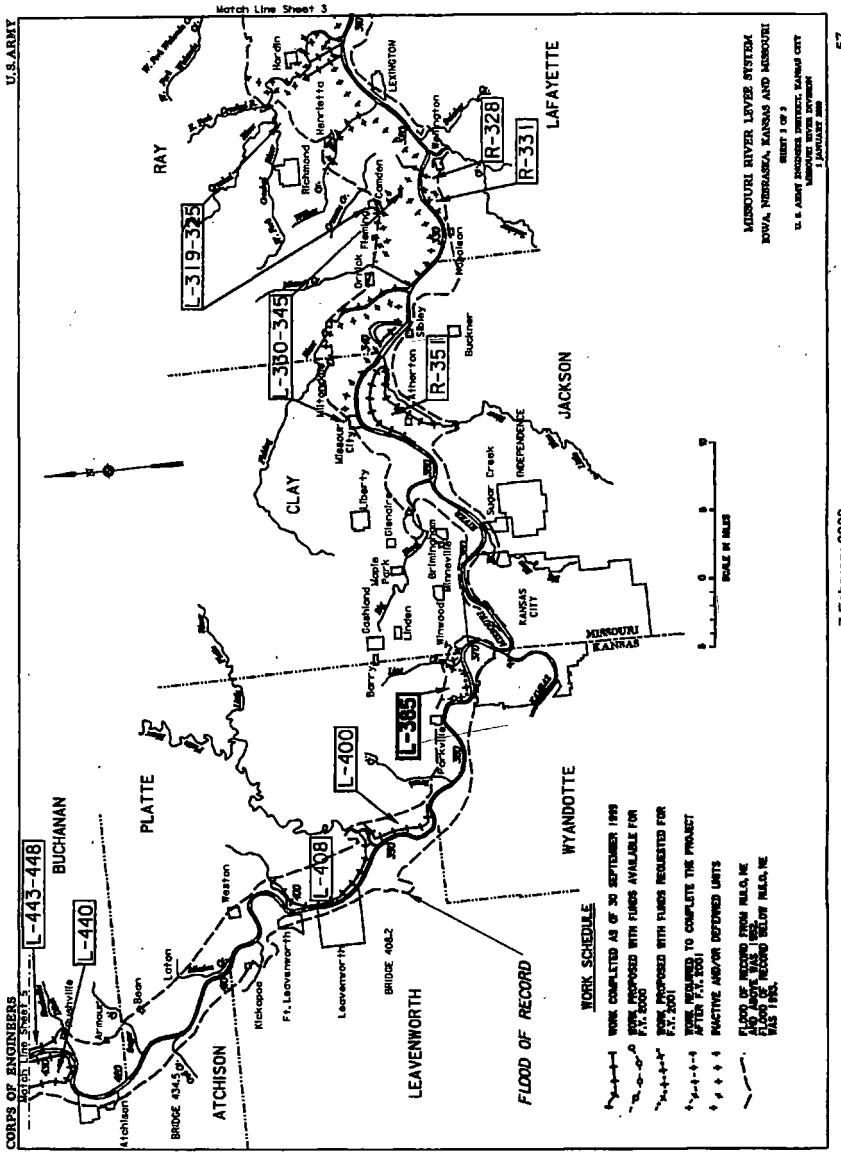
FLOOD OF RECORD
L-100
L-42
Rochepert
Huntsdale
Readridge
McBaine
Lupus
Sandy Hook
Marion
Hartsburg
JEFFERSON CITY
Osage City
Isabell
St Aubert
Chamois
Morrison
Gasconade
Portland
Bluffton
Rhineland
Stoechan
Mokane
MISSOURI
SCALE IN MILES
MISSOURI RIVER LEVEE SYSTEM
IOWA, NEBRASKA, KANSAS AND MISSOURI
SHEET 3 OF 3
U. S. ARMY ENGINEER DISTRICT, KANSAS CITY
MISSOURI RIVER DIVISION
1 JANUARY 2000


CORPS OF ENGINEERS
U.S.ARMY
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L-440
L-408
L-400
L-385
L-380-345
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R-328
R-331
R-351
BUCHANAN
PLATTE
ATCHISON
LEAVENWORTH
WYANDOTTE
CLAY
RAY
JACKSON
LAFAYETTE
FLOOD OF RECORD
WORK SCHEDULE
MISSOURI RIVER LEVEE SYSTEM
IOWA, NEBRASKA, KANSAS AND MISSOURI
7 February 2000
57

APPROPRIATION TITLE: Construction, General - Flood Control, Local Protection

PROJECT: Perry Creek, Iowa (Continuing)

LOCATION: The Perry Creek basin is located in Woodbury and Plymouth Counties in northwestern Iowa. The downstream 5 miles of the basin lies within the corporate limits of Sioux City, Iowa, and drain the central portion of the city.

DESCRIPTION: The project consists of 14,800 linear feet of grass and rock lined channel, 1,500 linear feet of new conduit, modification of 710 linear feet of existing conduit, a concrete stilling basin and a basin-wide flood warning system.

AUTHORIZATION: Water Resources Development Act of 1986, Section 401a.

REMAINING BENEFIT-REMAINING COST RATIO: 1.99 to 1 at 8 1/4 percent

TOTAL BENEFIT-COST RATIO: 1.11 to 1 at 8 1/4 percent

INITIAL BENEFIT-COST RATIO: 1.09 to 1 at 8 1/4 percent (FY 1994)

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluation approved in July 1992 at October 1990 price levels and were reevaluated in FY 1996.

SUMMARIZED FINANCIAL DATA:		ACCUM. PCT. OF EST. FED COST	STATUS (1 JAN 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost	$ 45,400,000				
Estimated Non-Federal Cost	24,600,000		Entire Project	53	Being Determined
Cash Contribution $ 162,000					
Other Costs 24,438,000					
Total Estimated Project Cost	$ 70,000,000				
Allocations to 30 September 1999	$ 23,917,000				
Conference Allowance for FY 2000	9,500,000				
Allocation for FY 2000	8,147,000 1/				
Allocations through FY 2000	32,064,000	71			

1/ Reflects $1,353,000 reduction assigned as savings and slippage.

SUMMARIZED FINANCIAL DATA (continued):		ACCUM PCT OF EST FED COST
Allocation Requested for FY 2001	$ 7,178,000	86
Programmed Balance to Complete After FY 2001	6,158,000	
Unprogrammed Balance to Complete After FY 2001	0	

PHYSICAL DATA

Relocations:	Channel:
Roads, Utilities	2.8 miles
Structures and Bridges	Conduit:
	2,210 linear feet
Demolitions:	Stilling Basin:
13 roadways	132 linear feet, concrete
1 railroad	Recreation Trail:
Replacements:	22,500 linear feet, asphalt
7 roadways	Improvements:
1 railroad	135 Residences
New:	51 Commercial properties
2 roadways	
Not replaced:	
4 roadways	

JUSTIFICATION: The project will provide urgently needed 100-year flood protection to the metropolitan and downtown areas of Sioux City, Iowa. The flood problem is severe under the present stage of urban development. Between 1892 and 1997, 26 floods have occurred on Perry Creek, with very little warning time. Ten of these floods were considered to be major. The floods of 18-19 May, 1990 and 22-23 May, 1990 produced damages estimated between $9,000,000 to $11,000,000. Average annual flood damages are estimated at $5,851,000, and the project will reduce the flood damage potential by approximately 90 percent. The estimated average annual benefits are as follows:

Annual Benefits	Amount
Flood Control	$ 5,747,000
Recreation	162,000
Conduit Cost Savings	560,000
Advance Replacement of Bridges	84,000
Total	$ 6,553,000

1096

FISCAL YEAR 2001: The requested amount of $7,178,000 will be applied as follows:

Item	Amount
Complete Phase II Conduit and Channel Construction	$ 4,014,000
Initiate Phase IV Conduit and Channel Construction	2,909,000
Planning, Engineering and Design	55,000
Construction Management	200,000
Total	$ 7,178,000

NON-FEDERAL COST: In accordance with the project authorization and the cost sharing policies contained in Section 103(a), (b), (c), (h) and (m) of the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirement of Local Cooperation	Payment during Construction	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide all lands, easements, right-of-ways, and dredged material disposal areas.	$12,116,000	
Relocate utilities, buildings, roads, bridges (except railroad bridges), and other facilities, where necessary for construction of the project.	12,322,000	
Bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities	$ 29,800	
Pay one-half of the separable cost allocated to recreation, and bear all costs of operation, maintenance, repair, rehabilitation, and replacement.	133,000	1,600
Pay 25 percent of the costs allocated to non-structural flood control and bear all costs of operation, maintenance, repair, rehabilitation, and replacement.	29,000	2,600
Total Non-Federal Costs	$24,600,000	$ 34,000

1097

STATUS OF LOCAL COOPERATION: The Project Cooperation Agreement (PCA) the city of Sioux City, Iowa to sponsor the Perry Creek flood control project was executed on 12 March 1995.

The current non-Federal cost estimate of $24,600,000, which includes a cash contribution of $162,000, is a decrease of $341,000 from the non-Federal cost estimate of $24,941,000 noted in the PCA, which included a cash contribution of $161,000.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $45,400,000 is an increase of $2,820,000 from the latest estimate ($42,580,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features and Changes in Projected Inflation Rates	$ 89,000
Other Estimating Adjustments	2,731,000
Total	$ 2,820,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: All comments on the draft EIS have been received and reviewed. All issues have been addressed in the final Supplemental 1 to the Final EIS filed with EPA on 17 July 1992.

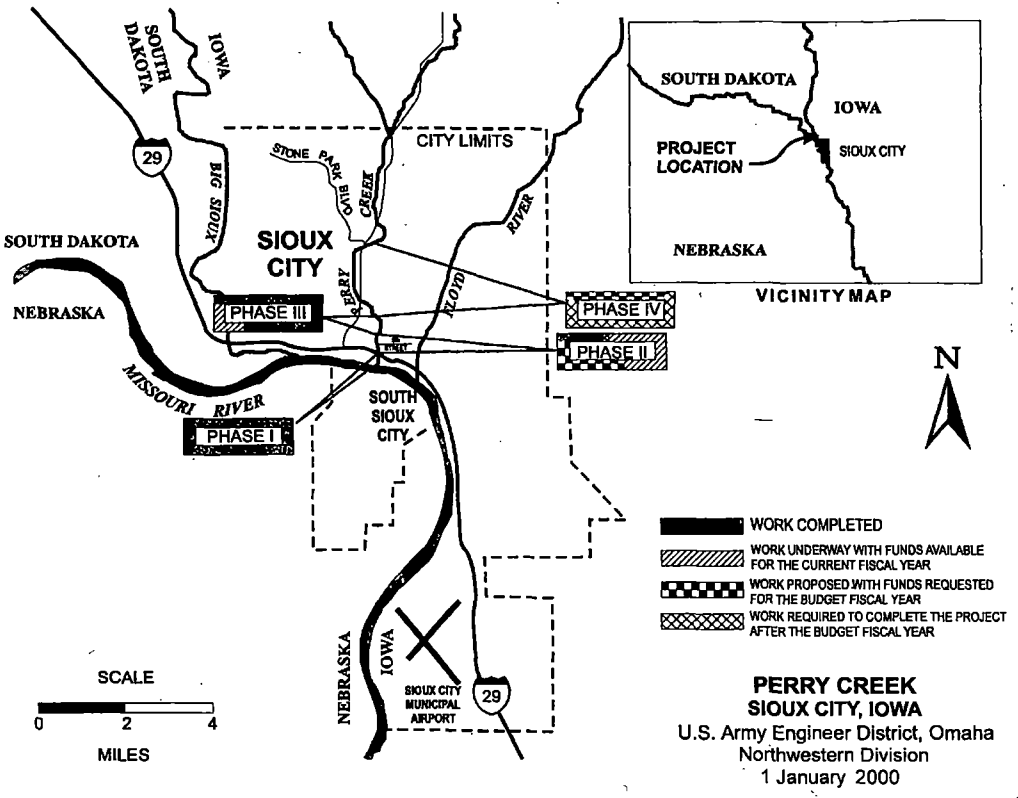
OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1984 and funds to initiate construction were appropriated in FY 1995.

The ability to pay provisions of WRDA of 1986 have been modified by rule changes published in the Federal Register on January 26, 1995. The new provisions allow elimination of the 5 percent cash contribution if both of the following are met 1) LERRD comprise 35 percent or more of the total project cost and 2) the per capita cost exceeds $300 per person. The city of Sioux City, Iowa meets both of the requirements to waive the 5 percent cash contribution.

The mitigation portion of the project is estimated to cost $25,000.

Funds to initiate construction were appropriated in Fiscal Year 1995.

1098



7 February 2000

1099

APPROPRIATION TITLE: Construction, General - Local Protection Projects (Flood Control)

PROJECT: Blue River Channel, Kansas City, Missouri (Continuing)

LOCATION: The project is located along the Blue River and tributaries in Kansas City, Jackson County, Missouri, and extends from near its mouth (located at Missouri river mile 358.0) to 63rd Street, channel mile 12.5.

DESCRIPTION: The project plan consists of a channel modification along 12.5 miles of the Blue River channel providing flood protection for a once in 30-year flood and reducing flooding for less frequent events.

AUTHORIZATION: 1970 Flood Control Act

REMAINING BENEFIT - REMAINING COST RATIO: 9.0 to 1 at 6 5/8 percent.

TOTAL BENEFIT-COST RATIO: 3.1 to 1 at 6 5/8 percent.

INITIAL BENEFIT-COST RATIO: 1.6 to 1 at 6 5/8 percent (FY 1979).

BASIS OF BENEFIT-COST RATIO: Benefits are from the Supplemental Report dated 24 October 1990 to the General Design Memorandum and approved on 14 December 1990 at October 1990 price levels.

SUMMARIZED FINANCIAL DATA		ACCUM PCT OF EST FED COST	STATUS: (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost	$216,000,000		Entire Project	74	Being Determined
Estimated Non-Federal Other Costs	32,500,000				
Cash Contribution $ 0					
Other Costs 32,500,000					
Total Estimated Project Cost	$248,500,000		PHYSICAL DATA		
			Bridge Alterations at Federal Cost:		
			Railroad Bridges - Modify - 15	$23,868,000	
Allocations to 30 September 1999	$153,343,000		Bridge Alterations at Non-Federal Cost:		
Conference Allowance for FY 2000	13,700,000		Highway Bridges - Modify - 4	$7,502,000	
Allocation for FY 2000	16,749,000 1/				
Allocations through FY 2000	170,092,000		Channel Improvement: Length		
Allocation Requested for FY 2001	10,500,000	79	Main Stem, Blue River Channel	12.5 miles	

Division: Northwestern District: Kansas City Blue River Channel, Kansas City, Missouri

1100

SUMMARIZED FINANCIAL DATA (continued)

		ACCUM PCT OF EST FED COST
Programmed Balance to Complete after FY 2001	35,408,000	84
Unprogrammed Balance to Complete after FY 2001	0	

1/ Reflects $1,951,00 reduction assigned as savings and slippage, $1,923,000 reprogrammed to the project, and an additional $3,077,000 to be reprogrammed.

JUSTIFICATION: The Blue River basin lies completely in the Kansas City Metropolitan Region, with a 1990 population of 1,566,000 persons. The basin drains an area of 272 square miles and is subject to cloudbursts, prolonged rainstorms, floods, and extended drought periods. The maximum flood of record in the basin occurred in September 1961 and caused an estimated $8 million in damages. An August 1982 flood caused an estimated $3.3 million in damages, and an October 1986 flood along the Brush Creek tributary of the river caused an estimated $209,000 in damages in the lower flood plain. A major flood occurred on the lower portion of the river in May 1990 and caused damages estimated at $100.8 million. The July 1993 flood was not severe in this basin, causing damages estimated at $60,000. The authorized project would have prevented all but minor damages caused by the 1961 event, and all damages caused by the later events. The channel project provides for about a 30-year level of protection to 3,400 acres in the lower basin, including the Blue River Valley Industrial District. Estimated annual average benefits, all flood control, based on 1 October 1990 prices, are $43.6 million, of which $41.2 million are existing benefits and $2.4 million are future benefits.

FISCAL YEAR 2001: The requested amount of $10,500,000 will be applied as follows:

Item	Amount
Continue relocation of railroads	$ 3,489,000
Continue construction of channel	6,073,000
Engineering and Design	538,000
Construction Management	400,000
Total	$10,500,000

NON-FEDERAL COSTS: Local interests are required to furnish without cost to the United States all lands, easements, and rights-of-way required for construction and subsequent maintenance of the project; hold and save the United States free from damages due to construction; perform without cost to the United States necessary highway, highway bridge, and utility alterations required in connection with this project; maintain and operate the project after completion in accordance with regulations prescribed by the Secretary of the Army; and adequately inform all affected persons, at least annually, that the project will not provide complete flood protection. The investment is broken down as follows:

Item	Amount
Lands and Damages	$18,286,000
Relocations	12,314,000
Contingencies	1,900,000
Total	$32,500,000

It is estimated that the average annual expenditure for operation, maintenance and replacements will total $82,000 (1 October 1998).

STATUS OF LOCAL COOPERATION: The Section 221 Agreement was signed by the Kansas City District Engineer on 8 September 1983. The City of Kansas City, Missouri, has provided all of the rights-of-way for Stages 1 and 2. Stage 3 right-of-way requirements have been provided to the city and acquisition is essentially complete. The current non-Federal cost estimate of $32,500,000 is the same as the latest estimate ($32,500,000) presented to Congress (FY 2000).

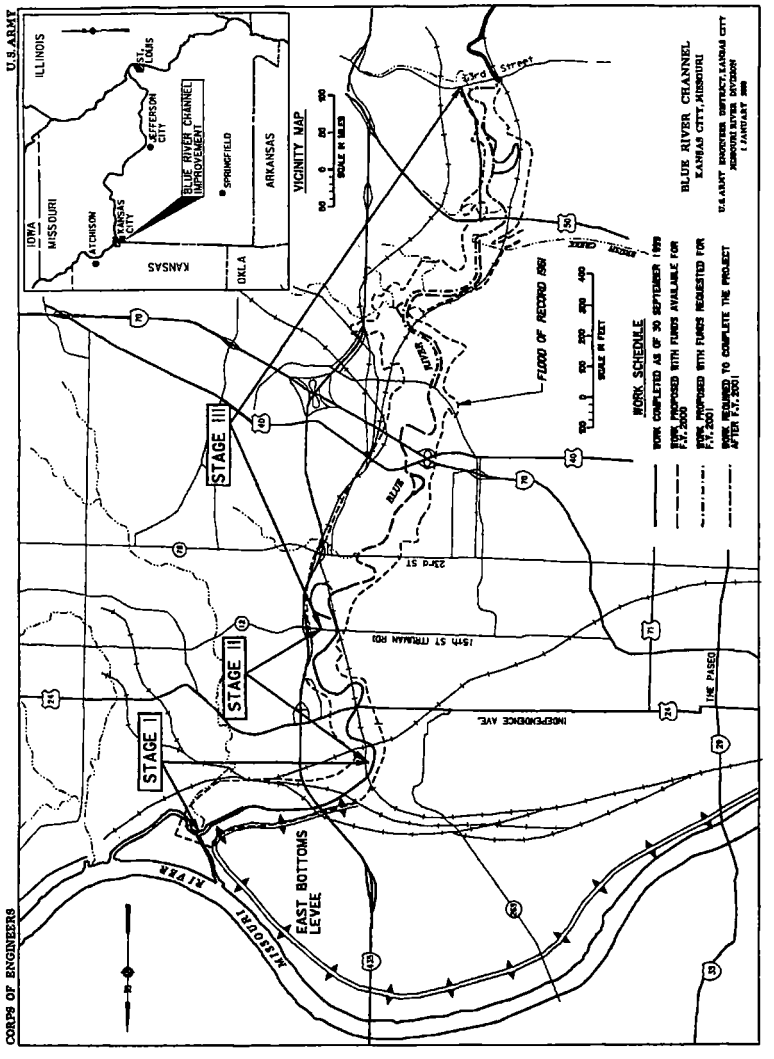
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $216,000,000 is an increase of $5,000,000 from the latest estimate ($211,000,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features And Changes in Projected Inflation Rates	$ 0
Other Estimating Adjustments	5,000,000
Total	$5,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: Final statement on Blue River Basin plan made in connection with preauthorization studies was filed with the Council on Environmental Quality (CEQ) on 13 November 1970. A more complete draft statement on the Blue River Basin plan, including specific information on the impacts of the Blue River Channel, was filed with the CEQ on 11 April 1974. The final statement was forwarded to HQUSACE on 24 October 1974, and was filed with the CEQ on 8 September 1975.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1973, and funds to initiate construction were appropriated in FY 1979.

1102


U.S.ARMY
CORPS OF ENGINEERS
VICINITY MAP
IOWA
ILLINOIS
MISSOURI
KANSAS
OKLA
ARKANSAS
ATCHISON
KANSAS CITY
JEFFERSON CITY
ST. LOUIS
SPRINGFIELD
BLUE RIVER CHANNEL IMPROVEMENT
STAGE I
STAGE II
STAGE III
EAST BOTTOMS LEVEE
MISSOURI RIVER
BLUE RIVER
23rd ST
15th ST TRUMAN RD
INDEPENDENCE AVE.
THE PASEO
FLOOD OF RECORD 1951
WORK SCHEDULE
WORK COMPLETED AS OF 30 SEPTEMBER 1999
WORK PROPOSED WITH FUNDS AVAILABLE FOR F.Y. 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR F.Y. 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER F.Y. 2001
BLUE RIVER CHANNEL
KANSAS CITY, MISSOURI

tAPPROPRIATION TITLE: Construction, General (Flood Control)

PROJECT: Missouri National Recreational River, Nebraska and South Dakota (Continuing)

LOCATION: The Missouri River between Gavins Point Dam and Ponca State Park, Nebraska. This includes Cedar and Dixon Counties in Nebraska, and Yankton, Clay, and Union Counties in South Dakota.

DESCRIPTION: Development of the river to protect and enhance the existing qualities which resulted in its classification as a National Recreational River under the Wild and Scenic Rivers System. The qualities include scenic, recreational, fish and wildlife, and cultural values of the river reach. Development includes recreation facilities, river access sites, threatened and endangered species habitat, erosion protection, and acquisition of scenic easements.

AUTHORIZATION: Section 707 of the National Parks and Recreation Act of 1978.

REMAINING BENEFIT-REMAINING COST RATIO: Not available because monetary benefits have not been quantified.

TOTAL BENEFIT-COST RATIO: N/A

INITIAL BENEFIT-COST RATIO: N/A

BASIS OF BENEFIT-COST RATIO: N/A

SUMMARIZED FINANCIAL DATA:

Estimated Federal Cost		$21,000,000
Programmed Construction	$21,000,000	
Unprogrammed Construction	0	
Estimated Non-Federal Cost		640,000
Programmed Construction		
Cash Contribution	0	
Other Costs	640,000	
Estimated Non-Federal Cost	0	
Unprogrammed Construction		
Cash Contributions	0	
Other Costs	0	

	STATUS (1 JAN 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Myron Grove River Access		100	
Habitat for Threatened and Endangered Species (Phase I & II)		100	
Yankton-Riverside Park Access Recreation Site		100	
Ponca Erosion Protection		20	
Entire Project		16	Being Determined

Division: Northwestern

District: Omaha

Missouri National Recreational River, Nebraska and South Dakota

1104

SUMMARIZED FINANCIAL DATA (continued):			PHYSICAL DATA	
Total Estimated Programmed Construction Costs	21,640,000		Length:	59 miles of uncontrolled river.
Total Estimated Unprogrammed Construction Costs	0		Area:	Approximately 19,600 acres within the designated corridor.
Total Estimated Project Cost	$21,640,000			
Allocations to 30 September 1999	2,665,000	Pct. of Est.		
Conference Allowance for FY 2000	1,000,000	Fed. Cost		
Allocation For FY 2000	858,000 1/			
Allocations through FY 2000	3,523,000	16		
Allocation Requested for FY 2001	300,000	18		
Programmed Balance to Complete after FY 2001	17,177,000			
Unprogrammed Balance to Complete after FY 2001	0			

1/ Reflects $142,000 reduction assigned as savings and slippage.

JUSTIFICATION: Designation as a Recreational River will preserve outstanding and important values of the area. Presently, several federally listed (endangered or threatened) species regularly utilize the area, such as the least tern, pallid sturgeon, bald eagle, and the piping plover. The Ponca Restoration Study and other environmental studies will identify habitat restoration opportunities beneficial to these and other species.

The Recreational River designation has the potential to provide additional opportunities for recreation and river access. Opportunities such as the Ponca Resource and Education Center's design and construction will further contribute to the recreational and interpretative opportunities within the reach. The finalization of the General Management Plan (GMP) in FY 99, has increased the potential for additional partnering opportunities for recreational development and river access.

Continuation of erosion control in the Recreational River reach is provided for by the designation, to the extent it is supported by local interests, and is compatible with recreational river values. Planning and design of erosion control structures as needed to protect the values for which the river was designated will continue to be pursued.

FISCAL YEAR 2001: The requested amount of $300,000 will be applied as follows:

Item	Amount
Coordinate and Assist with Resource Management Plans	$ 15,000
Planning, Engineering and Design (Restoration Erosion Protection)	65,000
Construction Activities, Ponca Resource and Education Center	175,000
Project Management	45,000
Total	$ 300,000

1105

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation:	Payments During Construction and Reimbursement	Annual Operation, Maintenance, and Replacement Costs
Myron Grove River Access		
Pay one-half of the separable costs of recreation facilities and bear all costs of operation, maintenance, and replacement of recreation facilities.	$ 33,000	$ 13,000
Total Non-Federal Costs	$ 33,000	$ 13,000
Yankton Riverside Park		
Pay one-half of the separable costs of recreation facilities and bear all costs of operation, maintenance, and replacement of recreation facilities.	$ 607,000	$ 77,000
Total Non-Federal Costs	$ 607,000	$ 77,000
General Work		
Pay 25 percent of the first costs of appropriate fish and wildlife work and all of the costs of operation, maintenance, and replacement of fish and wildlife items.	2/	2/
Pay 100 percent of the costs allocated to prevention of erosion to private roads.	2/	2/
Pay the appropriate percent of the cost for prevention of erosion based on purpose for the acquisition of interest in the lands.	2/	2/
Total Non-Federal Costs	2/	2/

2/ Costs to be developed as planning on project proceeds.

1106

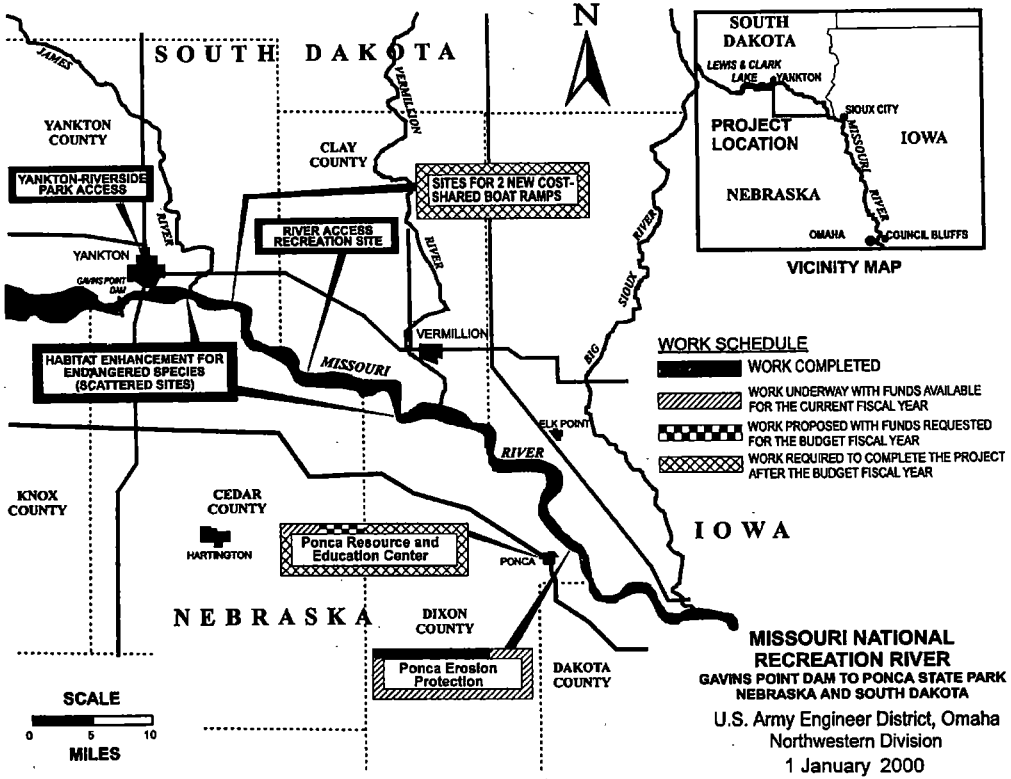
STATUS OF LOCAL COOPERATION: In general, all agencies and local citizens and groups are in favor of the project. Local interests will be contacted as specific requirements are developed. Potential sponsors are the South Dakota Game, Fish and Parks Department; Union, Clay, and Yankton Counties in South Dakota; the Lewis and Clark Natural Resources District; Nebraska Game and Parks Commission and Cedar and Dixon Counties in Nebraska. An agreement pursuant to Section 215 of the Flood Control Act of 1968 was signed with the city of Yankton in 1989 for the construction of Riverside Park in Yankton. Construction was completed 1 June 1991. A cost sharing contract with the State of South Dakota for the Myron Grove access site was signed on 26 June 1986, and construction was completed in June 1987.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $21,000,000 is unchanged from the latest estimate presented to Congress (Fiscal Year 2000) and is limited to that amount by the project authorization.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement (EIS) was filed with the Environmental Protection Agency on 12 August 1980. A second EIS has been prepared by the National Park Service and the Corps in conjunction with the Park Service General Management Plan (GMP). A joint Record of Decision (ROD) implementing the second EIS was signed on December 17, 1999.

OTHER INFORMATION: Funds to initiate preconstruction planning were appropriated in Fiscal Year 1980. A cooperative agreement between the U.S. Department of the Interior and the U.S. Department of the Army for implementation of this project was signed on 1 February 1980. Funds to initiate construction were appropriated in Fiscal Year 1986 with Federal cost limited to $21,000,000 by law.

The final GMP/EIS provides opportunities for potential sponsors to participate in cost shared recreational development activities for the upcoming Lewis and Clark bicentennial in the year 2004.


SOUTH DAKOTA
N
JAMES
VERMILLION
YANKTON COUNTY
CLAY COUNTY
YANKTON-RIVERSIDE PARK ACCESS
SITES FOR 2 NEW COST-SHARED BOAT RAMPS
RIVER ACCESS RECREATION SITE
YANKTON
GAVINS POINT DAM
VERMILLION
MISSOURI
SIOUX
BIG
ELK POINT
HABITAT ENHANCEMENT FOR ENDANGERED SPECIES (SCATTERED SITES)
KNOX COUNTY
CEDAR COUNTY
HARTINGTON
Ponca Resource and Education Center
PONCA
IOWA
NEBRASKA
DIXON COUNTY
Ponca Erosion Protection
DAKOTA COUNTY
SCALE
0 5 10
MILES
SOUTH DAKOTA
LEWIS & CLARK LAKE
YANKTON
SIOUX CITY
PROJECT LOCATION
IOWA
NEBRASKA
OMAHA
COUNCIL BLUFFS
VICINITY MAP
WORK SCHEDULE
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR
MISSOURI NATIONAL RECREATION RIVER
GAVINS POINT DAM TO PONCA STATE PARK
NEBRASKA AND SOUTH DAKOTA
U.S. Army Engineer District, Omaha
Northwestern Division
1 January 2000

1108

APPROPRIATION TITLE: Construction, General - Local Protection, Flood Control

PROJECT: Wood River, Grand Island, NE (Continuing)

LOCATION: This project is located in Hall County Nebraska, approximately midway between the city of Grand Island and Interstate 80.

DESCRIPTION: The proposed project consists of a five mile long diversion channel with levees on both sides. The channel will divert Wood River flood flows to the Platte River. The diversion structure will be located downstream from the Highway 281 bridge that crosses the Wood River. The diversion channel will begin at that point and run eastward to the Platte River. The current county and city bridges that cross the channels will be designed and constructed by the sponsor. One bridge for the Union Pacific Railroad (UPRR) will be constructed. In addition, a two mile long tie-off levee and small diversion channel will be built west of Highway 281 to prevent Wood River flood flows from spilling into the Warm Slough basin nearby and outflanking the diversion channel.

AUTHORIZATION: Water Resources Development Act (WRDA) of 1996, Section 101K modified by WRDA of 1999, Section 335.

REMAINING BENEFIT-REMAINING COST RATIO: 1.6 to 1 at 7 3/8 percent

TOTAL BENEFIT-COST RATIO: 1.6 to 1 at 7 3/8 percent

INITIAL BENEFIT-COST RATIO: 2.3 to 1 at 7 3/4 percent (FY 1997)

BASIS OF BENEFIT-COST RATIO: Benefits are taken from the Post Authorization Change Report dated March 1998, at October 1997 price levels.

SUMMARIZED FINANCIAL DATA:		ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	COMPLETION SCHEDULE
Estimated Federal Cost	$10,536,000				
Estimated Non-Federal Cost	4,126,000				
Cash Contributions $ 733,000			Entire Project	15	Being Determined
Other Costs 3,393,000					
Total Estimated Project Cost	$14,662,000				
Allocations to 30 September 1999	$ 1,850,000				
Conference Allowance for FY 2000	100,000				
Allocation for FY 2000	86,000 1/				
Allocations through FY 2000	1,936,000	18			
Allocation Requested for FY 2001	1,600,000	34			
Programed Balance to Complete after FY 2001	7,000,000				
Unprogrammed Balance to Complete after FY 2001	0				

1/ Reflects $14,000 reduction assigned as savings and slippage.

PHYSICAL DATA:

Real Estate: 1250 acres
Channels:
Length- 7 miles
Warm Slough diversion- 420 cfs
Wood River diversion- 7,000 cfs
Excavation- 743,000 cy
Rip Rap- 1,700 tons
Levees:
Length- 12 miles
Embankment- 465,000 cy
Average height- 4 ft

Relocations:
Bridges -
1 Railroad
Utilities -
Water lines - 800 lf
Sewer lines - 300 lf
Gas lines - 1,900 lf
Comm Cables - 7,000 lf
Elect Power - 5,500 lf
Fencing - 600 lf

JUSTIFICATION: The Wood River basin originates about 80 miles west of Grand Island, Nebraska, and drains approximately 770 square miles above Grand Island. Flooding and erosion in the project area are widespread and long in duration. Since 1899, 41 flood events have been recorded. This is an average flood occurrence of about once every 2 years. The most recent flood was in the summer of 1993. The proposed project will provide 100-year flood protection. As of Oct 1993, $187.7 million of residential and $31.2 million of commercial property is subject to flood damage. The average annual damages without the project are $2.5 million. The average annual damages with the project are $0.6 million. The flood of record occurred in 1967 and caused an estimated $13.4 million in damages. Petitions containing 1,034 signatures sent to congressional representatives in 1995 indicate strong local support for this project. Average annual benefits are as follows:

Annual Benefits	Amount
Flood Damage Reduction:	
Urban Flood	$1,790,000
Agricultural Administration	135,000
Flood Insurance Cost Savings	184,000
Flood Proofing Cost Savings	68,000
Total Benefits	$ 2,177,000

FISCAL YEAR 2001: The requested amount of $1,600,000 will be applied as follows:

Item	Amount
Complete Railroad Bridge Relocation	$ 701,000
Initiate Construction of Diversion Channel	722,000
Planning, Engineering and Design	131,000
Construction Management	46,000
Total	$ 1,600,000

1110

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsors must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction	Annual Operation, Maintenance, Repair, Rehabilitation and Replacement Costs
Provide all lands, easements, right-of-ways, and dredged material disposal areas.	$ 2,084,000	
Modify or relocate of utilities, buildings, roads, bridges (except railroad bridges), and other facilities, required for construction of the project.	1,309,000	
Pay 5 percent of the costs allocated to flood control and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of flood control facilities.	733,000	$ 30,000
Total Non-Federal Costs	$ 4,126,000	$ 30,000

The non-Federal sponsors must also agree to make all required payments concurrently with project construction.

Communities must agree to adopt additional flood plain management activities beyond the requirement to participate in the National Flood Insurance Program to qualify for Federal participation in a structural flood damage reduction project. These activities, which are being discussed between the Administration and Congress, may include public information and education on flood hazards within the community, flood plain regulation to promote sound use and reduce future flood damages, control of storm water runoff, and preservation of open space.

1111

STATUS OF LOCAL COOPERATION: The draft Project Cooperation Agreement (PCA) was reviewed by the Central Platte Natural Resources District (the sponsor). The sponsor has found the draft PCA to be acceptable without any changes to the model PCA. The execution of the PCA is scheduled for the end of January 2000.

The potential sources of non-Federal funding and their approximate share of project funds are shown below: Central Platte Natural Resources District (NRD), $3,286,000; City of Grand Island, Nebraska, $504,000; Hall County, $168,000; Merrick County, $168,000. The largest share of the non-Federal funding will come from the State of Nebraska through the NRD. The Central Platte NRD has already requested funding from the Nebraska Resources Development Fund. The project meets the eligibility requirements for this program and will be reviewed upon completion of the necessary design and engineering reports. Since the project meets current Federal water resources guidance, it is anticipated that the Development Fund will provide substantial funding for the project.

The Central Platte NRD has already obtained over 75 percent of its share. With its large tax base and revenue-generating capability, the NRD is very capable of meeting its remaining funding requirements.

Hall County also has a large tax base and revenue-generating capability. As indicated in its 18 January 1994 letter, Hall County can meet its share from its General Budget without requiring additional taxes.

STATUS OF LOCAL COOPERATION: (continued)

Merrick County has not provided much information regarding its tax base or revenue. However, in their 2 February 1994 letter, they indicated that they could provide their share from property tax revenues. In light of the relatively small amount of funds to be provided by Merrick County, it is anticipated that they will meet their share with little difficulty.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $10,536,000 is an increase of $536,000 from the latest estimate ($10,000,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features and Changes in Project Inflation Rates	$ 391,000
Other Estimating Adjustments	145,000
Total	$ 536,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Feasibility Report/Environmental Assessment was completed in March 1994. The "Findings of No Significant Impact" was signed by the District Commander in April 1993.

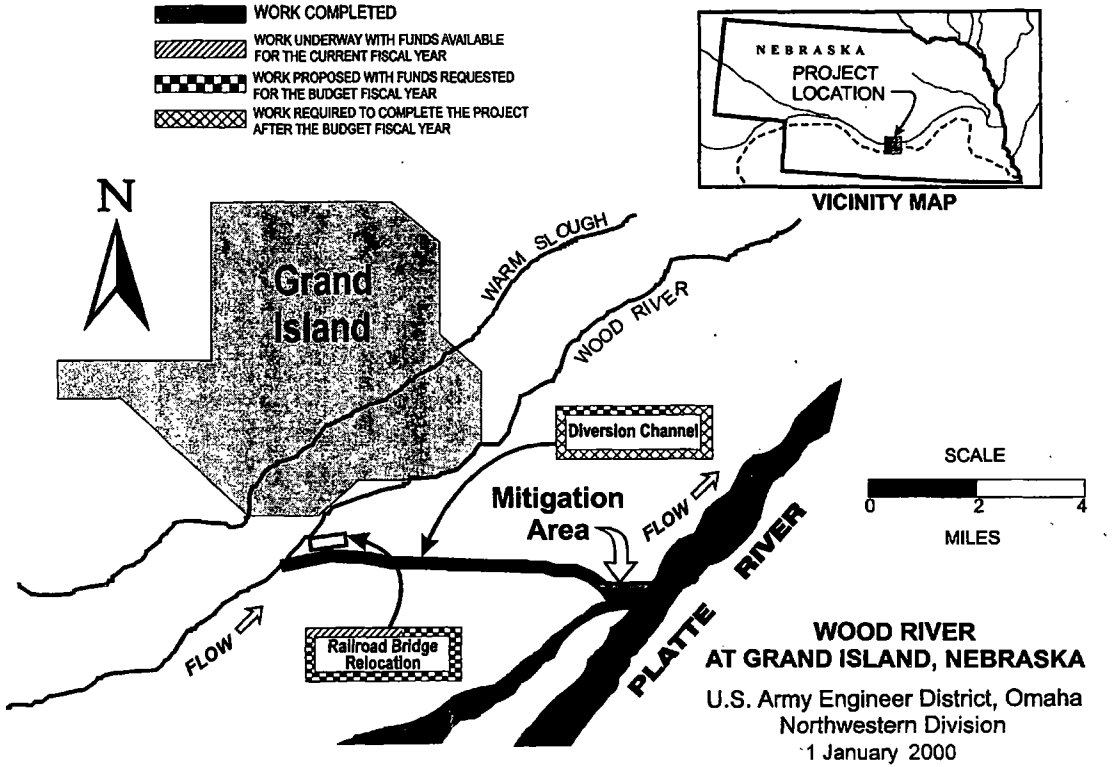
OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1993.
The mitigation portion of the project will consist of creating 9.2 acres of wetlands to replace the wetlands lost during construction of the diversion channel and the acquisition of approximately 30 acres of wet meadow for protection as a natural heritage and educational area.

Funds to initiate construction were appropriated in Fiscal Year 1997.

During the final design of the project in July 1997 it was found that the total project cost would exceed the Section 902 limit. A Post Authorization Change report was completed in June 1998 and reauthorization was requested in the proposed WRDA 1998. In March 1999 the Nebraska Congressional delegation requested that the Corps immediately proceed with the processing and signing of the PCA for the project before the major non-federal funding source reallocates its
funds to other projects. In April 1999 a meeting was held between the Corps, the local sponsors, and the Nebraska Natural Resources Commission to discuss the status of the project and the commitment by the sponsors and the federal government to proceed with the project. The conclusion of the meeting was that the Nebraska Natural Resources Commission would continue to provide funding for the project if the sponsor and the Corps could show that the project was proceeding. In a Sponsor's letter dated May 4, 1999, the sponsor indicated that they intend to proceed with the construction of bridges at the discretion of the local government and that the bridges be removed from the project and treated as part of the without project condition. This was agreed to by the Corps 9 June 1999.

The city of Grand Island has a very large tax base. As stated in its 31 January 1994 letter, the city will provide its share from sales tax revenue and will not require an increase in taxes. The Grand Island share represents about one percent of its annual budget.

1112


WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR
NEBRASKA
PROJECT LOCATION
VICINITY MAP
N
Grand Island
WARM SLOUGH
WOOD RIVER
Diversion Channel
Mitigation Area
FLOW
FLOW
Railroad Bridge Relocation
PLATTE RIVER
SCALE
0
2
4
MILES
WOOD RIVER
AT GRAND ISLAND, NEBRASKA
U.S. Army Engineer District, Omaha
Northwestern Division
1 January 2000

APPROPRIATION TITLE: Construction, General - Local Protection Projects (Flood Control)

PROJECT: Lower Columbia River Basin Bank Protection, Oregon and Washington (Continuing)

LOCATION: Ninety six locations along the Columbia River and its major tributaries in the reach from river mile 125 to the sea, in Oregon and Washington

DESCRIPTION: Entire project consists of approximately 224,000 linear feet of bank protection and stabilization using dumped stone, drift barriers and channel improvements.

AUTHORIZATION: 1950 Flood Control Act

REMAINING BENEFIT - REMAINING COST RATIO: The remaining benefit-remaining cost ratio is 1.8 at 2-1/2 percent.

TOTAL BENEFIT-COST RATIO: The total benefit-cost ratio is 1.8 to 1 at 2-1/2 percent

INITIAL BENEFIT-COST RATIO: The benefit-cost ratio for the fiscal year for which Congress appropriated initial construction funds was 1.4 to 1 at 2-1/2 percent (FY 1961)

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluation approved June 1990 at 1990 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM. PCT. OF EST. FED COST	STATUS (1 Jan 00)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$28,000,000				
Programmed Construction	$24,353,000			Prior Work:		
Unprogrammed Construction	3,647,000			84 Locations	100%	
				Entire Project:		
Estimated Non-Federal Cost		2,000,000		96 Locations	85%	Unscheduled
Programmed Construction	834,000					
Cash Contribution	$567,000					
Other Costs	267,000					
Unprogrammed Construction	1,166,000					
Cash Contribution	914,000					
Other Costs	252,000					

PHYSICAL DATA
Entire Project

Bank stabilization - dumped stone; total length approximately 224,000 linear feet

Division: Northwestern

District: Portland

Lower Columbia River Basin Bank Protection, OR & WA

1114

SUMMARIZED FINANCIAL DATA (CONTINUED)

Total Estimated Programmed Construction Cost	$25,187,000	
Total Estimated Unprogrammed Construction Cost	$4,813,000	
Total Estimated Project Cost	$30,000,000	
Allocations to 30 September 1999	$21,202,000	
Conference Allowance for FY 2000	352,000	
Allocation for FY 2000	302,000	1/
Allocations through FY 2000	21,415,000	
Allocation Requested for FY 2001	200,000	
Programmed Balance to Complete after FY 2001	2,238,000	
Unprogrammed Balance to Complete after FY 2001	3,563,000	

1/ Reflects $50,000 reduction assigned as savings and slippage.

JUSTIFICATION: Bank protection improvements are necessary to prevent further erosion of existing flood control levees at critical locations along the Lower Columbia River and tributaries. The flood plain downstream from mile 125 includes much high-value agricultural and industrial property. Bank protection is needed to eliminate the threat to many levees protecting much of this area and for stabilization in other areas where bank erosion is critical. River current and wave wash have caused severe erosion which can be stopped only by construction of protective works. Annual flood control benefits are estimated to be $2,445,000 based on 1 October 1990 prices.

FISCAL YEAR 2001: The requested amount of $200,000 will be used for Planning, Engineering, and Design for Woodland location and the Parent Project.

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with requirements listed below.

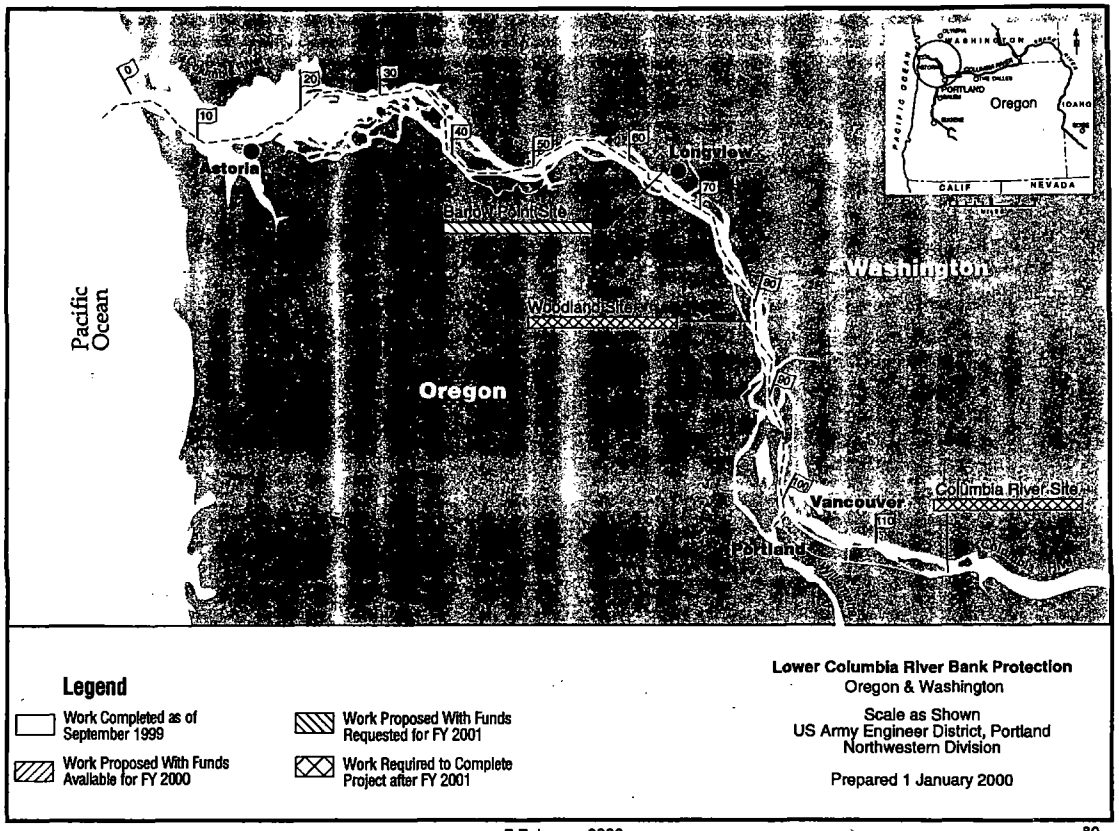
STATUS OF LOCAL COOPERATION: The estimated date for Project Cooperation Agreement(PCA) approval is August 1998. Multnomah County Drainage District Number 1 has agreed to sponsor the Columbia River sites. The estimated PCA approval is March 2001. Consolidated Diking Improvement District Number 2 of Cowlitz County Washington has agreed to be the sponsor of the Woodland site.

COMPARISON OF FEDERAL COST ESTIMATE: The current Federal (Corps of Engineers) estimate of $28,300,000 is the same as the latest estimate submitted to Congress (FY 1999).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: A FONSI is scheduled to be signed on Columbia River by August 2000. A FONSI is scheduled to be completed on Woodland, Washington by August 2000.

OTHER INFORMATION: Funds to initiate preconstruction planning were appropriated in FY 1958 and for construction in FY 1961.

1116


Pacific Ocean
Oregon
Washington
Astoria
Longview
Sandy Island Site
Woodland Site
Columbia River Site
Vancouver
Portland
Oregon
Legend
Work Completed as of September 1999
Work Proposed With Funds Available for FY 2000
Work Proposed With Funds Requested for FY 2001
Work Required to Complete Project after FY 2001
Lower Columbia River Bank Protection
Oregon & Washington
Scale as Shown
US Army Engineer District, Portland
Northwestern Division
Prepared 1 January 2000

1117

APPROPRIATION TITLE: Construction, General - Flood Control, Local Protection

PROJECT: Big Sioux River and Skunk Creek, Sioux Falls, South Dakota (Continuing)

LOCATION: Sioux Falls is located on a large bend of the Big Sioux River and at the confluence with Skunk Creek in the south half of Minnehaha County in southeastern South Dakota.

DESCRIPTION: The project builds upon an existing project. It consists of raising an existing levee from the diversion dam to the upstream tie-off, raising the diversion channel levee, modifying the chute and stilling basin, raising the diversion dam, raising the levees on Skunk Creek, raising Big Sioux levees downstream of Skunk Creek, and providing for bridge improvements.

AUTHORIZATION: Section 101 of the Water Resources Development Act of 1996.

REMAINING BENEFIT-REMAINING COST RATIO: 1.12 to 1 at 7.375 percent

TOTAL BENEFIT-COST RATIO: 1.12 to 1 at 7.375 percent

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluation approved in August 1997 at 1998 price levels.

SUMMARIZED FINANCIAL DATA:

			ACCUM PCT OF EST FED COST
Estimated Federal Cost		$ 30,450,000	
Estimated Non-Federal Cost		10,150,000	
Cash Contribution	$ 2,215,000		
Other Costs	$ 7,935,000		
Total Estimated Project Cost		$ 40,600,000	
Allocations to 30 September 1999		$ 1,813,000	
Conference Allowance for FY 2000		2,200,000	
Allocation for FY 2000		1,887,000 1/	
Allocations through FY 2000		3,700,000	12
Allocation Requested for FY 2001		1,500,000	17
Programmed Balance to Complete		25,250,000	
Unprogrammed Balance to Complete after FY 2001		0	

STATUS: (1 JAN 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Entire Project	0	Being Determined

1/ Reflects $313,000 reduction assigned as savings and slippage.

Division: Northwestern

District: Omaha

Big Sioux River and Skunk Creek, Sioux Falls, South Dakota

PHYSICAL DATA

Relocations:
2 Utilities, 3 Bridges, and
4 Structures

Levee:
Length: 11.5 miles
Level of Protection: 100-year flood

Bridges:
Raise: 3 roadway and 1 railroad

Spillway/Stilling Basin:
Spillway: Raise Walls
Stilling Basin: Raise Walls

JUSTIFICATION: The project will provide urgently needed flood protection to the metropolitan areas of Sioux Falls, South Dakota. The flood problem is severe under the present stage of urban development. There have been eight floods in the city in the past forty-five years with the largest in 1969, a 100-year event. This 100-year flood today would cause $111 million in damage based on current economic analysis. This project would provide protection from a 100-year event. The average annual damages to the 2,707 structures in the 100-year flood plain is $2.7 million. The average annual damages without the project are $5.7 million. The average annual damages with the project are $2.3 million. With this project in place the annual benefits derived will be $3.8 million, all from flood damage protection.

Annual Benefits	Amount
Flood Damage Prevention (Urban):	
Structure and Contents	$ 2,628,800
External Damages	289,100
Emergency Costs	203,900
Flood Insurance Costs	185,200
Flood Plain Fill Costs	514,800
Total Benefits	$ 3,821,800

FISCAL YEAR 2001: The requested amount of $1,500,000 will be applied as follows:

Item	Amount
Continue Land Acquisition Activity	$ 32,000
Continue Spillway/Stilling Basin Construction	1,224,000
Initiate Levee Construction	80,000
Planning Engineering and Design	64,000
Construction Management	100,000
Total	$ 1,500,000

NON-FEDERAL TOTAL COST: In accordance with the cost sharing and financing concepts proposed by the Administration, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments during Construction	Annual Operation, Maintenance, Repair Rehabilitation and Replacement Costs
Provide all lands, easements, right-of-ways, and dredged material disposal areas.	$ 3,364,000	
Relocate utilities, buildings, roads, bridges (except railroad bridges), and other facilities required for construction of the project.	$ 4,571,000	
Pay 5 percent of the cost allocated to flood control, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	$ 2,030,000	$ 32,450
Pay 2 percent of the costs allocated to flood control to bring the total non-Federal share of flood control to 25 percent.	$ 185,000	
Total Non-Federal Costs	$10,150,000	$ 32,450

The non-Federal sponsor will make required cash contribution payments concurrently with project construction.

Communities must agree to adopt additional flood plain management activities, beyond the requirement to participate in the National Flood Insurance Program, to qualify for Federal participation in a structural flood damage reduction project. These activities, which are being discussed between the Administration and Congress, may include public information and education on flood hazards within the community, flood plain regulation to promote sound use and reduce future flood damages, control of storm water runoff, and preservation of open space.

STATUS OF LOCAL COOPERATION: The City of Sioux Falls is the non-Federal sponsor. A Project Cooperation Agreement with the city of Sioux Falls is scheduled to be executed in April 2000. Non-Federal funds will come from the City construction budget and some state assistance. All Non-Federal financing has been arranged under the 75/25 cost-sharing assumption.

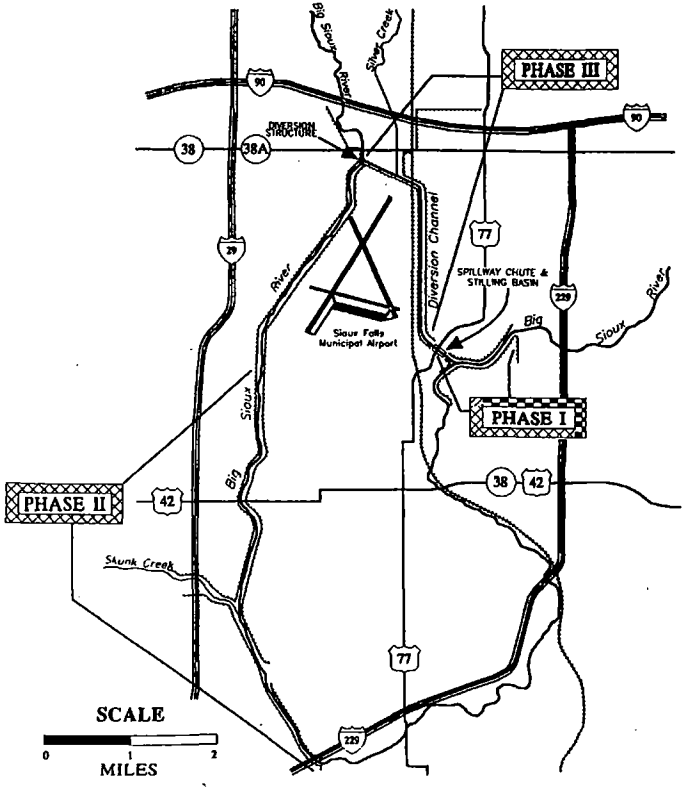
Division: Northwestern District: Omaha Big Sioux River and Skunk Creek, Sioux Falls, South Dakota

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $30,450,000 is an increase of $ 2,650,000 from the latest estimate ($27,800,000) presented to Congress (FY 1999). This change reflects price escalation of construction features.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An environmental impact statement was not required for this project. An Environmental Assessment and a Finding Of No Significant Impact were completed with the feasibility report.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 94. The mitigation portion of this project will consist of creating 0.8 acres of wetlands to replace the wetlands lost by raising of existing levees. Funds to initiate construction were approved in Fiscal Year 2000.

1121



N

WORK COMPLETED

WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR

WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR

WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR

BIG SIOUX RIVER
SIOUX FALLS, SOUTH DAKOTA

U.S. Army Engineer District, Omaha
Northwestern Division
1 January 2000

APPROPRIATION TITLE: Construction, General - Local Protection Projects (Flood Control)

PROJECT: Mt. St. Helens Sediment Control, Washington (Continuing)

LOCATION: A sediment retention structure on the North Fork Toutle River, 3 miles upstream from its confluence with the Green River; a Fish Collection Facility located on the North Fork Toutle River, 8,500 feet downstream of the Sediment Retention Structure; levee improvements at Kelso, Washington on the Cowlitz river (river mile 3 to river mile 8); and dredging in the Cowlitz River (river mile 0 - to river mile 20); all located in Cowlitz County, southwest Washington. The river systems impacted by the project include the Toutle and Cowlitz Rivers. Most of the population affected by the problems reside in the communities of Longview, Kelso, Lexington and Castle Rock, Washington.

DESCRIPTION: An earth and rock fill sediment retention structure with a spillway height of 125 feet, length of 1,800 feet with a retention capacity of 258 million cubic yards of sediment; a barrier type fish trap facility with a length of 300 feet and a 210 foot fish ladder; levee raise and improvements on the Cowlitz River at Kelso, WA; and dredging in the Cowlitz River from the mouth to river mile 20.

AUTHORIZATION: Supplemental Appropriations Act, 1985, PL 99-88.

REMAINING BENEFIT - REMAINING COST RATIO: The remaining benefit-remaining cost ratio is 6.9 to 1 at 8-5/8 percent.

TOTAL BENEFIT - COST RATIO: The total benefit cost ratio is 2.7 to 1 at 8-5/8 percent.

INITIAL BENEFIT - COST RATIO: The benefit-cost ratio for the fiscal year for which Congress appropriated initial construction funds (FY 1986) is 3.0 to 1 at 8-5/8 percent. The benefit to cost ratio is based on the project functioning independently.

BASIS OF BENEFIT - COST RATIO: Benefits are from the latest available evaluation reported in the Chief of Engineers Report, April 1985 at 1988 price levels.

SUMMARIZED FINANCIAL DATA

Estimated Federal Cost		$198,400,000	
Programmed Construction	$117,971,000		
Unprogrammed Construction	80,429,000		
Estimated Non-Federal Cost		24,600,000	
Programmed Construction	24,600,000		
Cash Contribution	$ 3,600,000		
Other	21,000,000		
Unprogrammed Construction		0	
Cash Contribution	0		
Other	0		

STATUS: (1 Jan 2000)	PERCENT COMPLETE	COMPLETION SCHEDULE
Sediment Retention Structure	100	Feb 90
Dredging	100	Mar 90
Future Dredging	0	Unscheduled
Entire Project	59	Unscheduled

1128

SUMMARIZED FINANCIAL DATA (Continued)			PHYSICAL DATA
Total Estimated Programmed Construction Cost	$142,571,000		Dam: Type - Earth and Rockfill
Total Estimated Unprogrammed Construction Cost	80,429,000		Spillway Height - 125 feet;
Total Estimated Project Cost	223,000,000		Length - 1,800 feet
			Spillway Width - 400 feet
		Accum. % of Est Fed Cost	Fish Facility: 300 feet long, concrete with stilling basin
			Fish Ladder - 210 feet long by 6 feet wide, concrete
Allocations to 30 September 1999	114,577,000 1/		Lands and Damages: Acres -
Conference Allowance for FY 2000	540,000		5,374 (Sediment Retention Structure)
Allocation for FY 2000	840,000 2/		
Allocations Through FY 2000	115,417,000	58%	1,300 (Disposal Sites for Dredging)
Allocation Requested for FY 2001	710,000	59%	25 (Levee Improvements)
Programmed Balance to Complete after FY 2001	2,230,000		Ultimate Sediment Capacity:
Unprogrammed Balance to Complete after FY 2001	80,043,000		258 million cubic yards

1/ Includes $2,953,000 General Investigation funds.
2/ Reflects a $77,000 reduction assigned as savings and slippage and $377,000 reprogrammed to the project.

JUSTIFICATION: The eruption of Mt. St. Helens in 1980 resulted in the movement of sediment creating a threat of flooding and navigation disruption in southwestern Washington. With projected future erosion of the debris avalanche and sediment movement, there exists a continuing threat of flooding, with the largest amount of damages occurring to the community of Kelso and to the transportation corridor crossing the Toutle River (Interstate Highway I-5, and Burlington-Northern Railway line). Lesser damages would occur to the communities of Longview, Lexington and Castle Rock. The potential disruption of navigation on the Columbia River is considered to be negligible under average sediment conditions. Eventually up to 550 million cubic yards would probably be eroded from the debris avalanche. The Cowlitz River was last dredged in 1991. Since then the river channel has remained stable or tended to scour.

In 1997, the sediment behind the SRS reached the last row of pipes in the outlet structure and it was closed in 1998. Flows from the pool now are released through the spillway, which may have an impact on downstream deposition of sediment and resultant flood protection. Additional studies, using current updated data are needed to predict if the new operation at the SRS will result in a change in downstream deposition. These studies were anticipated in the feasibility, which was used as a basis for project authorization. The average annual benefits are estimated to be $29,548,000 (October 1988 price level). In addition to the benefit of preventing flood damages, the project will reduce the costs for providing temporary emergency flood protection (under PL 98-63) resulting from the sediment problem. Flood protection afforded by the project will provide at least 100 year protection at Longview, Kelso, Lexington and Castle Rock.

Annual Benefits	Amount
Flood Damage Prevention	$15,558,000
Dredging Savings	13,990,000
Total	$29,548,000

FISCAL YEAR 2001: The requested amount of $710,000 will be used for Engineering and Design.

NON-FEDERAL COST: In accordance with the agreement between the United States of America and the State of Washington for local cooperation at, along and near the Cowlitz and Toutle Rivers, Cowlitz County, State of Washington, the total estimated non-federal cost for construction is $24,600,000 including allowances for inflation. The non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction	Annual Operation Maintenance and Replacement Costs
Provide lands, easements, rights-of-way, and dredged material disposal areas.	$16,200,000	
Modify or relocate buildings, utilities, roads, bridges (except railroad bridges), and other facilities, where necessary in the construction of the project.	400,000	
Mitigation for dredging operations	4,400,000	$846,000
Sales & Use Tax Offset from the State of Washington	3,600,000	
Total Non-Federal Payments During Construction	$24,600,000	

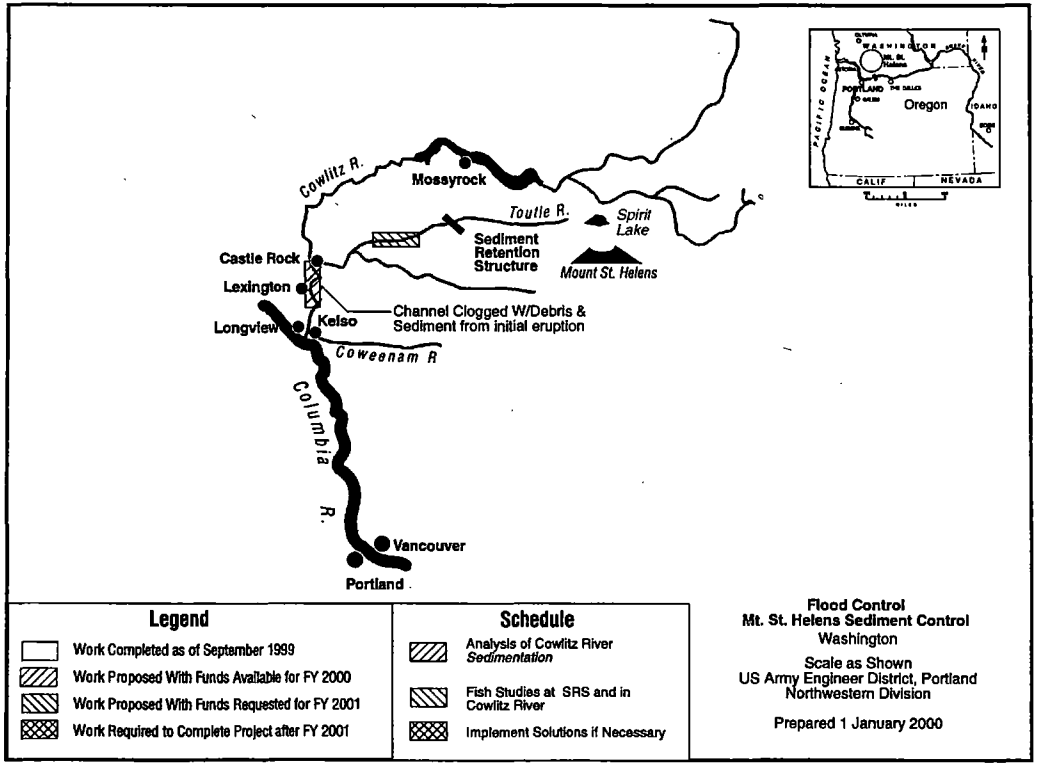
STATUS OF LOCAL COOPERATION: A local cooperation agreement (LCA) for the Sediment Control project was signed on 26 April 1986. The State of Washington is the sponsor for the Sediment Retention Structure (SRS) and dredging portions of the project. Consolidated Diking Improvement District No. 3 and Drainage Improvement District No. 1 are sponsors for the Kelso levee improvement.

Land rights have been obtained by the State over the lands required for initial construction of the SRS. All persons residing within the SRS acquisition boundary have been relocated. The Diking and Drainage Districts have been furnished right-of-way requirements and are continuing their acquisition program. The State is continuing to acquire rights-of-way for additional dredge disposal areas.

COMPARISON OF FEDERAL COST ESTIMATE: The current Federal (Corps of Engineers) cost estimate of $198,400,000 is an increase of $2,600,000 over the latest estimate ($195,800,000) submitted to Congress (FY 2000). This change is due to price escalation of construction features.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final EIS was filed with the EPA in December, 1984.

OTHER INFORMATION: Funds to initiate preconstruction planning were allotted in FY 1985 and construction in FY 1986. Estimated fish and wildlife mitigation costs are $13,858,000.


Cowlitz R.
Mossyrock
Toutle R.
Spirit Lake
Sediment Retention Structure
Mount St. Helens
Castle Rock
Lexington
Kelso
Longview
Channel Clogged W/Debris & Sediment from initial eruption
Coweenam R
Columbia R.
Vancouver
Portland
Oregon
CALIF
NEVADA
Legend
Work Completed as of September 1999
Work Proposed With Funds Available for FY 2000
Work Proposed With Funds Requested for FY 2001
Work Required to Complete Project after FY 2001
Schedule
Analysis of Cowlitz River Sedimentation
Fish Studies at SRS and in Cowlitz River
Implement Solutions if Necessary
Flood Control
Mt. St. Helens Sediment Control
Washington
Scale as Shown
US Army Engineer District, Portland
Northwestern Division
Prepared 1 January 2000

1126

APPROPRIATION TITLE: Construction, General (Flood Control)

PROJECT: Buford Trenton Irrigation District (Land Acquisition), North Dakota (Continuing)

LOCATION: The Buford Trenton Irrigation District (BTID) is located in the flood plain along the left (north) bank of the Missouri River near its confluence with the Yellowstone River in Williams County North Dakota. The current boundaries of the BTID begin about 10 miles west of Williston, North Dakota at the upstream end of Lake Sakakawea, and extended upstream to just above the confluence of the Missouri and Yellowstone Rivers for a total of 18 miles.

DESCRIPTION: The project consists of the acquisition of permanent flowage and saturation easements in the area from the main irrigation canal, to the north bank of the Missouri River, located at the BTID pumping station and continuing downstream to the land referred to as the East Bottom. The project also includes land contiguous to the boundaries of the BTID that has been affected by rising ground water and the risk of surface flooding. Any easement acquired shall include the right, power, and privilege of the Federal government to submerge, overflow, percolate, and saturate the surface and subsurface of the lands. The easement will not allow structures for human habitation on the land. Structures not designed for human habitation may remain. The Federal government shall convey to the BTID, drainage pumps constructed by the Corps of Engineers, located within the boundaries of the District, and provide a lump-sum payment of $60,000 for all future power requirements associated with the operation of these pumps.

AUTHORIZATION: Section 336 of the Water Resources Development Act (WRDA) of 1996 (Public Law (PL) 104-303).

REMAINING BENEFIT-REMAINING COST RATIO: N/A

TOTAL BENEFIT-COST RATIO: N/A

INITIAL BENEFIT-COST RATIO: N/A

BASIS OF BENEFIT-COST RATIO: N/A

SUMMARIZED FINANCIAL DATA: 1/

				STATUS (1 JAN 2000)	PERCENT COMPLETE	COMPLETION SCHEDULE
Estimated Federal Cost			$ 40,129,000			
Estimated Non-Federal Cost			0	Entire Project	21	Being Determined
Cash Contribution	$	0				
Other Costs	$	0				
Total Estimated Project Cost			$ 40,129,000			

1/ Based on detail estimate used in preparation of a Real Estate Design Memorandum for the Acquisition of Flowage and Saturation Easements for Affected Lands within and Surrounding the Buford-Trenton Irrigation District's submitted in April 1997.

1127

SUMMARIZED FINANCIAL DATA (continued):		ACCUM PCT. OF EST. FED COST	PHYSICAL DATA
Allocations to 30 September 1999	$ 4,627,000		Land Acquisition (Easements): 11,750 acres total
Conference Allowance for FY 2000	5,000,000		(10,000 irrigable land &1,750 nonirrigable land)
Allocation for FY 2000	4,855,000 2/		
Allocations through FY 2000	9,482,000	24	
Allocation Requested for FY 2001	4,700,000	35	
Programmed Balance to Complete after FY 2001	25,947,000		
Unprogrammed Balance to Complete after FY 2001	0		

2/ Reflects $712,000 reduction assigned as savings and slippage and $442,000 reprogrammed to the project and an additional $125,000 to be reprogrammed.

JUSTIFICATION: Acquisition of easements is authorized by Act of Congress through PLs 534-78 and 104-303. PL 534-78 authorizes the operation and maintenance of the Garrison Dam Project, and PL 104-303 is WRDA of 1996. The 1996 WRDA was signed on 12 October 1996, thereby authorizing the acquisition of flowage and saturation easements over affected lands within and surrounding the BTID. The Real Estate Design Memorandum (REDM) was conditionally approved on 21 May 1997. Additional information as to availability of replacement housing required by PL 91-646, and clarification of cemetery relocations was provided 12 September 1997 and acknowledgment as to its adequacy was received on 17 September 1997.

FISCAL YEAR 2001: The requested amount of $4,700,000 will be applied as follows:

Easement Acquisition and Associated Costs	$ 4,630,000
Project Management activities	70,000
Total	$ 4,700,000

NON-FEDERAL COST: There is no requirement for a non-Federal sponsor for this project.

STATUS OF LOCAL COOPERATION: N/A

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $40,129,000 is a increase of $129,000 from the latest estimate ($40,000,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Change in projected inflation rate	$ 129,000

Division: Northwestern District: Omaha Buford Trenton Irrigation District, ND

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The proposed acquisition of flowage and saturation easements is not a major Federal action that would significantly affect the quality of the human environment, and therefore did not require the preparation of an environmental impact statement. The U.S. Fish and Wildlife Service concurred with the Finding of No Significant Impact.

OTHER INFORMATION: The United States Bureau of Reclamation (USBR) and Department of Agriculture (USDA) constructed the 16,800 acre BTID between 1940 and 1943. Today the BTID includes approximately 11,750 acres. The reduced size of the BTID is attributed to the construction of the Garrison Dam which was closed in 1953. East Bottom was purchased in fee by the Corps in 1958 as part of the Garrison Dam, Lake Sakakawea Project.

Approximately 10,000 acres are irrigable (primarily beet producing acres) and 1,750 acres are nonirrigable (alfalfa, grassland, grazing and marsh/waste acreage). There are approximately 70 affected landowners and 90 tracts. The BTID was divided by bends of the Missouri River into four bottoms. Zero Bottom is the smallest and is located at the upstream end of the BTID. Zero Bottom is followed downstream on the Missouri River by West, Middle and East Bottoms.

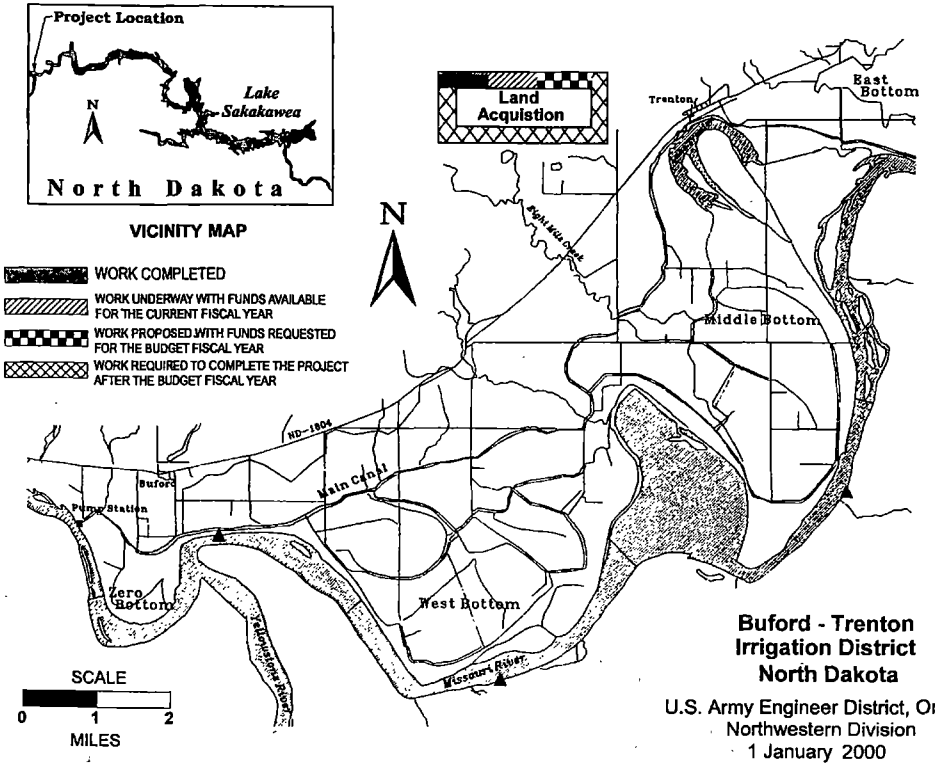
Initial construction, general funding was appropriated in Fiscal Year 1998.

1129

Division: Northwestern

District: Omaha

Buford Trenton Irrigation District, ND


Project Location
Lake Sakakawea
N
North Dakota
VICINITY MAP
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR
Land Acquistion
N
Trenton
East Bottom
Middle Bottom
West Bottom
Zero Bottom
ND-1804
Main Canal
Buford
Pump Station
Yellowstone River
Missouri River
SCALE
0 1 2
MILES
Buford - Trenton Irrigation District
North Dakota
U.S. Army Engineer District, Omaha
Northwestern Division
1 January 2000

1130

APPROPRIATION TITLE: Construction, General - Reservoirs (Flood Control)

PROJECT: Elk Creek Lake, Oregon (Continuing)

LOCATION: In Jackson County, on Elk Creek, a tributary of Rogue River, at river mile 1.7 about 26.5 miles north of Medford, Oregon.

DESCRIPTION: The Elk Creek Lake Project was authorized as one of three multiple-purpose dams in the Rogue River Basin. The three dams were designed to operate as a system to reduce flooding and to accomplish additional purposes of water supply, irrigation, fish and wildlife enhancement, hydropower, and recreation. Two of the three dams are complete and operating. Features of the partially completed Elk Creek Lake project include a 249-foot high, roller-compacted, concrete, gravity dam; a gate controlled concrete chute spillway; regulating outlet conduits; a diversion for power penstock; and a multiple use intake tower attached to the upstream face of the dam. Based of the selected alternative described in final EIS Supplement Number 2, filed 1 May 1991; the project would be redesigned for interim operation with no conservation pool and with fish passage.

AUTHORIZATION: 1962 Flood Control Act

REMAINING BENEFIT - REMAINING COST RATIO: The remaining benefit-remaining cost ratio is 0.61 to 1 at the authorized rate of 3 1/4%.

TOTAL BENEFIT - COST RATIO: The total benefit-cost ratio is 0.36 to 1 at 3 1/4%.

INITIAL BENEFIT - COST RATIO: The benefit-cost ratio for the fiscal year for which Congress appropriated initial construction funds (FY 1971) was 1.01 to 1 at a 3 1/4% rate and was based on project's fair share of system benefits.

BASIS OF BENEFIT - COST RATIO: Benefits are from the latest available evaluation reported in June 1983 at 1983 price levels.

SUMMARIZED FINANCIAL DATA:			STATUS	PERCENT	COMPLETION
Estimated Federal Cost		$176,900,000 1/	(1 Jan 2000)	COMPLETE	SCHEDULE
Programmed Construction	$114,854,000				
Unprogrammed Construction	62,046,000		Entire Project	72	Unscheduled

1/ Reflects the cost of the selected alternative described in EIS Supplement Number 2. Excludes deferred costs for future potential modification to operate with a conservation pool.

1131

SUMMARIZED FINANCIAL DATA (continued)

Estimated Non-Federal Cost			$ 0	
Programmed Construction		$ 0		
Cash Contributions	$ 0			
Other Costs	0			
Estimated Non-Federal Cost			0	
Unprogrammed Construction		0		
Cash Contributions	0			ACCUM.
Other Costs	0			PCT. OF EST. FED COST
Total Estimated Programmed Cost			114,854,000	
Total Estimated Unprogrammed Cost			62,046,000	
Total Estimated Project Cost			176,900,000	
Allocations to 30 September 1999			109,400,000	
Conference Allowance for FY 2000			180,000	
Allocation for FY 2000			454,000 2/	
Allocations through FY 2000			109,854,000	63%
Allocation Requested for FY 2001			500,000	63%
Programmed Balance to Complete after FY 2001			4,500,000	
Unprogrammed Balance to Complete after FY 2001			62,046,000	

PHYSICAL DATA

Dam: Type - Roller compacted concrete. Height - 249 feet; length - 2,580

Concrete Volume - 1,100,000 cu. yds.

Spillway: Type - Concrete gravity. Gate Ogee Section: Design discharge- 68,400 cfs, Gates - 3 (33 feet x 34 feet) tainter.

Lands and Damages: Acres - 3,570

Land Use: Irrigated - 130 acres; Pasture - 182 acres; Wooded - 3,151 acres (of which 841 acres are Government owned); Lesser Interests- 67 acres; Building Sites - 40 acres

Relocations: County Road - 7.9 miles Power and Telephone lines - 15 miles, Cemetery

Reservoir Capacity: Total storage at elev 1,726 - 101,000 acre feet; Usable Storage - 95,000 acre feet; Flood Control Storage (elev 1726-1665) - 60,000 acre feet; Conservation Storage (elev 1665-(1581) - 35,000 acre feet; Inactive Storage (elev 1581-1500) - 6,000 acre feet.

2/ Reflects $26,000 reduction assigned as savings and slippage and $300,000 to be reprogrammed to the project.

JUSTIFICATION: Elk Creek Lake could be operated without conservation storage on an interim basis together with Lost Creek and Applegate Lakes as the three-dam Rogue River Basin system to provide flood control. The project would control run-off from about 132-square miles upstream from Elk Creek site. The flood problems occur principally in discontinuous areas in the 50-mile reach of the Rogue River from the junction of Elk Creek downstream to about ten miles past Grants Pass and in scattered areas in the lower 100-mile reach of the Rogue River. The major flood plain comprises some 7,400 acres of hay, alfalfa, pasture orchards (peaches, pears), and hops and affects a population of 14,560. Damages from past floods include agricultural crop losses and land damage due to inundation and erosion; and destruction of industrial, residential, commercial, and recreation developments. A total of 95,000 acre-feet of usable storage would be available at Elk Creek for flood control. The maximum flood that could be completely controlled at the Elk Creek site would have a peak flow of about 19,200 cubic feet per second and a frequency of occurrence of once in about 40 years. During the flood of 1964, the most severe flood since 1861, damages to the area downstream from Elk Creek and Lost Creek Lakes amounted to $13,161,000 of which about $2,350,000 would have been prevented by Elk Creek Lake. The peak stage of a flood such as that of 1964 would be reduced about 5.6 feet at Grants Pass by Lost Creek, and 7.4 feet by Lost Creek and Elk Creek Lakes combined. When there is a need for additional conservation storage in the region, engineering and environmental studies could be initiated to determine the feasibility of modifying operation of the project to include conservation storage. Annual benefits creditable to Elk Creek Lake are estimated to be $2,026,000 based on 1 October 1983 prices, considered as last added increment to the three-dam system and include the following:

Annual Benefits	
Flood Control	$ 1,883,000
Employment	143,000
Total	$ 2,026,000

FISCAL YEAR 2001: The requested amount of $500,000 will be used to continue caretaker activities on the uncompleted project.

NON-FEDERAL COST: A non-Federal sponsor for this project has not been identified at this time. In the event a sponsor agrees to enter into a Project Cooperation Agreement for municipal and industrial water supply, the sponsor will pay all costs allocated to municipal and industrial water supply and bear all costs of operation, maintenance, and replacement of municipal and industrial water supply facilities; for recreation, the sponsor will pay one-half of the separable costs allocated to recreation and bear all costs of operation, maintenance, and replacement of recreation facilities; for agricultural water supply, the sponsor will pay all costs allocated to agricultural water supply and bear all costs of operation, maintenance, and replacement of agricultural water supply facilities.

STATUS OF LOCAL COOPERATION: Responsibility for repayment of irrigation costs rests with the Department of Interior pursuant to Federal Reclamation law. Responsible officials of four irrigation districts (Sams Valley, Eagle Point, Applegate Valley, and Rogue River Valley) have furnished preliminary assurances that it is the intention of each individual district to enter into a contract with the Secretary of the Interior to provide reimbursement of irrigation cost within each district's ability to repay such costs pursuant to reclamation law. Pursuant to Public Law 91-439, October 7, 1970, the project will not be operated for irrigation purposes until such

STATUS OF LOCAL COOPERATION: (cont'd)
time as the Secretary of the Interior makes the necessary arrangements with non-Federal interests to recover the costs, in accordance with the Federal Reclamation Law, which are allocated to the irrigation purpose. Assurances for future purchase of municipal and industrial water supply have been obtained from six communities in the valley: Medford, Grants Pass, Shady Cove, Sams Valley, Eagle Point, and Gold Hill. Phoenix, Oregon, a suburb of Medford, is currently purchasing municipal and industrial water supply storage at Lost Creek Lake.

Recreation facilities will not be scheduled until development of cost sharing agreements with local interests for construction and non-Federal operation and maintenance, consistent with projects for which recreation facilities are being constructed under provisions of the Federal Water Project Recreation Act of 1965 (PL 89-72), as amended.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $176,900,000 is an in crease of $2,900,000 from the latest estimate ($174,000,000) submitted to Congress (FY 00). This change is due to price escalation on construction features.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Final Statement was filed with CEQ on September 17, 1971. Supplement No.1, addressing water quality effects, was filed with EPA on December 24, 1980, and a Record of Decision was filed with EPA in February 1982. An environmental assessment addressing design changes (such as roller compacted concrete instead of embankment dam) was completed on October 11, 1983. Supplemental Information Reports dated September 23, 1985 and January 14, 1986 were provided to the public; these reports described the findings of the 1983 environmental assessment and other new information which had become available since the 1980 EIS Supplement. Another EIS supplement has been prepared as a result of litigation; this Supplement was completed and filed with the EPA on May 1, 1991. A Record of Decision, selecting the no conservation pool as the interim operating alternative, was signed on January 24, 1992.

OTHER INFORMATION:
Background
Funds to initiate preconstruction planning were appropriated in FY 1965, and for construction in FY 1971. Construction was deferred in FY 1977 due to a lack of state support. Following significant review, evaluation, and a public hearing, the Water Policy Review Board reversed its position and in April 1981 voted to support Elk Creek. Funds were appropriated in FY 1982 and FY 1983 to update and continue project design, plans, and specifications. Funds were appropriated in FY 1985 to resume construction. The Oregon Natural Resource Council (ONRC), a local environmental group, filed a suit against the U.S. Government in March of 1983 to halt construction of the Elk Creek Lake project based on alleged NEPA violations. U.S. District Court ruled on January 16, 1986, in favor of the U.S. Government. ONRC filed an appeal with the U.S. Ninth Circuit Court of Appeals who overturned the District Court ruling on June 23, 1987. The U.S. District Court in turn issued an injunction to limit the construction of the dam to elevation 1,563 feet on August 31, 1987. The U.S. Government filed for a rehearing of the U.S. Ninth Circuit Court of Appeals' ruling of June 23, 1987, and on December 10, 1987, the U.S. Ninth Circuit Court of Appeals denied the request. The U.S. Department of Justice filed a Writ of Certiorari (appeal) with the Supreme Court on April 14, 1988. On 1 May 1989, the U.S. Supreme Court unanimously reversed the Ninth Circuit Court and remanded the case. The injunction remained in effect pending completion of an Environmental Impact Statement Supplement No. 2 (EISS #2) as required by the U.S. Ninth Circuit Court of Appeals. Endangered Species Act coordination with the U.S. Fish and Wildlife Service was completed on December 27, 1991 and found no impact on the continued existence of the three species of wildlife in question.

Division: Northwestern District: Portland Elk Creek Lake, OR

1134

OTHER INFORMATION: (cont'd)
Background (cont'd)

In response to the final EISS #2, the Governor of Oregon stated that the dam should not be finished and urged that the existing structure be removed and the site restored. According to the Governor, an acceptable alternative would be to abandon the structure, with appropriate modifications for public safety and fish passage. The majority of the comments to the final EISS #2 stated that the Elk Creek Lake Project should be completed and operated with a full conservation pool. The need for stored water was used to justify this opinion in nearly all instances.

On November 5, 1992, the US Forest and the Bureau of Land Management issued a determination of the existing project's impact on the Wild and Scenic Section of the Rogue River beginning 57 miles downstream. The determination stated the project would not unreasonably diminish the wild and scenic river values when effective fish passage is provided under the no conservation pool alternative. A lawsuit alleging violations of the Wild and Scenic Rivers Act by the Corps, US Forest Service and the Bureau of Land Management was filed with the US District Court on December 7, 1992.

On July 22, 1992, the Department of Justice filed a motion with the Court to remove the injunction. A hearing was held on May 20, 1993. A second hearing on cross motions for summary judgement was held on December 17, 1993. The Court issued an opinion and order in February 1994, ruling that EISS #2 met the requirements of the previous court order and the first lawsuit was dismissed and injunction was removed. However, the Court also ruled that the Corps failed to justify its decision not to further supplement the EIS in light of new information concerning the status of fisheries in the Rogue River. The Court also ruled that the project could not be completed until the fish passage concerns of the U.S. Forest Service and Bureau of Land Management are eliminated. The Court remanded the case to the Corps to consider the new information and study fish passage and also imposed a new injunction against completion of the project. The ONRC and DOJ filed appeals with the 9th Circuit Court of Appeals, and on October 31, 1994 oral arguments were held on the issues of the legal sufficiency of EISS #2 and on the authority of USFS/BLM to issue a Section 7(a) Determination under the Wild and Scenic Rivers Act.

The Ninth Circuit Court of Appeals ruled on the two cases on April 21, 1995. In a unanimous decision, the Court ruled that the U.S. Forest Service and Bureau of Land Management do not have a veto authority over purely Federal projects under the wild and scenic Rivers Act where Congress makes the decision to authorize and fund their development. In a 2-1 decision, the Court also reversed the District Court decision that EISS #2 met the requirements of the earlier Ninth Circuit opinion and awarded attorneys fees to the plaintiffs. The case was remanded with instructions to prepare a third supplement adequately addressing all issues raised under the NEPA process.

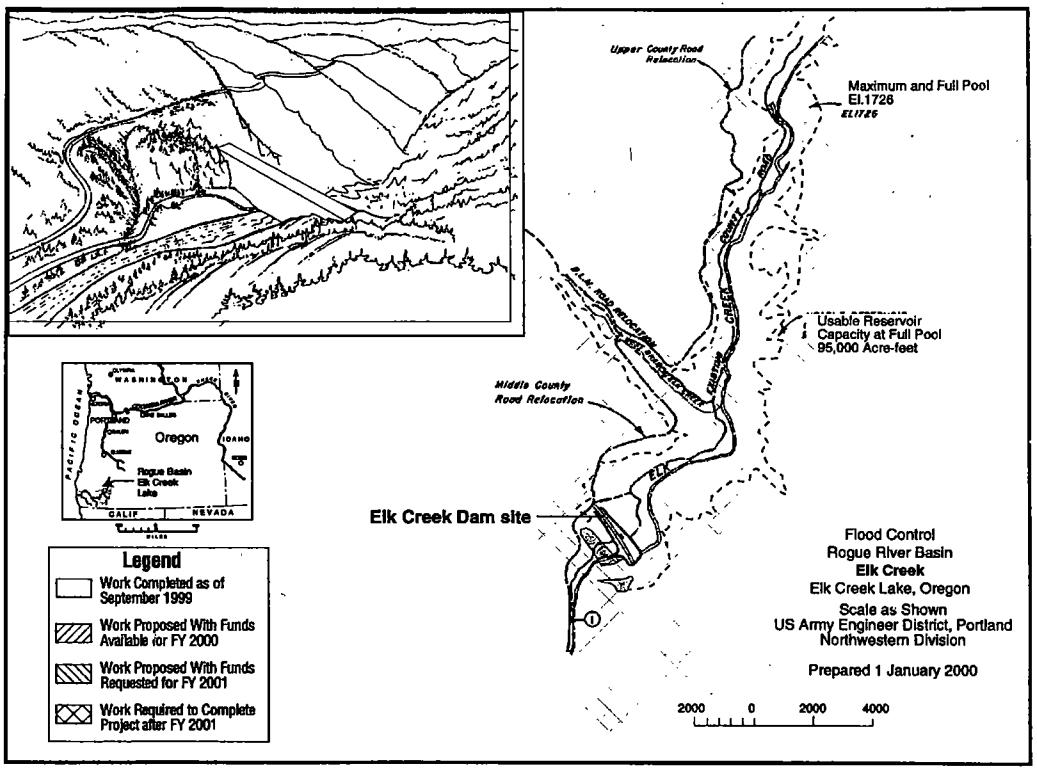
OTHER INFORMATION: (cont'd)

Long Term Management Plan

Due to the Ninth Circuit Court of Appeals decision and the current Federal budgetary climate, the Corps does not plan to perform the environmental studies under the National Environmental Policy Act (NEPA) necessary to remove the Federal court injunction against completion of the project. Therefore, an evaluation of the requirements for long term management of the project in its uncompleted state will be required.

The North Pacific Division Engineer notified the Congressional Appropriations Committees on 6 November 1995 of the Corps' intention to study options for long term management of the project in its uncompleted state. We plan to evaluate and implement measures in a two phase process. The first phase will be to provide long term fish passage measures by removing a section of the spillway and left abutment. The second phase will evaluate and implement measures required to resolve land management, potential equipment and gravel disposition, cultural resource requirements and other issues.

Although the Corps has no plans to perform the NEPA studies required to remove the injunction at this time, removal of a section of the spillway and left abutment will not prevent future completion of the project. Removing a section of the dam will provide passive fish passage in accordance with the language in the FY 1997 Energy and Water Development Appropriations Act. In addition, it is the most cost effective method to provide fish passage over the long term with the project in an uncompleted state. Until construction of the fish passage modification is complete, fish passage around the project will continue to be provided by the Oregon Department of Fish and Wildlife using Corps' funds. The existing trap and haul facility is not adequate for long-term use. There are two long-term fish passage options; 1) removing a section of the spillway and left abutment or 2) replacement of the trap and haul facility. Removal of a section of the dam is less expensive and is preferred from a biological standpoint to replacing the trap and haul facility. Following discussions with Congressional Appropriations subcommittees, reprogramming of funds for construction of phase one fish passage did not occur in FY 2000 as planned. Consultation with National Marine Fisheries Service is being undertaken to extend operation of the existing trap and haul facility an additional year. Although no funds are requested for construction of long-term fish passage measures in FY 2001, should consultation result in a recommendation for construction, we would pursue reprogramming the necessary funds for implementation in FY 2001.


Upper County Road Relocation
Maximum and Full Pool El.1726
EL1726
Usable Reservoir Capacity at Full Pool 95,000 Acre-feet
Middle County Road Relocation
Elk Creek Dam site
Oregon
Rogue Basin
Elk Creek Lake
Legend
Work Completed as of September 1999
Work Proposed With Funds Available for FY 2000
Work Proposed With Funds Requested for FY 2001
Work Required to Complete Project after FY 2001
Flood Control
Rogue River Basin
Elk Creek
Elk Creek Lake, Oregon
Scale as Shown
US Army Engineer District, Portland
Northwestern Division
Prepared 1 January 2000
2000 0 2000 4000

APPROPRIATION TITLE: Construction, General (Multiple Purpose Power Projects)

PROJECT: Columbia River Treaty Fishing Access Sites, Oregon and Washington (Continuing)

LOCATION: Thirty-one sites located along the Columbia River on Bonneville Pool, John Day Pool, and The Dalles Pool.

DESCRIPTION: The project will acquire and develop private lands on Bonneville Pool and develop Federal lands on Bonneville, the Dalles and John Day pools. The intent is to provide "equitable satisfaction" of the United States government's commitment to replace usual and accustomed fishing sites inundated by construction of the Bonneville Dam. In 1855, the Tribes reserved the right to access and fish at usual and accustomed sites through treaties. These rights have been upheld by the United States Supreme Court in 1905 and again in 1919. The improvements will include access roads, camping facilities, boat ramps and docks, sanitation and support facilities. Upon improvement, the land and improvements will be transferred to the U.S. Department of Interior for operation and administration on behalf of the Tribes.

AUTHORIZATION: Public Law 100-581, Title IV and Public Law 104-109.

REMAINING BENEFIT - REMAINING COST RATIO: N/A 1/

TOTAL BENEFIT-COST RATIO: N/A 1/

THE INITIAL BENEFIT - COST RATIO: N/A 1/

BASIS OF BENEFIT-COST RATIO: N/A 1/

SUMMARIZED FINANCIAL DATA		STATUS (1 Jan 00)	PERCENT COMPLETE	COMPLETION SCHEDULE
Estimated Appropriation Requirement	$ 81,200,000 2/			
Future Non-Federal Reimbursement	40,600,000	Entire Project	40	Being Determined
Estimated Federal Cost (Ultimate)	40,600,000			
Estimated Non-Federal Cost	40,600,000			
Reimbursement $ 40,600,000				
Power 40,600,000				
Total Estimated Project Cost	$ 81,200,000			

1/ Economic justification is not required. This project is specifically authorized in PL 100-581 to mitigate Bonneville Project impact on the treaty fishing access on the Columbia River.

2/ Includes $5,340,479 of funds appropriated for the U.S. Army Corps of Engineers, but subsequently transferred to the U.S. Department of the Interior.

Division: Northwestern | District: Portland | Columbia River Treaty Fishing Access Sites, OR & WA

SUMMARIZED FINANCIAL DATA (Continued)

PHYSICAL DATA
Improvements: Access roads, utilities, and camping facilities.

		ACCUM. % OF EST. FED COST
Allocations to 30 September 1999	$ 31,122,000 3/	
Conference Allowance for FY 2000	5,510,000	
Allocation for FY 2000	4,725,000 4/	
Allocations through FY 2000	35,847,000	44 %
Allocation Requested for FY 2001	5,000,000	50 %
Programmed Balance to Complete after FY 2001	40,353,000	
Unprogrammed Balance to Complete after FY 2001	0	

3/ Includes the $5,340,479 DOI funds.

4/ Reflects $785,000 reduction assigned as savings and slippage.

JUSTIFICATION: In 1855, Indian Tribes of the Pacific Northwest entered into treaties with the United States. They ceded title to lands in the Columbia Basin and reserved the non-reservation treaty right to access the Columbia River and to take fish at "usual and accustomed" fishing places. In the 1930's, the United States constructed Bonneville Dam which inundated 37 of the treaty protected "usual and accustomed" sites. In accordance with a 1939 agreement between the War Department and the Indian Tribes, the United States was to provide 400 acres of land at six sites from Bonneville Dam to The Dalles, Oregon. Under subsequent authority the United States provided five sites totaling approximately 40 acres. In hearings held by the United States Senate Select Committee on Indian Affairs, Congress acknowledged the inequity and later enacted Public Law 100-581, Title IV - Columbia River Treaty Fishing Access Sites. The project is justified as it provides "equitable satisfaction" of the United States government's commitment to replace those lands inundated by construction of the Bonneville project in accordance with the authorizing legislation.

NON-FEDERAL COSTS: The project design and construction will be initially Federally funded in compliance with the intent of PL 100-581. However, costs allocated to power, presently estimated at $40,600,000, are reimbursable. This project is a part of the Federal Columbia River power system. Bonneville Power Administration (BPA), the federal marketing agency, establishes system rate levels adequate to recover all capital investment cost for generating projects (including Corps generating projects) within 50-year period and to repay annual OM&R and interest expenses. BPA submits annual financial statements to Congress, as required by law, on repayment and periodically recommends rate adjustment as required for meeting repayment obligations.

Division: Northwestern

District: Portland

Columbia River Treaty Fishing Access Sites, OR & WA

STATUS OF LOCAL COOPERATION: N/A

FISCAL YEAR 2001: The requested amount of $5,000,000 will be applied as follows:

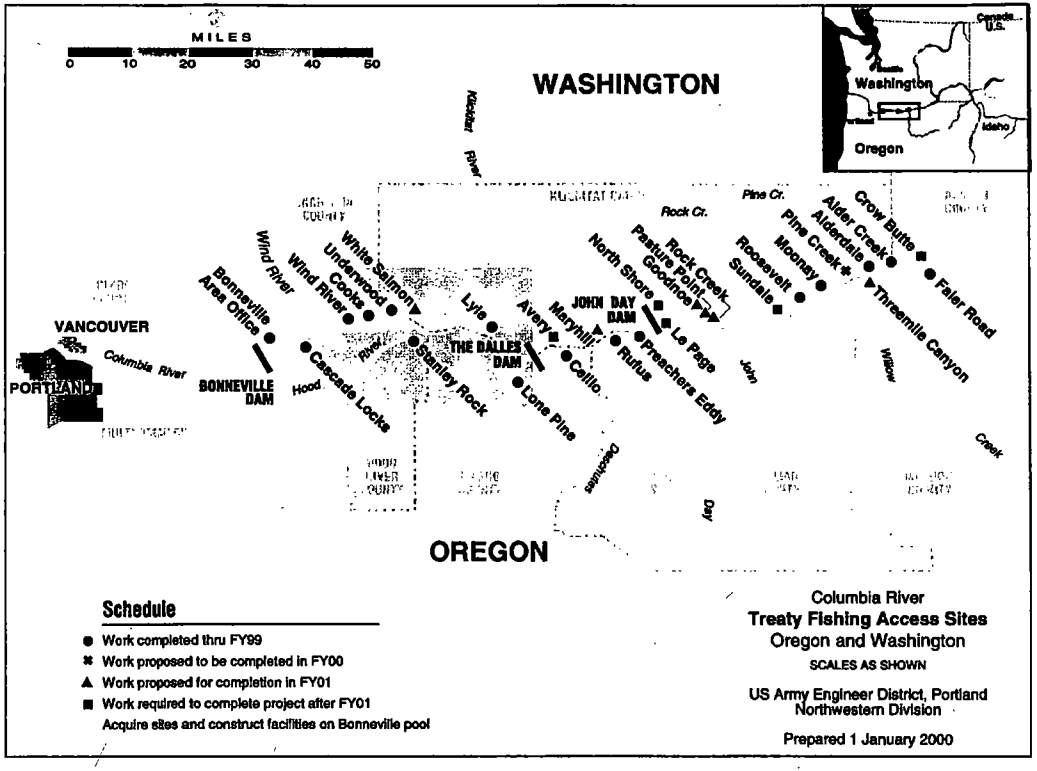
Continue Lands and Damages	$ 65,000
Continue Construction	3,700,000
Continue Planning, Engineering, and Design	910,000
Continue Construction Management	325,000
Total	$ 5,000,000

COMPARISON OF FEDERAL COST ESTIMATE: The current Federal cost estimate of $81,200,000 is an increase of $4,100,000 from the latest estimate ($77,100,000) presented to Congress (FY 2000). This change is due to price escalation on construction features.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Draft Environmental Assessment indicates the potential environmental impacts from the development are minor. The Environmental Assessment was completed and a Finding of No Significant Impact was signed in April, 1995.

OTHER INFORMATION: The four involved Indian tribes include the Nez Perce Tribe of Idaho, the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes of the Warm Springs Reservation of Oregon, and the Confederated Tribes and Bands of the Yakima Indian Nation. The Evaluation Report and the Post Authorization Change Report indicated that the recommended project is technically sound, cost effective, environmentally acceptable, and complies with applicable Corps of Engineers' procedures and regulations. However, the Post Authorization Report notified Congress of required changes to the boundaries or locations of 19 sites to improve constructability. Specific legislative language is included in Public Law 104-303. Also, the views of interested parties, including federal, state, and local agencies, have been considered. On 23 June 1995, a Memorandum of Understanding was signed between ASA(CW) and BIA for the Corps to fund up-front the capitalized costs for long-term O&M for all sites. Public Law 104-109 authorizes the Corps to transfer the capitalized costs to BIA.

1140


MILES
0 10 20 30 40 50
WASHINGTON
OREGON
Canada
U.S.
Washington
Oregon
Idaho
Klickitat River
Rock Cr.
Pine Cr.
Alder Creek
Crow Butte
Aldersdale
Pine Creek
Mooney
Roosevelt
Sundale
Threemile Canyon
Faler Road
Rock Creek
Pasture Point
Goodnoe
North Shore
JOHN DAY DAM
Maryhill
Avery
Lyle
White Salmon
Underwood
Cooks
Wind River
Wind River
Bonneville Area Office
VANCOUVER
Columbia River
PORTLAND
BONNEVILLE DAM
Cascade Locks
Hood River
Stanley Rock
THE DALLES DAM
Celilo
Lone Pine
Rufus
Preachers Eddy
La Page
John Day
Willow Creek
Deschutes
Schedule
Work completed thru FY99
Work proposed to be completed in FY00
Work proposed for completion in FY01
Work required to complete project after FY01
Acquire sites and construct facilities on Bonneville pool
Columbia River
Treaty Fishing Access Sites
Oregon and Washington
SCALES AS SHOWN
US Army Engineer District, Portland
Northwestern Division
Prepared 1 January 2000

1141

APPROPRIATION TITLE: Construction General (Multiple Purpose Power Projects)

PROJECT: Flood Mitigation, Pierre, South Dakota (Continuing)
LOCATION: The project area consists of the Missouri River just downstream of Oahe Dam near Pierre and Fort Pierre, South Dakota

PROJECT DESCRIPTION: The legislation authorizes that the Secretary may acquire from willing sellers such land and property in the vicinity of Pierre, South Dakota, or flood proof or relocate such property within the project area, as the Secretary determines is adversely affected by the full wintertime Oahe Powerplant releases.

AUTHORIZATION: P.L. 105-277 112 Stat 2681

REMAINING BENEFIT- REMAINING COST RATIO: 2.13 to 1 at 6 7/8 percent

TOTAL BENEFIT COST RATIO: 2.13 to 1 at 6 7/8 percent

INITIAL BENEFIT COST RATIO: 2.13 to 1 at 6 7/8 percent

BASIS FOR B/C RATIO: Benefits are from the Flood Mitigation Study and Project Implementation Plan for the Missouri River near Pierre, South Dakota dated 12 August 1999 at July 1999 price levels.

SUMMARIZED FINANCIAL DATA:

		ACCUM PCT OF EST FED COST
Estimated Appropriation Requirement	$ 35,000,000	
Future Non-Federal Reimbursement	13,500,000	
Estimated Federal Cost (Ultimate)	21,500,000	
Estimated Non-Federal Cost	13,500,000	
Reimbursements $13,500,000 Power	13,500,000	
Total Estimated Project Cost	35,000,000	
Allocations to 30 September 1999	340,000	
Conference Allowance for FY 2000	7,500,000	
Allocation for FY 2000	6,432,000 1/	
Allocations through FY 2000	6,772,000	19
Allocation Requested for FY 2001	4,000,000	31
Programmed Balance to Complete after FY 2001	24,228,000	
Unprogrammed Balance to Complete after FY 2001	0	

STATUS: (1 JAN 2000)	PERCENT COMPLETE	COMPLETION SCHEDULE
Entire Project	0	Being Determined

PHYSICAL DATA

Relocations:
Roads - 10,338 ft
Storm Drains 1,833 ft
Sanitary Sewers - 7,029
Culvert Outlest - 18
Pumping System - 3
Water Lines - 10,698 ft
Electrical Lines - 12,727 ft

Flood Proof:
Wells - 14
Buy Out or Flood Proof Structures - 117

1/ Reflects $1,068,000 reduction assigned as savings and slippage.

JUSTIFICATION: Since Oahe Dam was initially put into operation in 1958, flooding in the Pierre and Fort Pierre area has been confined to low-lying lands adjacent to the river. This shallow flooding in the low-lying areas has been caused primarily by water backing up in the storm sewer system of Pierre and out into the streets, businesses and homes, most frequently in the southeast Pierre subdivisions. During the winter season, additional problems are caused by the ice cover in the Missouri River downstream from Oahe Dam which results in significantly higher stages for a given discharge than during open flow conditions. This has resulted in an increase in operation constraints on hydropower production during the winter. Additionally, sediment, primarily from the Bad River, continues to accumulate below Farm Island and has contributed to higher stages in water surface during summer and winter conditions increasing the severity and reoccurrence of the flooding problems. If no action is taken to alleviate the flooding during the winter time power generation, the present constraints to power generation will continue and gradually increase. The Oahe powerplant would be operated in a manner that would maximize power generation while avoiding flooding of lowland areas or causing elevated groundwater. Ultimately, power generation would be limited to 25 percent of capacity during the three week constraint period of highest demand in the winter.

FISCAL YEAR 2001: The requested amount of $4,000,000 will be applied as follows:

Item	Amount
Real Estate Activities	$ 2,076,000
Infrastructure Costs	1,600,000
Site Clearing	168,000
Flood Proofing of Structures	84,000
Project Management and Engineering Activities	72,000
Total	$ 4,000,000

NON-FEDERAL TOTAL COST: There is no requirement for a non-Federal sponsor for this project.

STATUS OF LOCAL COOPERATION: N/A

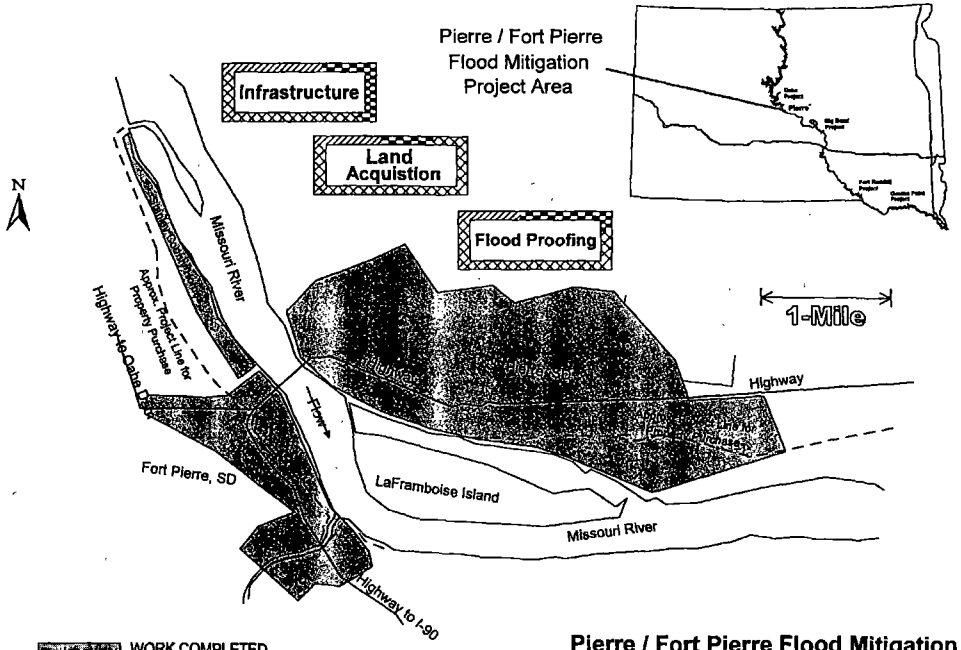
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $35,000,000 is a decrease of $65,000,000 from the latest estimate ($100,000,000) presented to Congress (FY 2000). This change reflects the limit of Federal appropriations as contained in the authorizing legislation.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The proposed acquisition of floodplain property is not a major Federal action that would significantly affect the quality of the human environment, and therefore does not require the preparation of an environmental impact statement.

OTHER INFORMATION:

The report required by the authorizing legislation was approved by ASA(cw) on 15 October 1999.

Mitigation costs will be allocated among the authorized purposes which caused the requirement for mitigation and cost shared to the same extent as other project costs allocated to these purposes. The project will be completely federally funded as the mitigation is for a problem caused by the Oahe Dam project. By funding the project 100 percent Federal and with the costs allocated to the existing Oahe project, 45.83 percent of the costs will be considered joint costs. When WAPA invokes the sub-allocation of 15.8 percent of power costs to future irrigation, the 45.83 percent joint use costs will actually result in a final cost share of 38.6 percent (or $13,500,000) of the $35,000,000 project cost which would be repaid by non-Federal interests.



Pierre / Fort Pierre Flood Mitigation
Pierre, South Dakota

U.S. Army Engineer District, Omaha
Northwestern Division
1 January 2000

APPROPRIATION TITLE: Construction, General (Navigation)

PROJECT: Missouri River Fish and Wildlife Mitigation, Iowa, Nebraska, Kansas, and Missouri (Continuing)

LOCATION: All mitigation will occur in the area of impact generally adjacent to the Missouri River in the states of Iowa, Nebraska, Kansas, and Missouri.

DESCRIPTION: The project will mitigate the losses to fish and wildlife resulting from the construction and operation of the Missouri River Bank Stabilization and Navigation Project. Construction of this project was completed in 1980, and it is now being operated and maintained. The mitigation will acquire and develop fish and wildlife habitat on 29,900 acres of land and will develop an additional 16,900 acres of existing public lands (state or other Government-owned).

AUTHORIZATION: Water Resources Development Act of 1986.

REMAINING BENEFIT - REMAINING COST RATIO: Not applicable.

TOTAL BENEFIT-COST RATIO: Not applicable.

INITIAL BENEFIT-COST RATIO: Not applicable.

BASIS OF BENEFIT-COST RATIO: Not applicable.

SUMMARIZED FINANCIAL DATA		ACCUM PCT OF EST FED COST	STATUS: (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost	$84,500,000		Entire Project	52	Being Determined
Estimated Non-Federal Other Costs	0				
Total Estimated Project Cost	$84,500,000				
Allocations to 30 September 1999	$43,393,000				
Conference Allowance for FY 2000	8,000,000				
Allocation for FY 2000	8,130,000 1/				
Allocations through FY 2000	51,523,000	61			
Allocation Requested for FY 2001	12,000,000	75			

1/ Reflects $1,140,000 reduction assigned as savings and slippage and $1,270,000 reprogrammed to the project.

Division: Northwestern

District: Kansas City / Omaha

Missouri River Fish and Wildlife Mitigation, Iowa, Nebraska, Kansas, and Missouri

1146

SUMMARIZED FINANCIAL DATA (Continued)

Programmed Balance to Complete after FY 2001	$20,977,000
Unprogrammed Balance to Complete after FY 2001	0

PHYSICAL DATA (All Federal)

	Acres
Aquatic habitat restoration/preservation	3,200
Acquisition and development of terrestrial habitat associated with aquatic areas	8,000
Acquisition and development of timber tracts	20,000
Development of timber-cropland habitat on public lands	16,900
Total	48,100 1/

1/WRDA 99 authorized additional land acquisition of 118,650 to be included after completion of cost estimate study

JUSTIFICATION: The project will preserve and/or restore riverine aquatic and bottom land terrestrial habitat in the Missouri River Valley where similar habitat is already depleted by the construction and operation of the Bank Stabilization and Navigation Project. Only those areas having the most potential will be included in the project, and lands needed for implementation will be acquired from willing sellers to the extent possible. The project will mitigate about 3 percent of aquatic losses and about 7 percent of terrestrial losses which have resulted from the constructed project.

FISCAL YEAR 2001: The requested amount of $12,000,000 will be applied as follows:

Item	Amount
Continue Land Acquisition	$2,238,000
Planning, Engineering, and Design	1,382,000
Continue Construction	7,729,000
Construction Management	573,000
Operation and Maintenance during construction	78,000
Total	$12,000,000

NON-FEDERAL COSTS: Not applicable

STATUS OF LOCAL COOPERATION: The authorizing act provides that the entire cost of this project, including all lands, easements, right-of-way, and relocations, and all operation and maintenance costs be borne by the Federal Government with no costs to either local or state governments. Therefore, there is no non-Federal sponsor for the project. The states of Iowa, Nebraska, Kansas, and Missouri are cooperatively providing support in the form of technical information, site priorities, public involvement, and related information. The states are also providing up to 18,200 acres of public land by easement at no cost for habitat development.

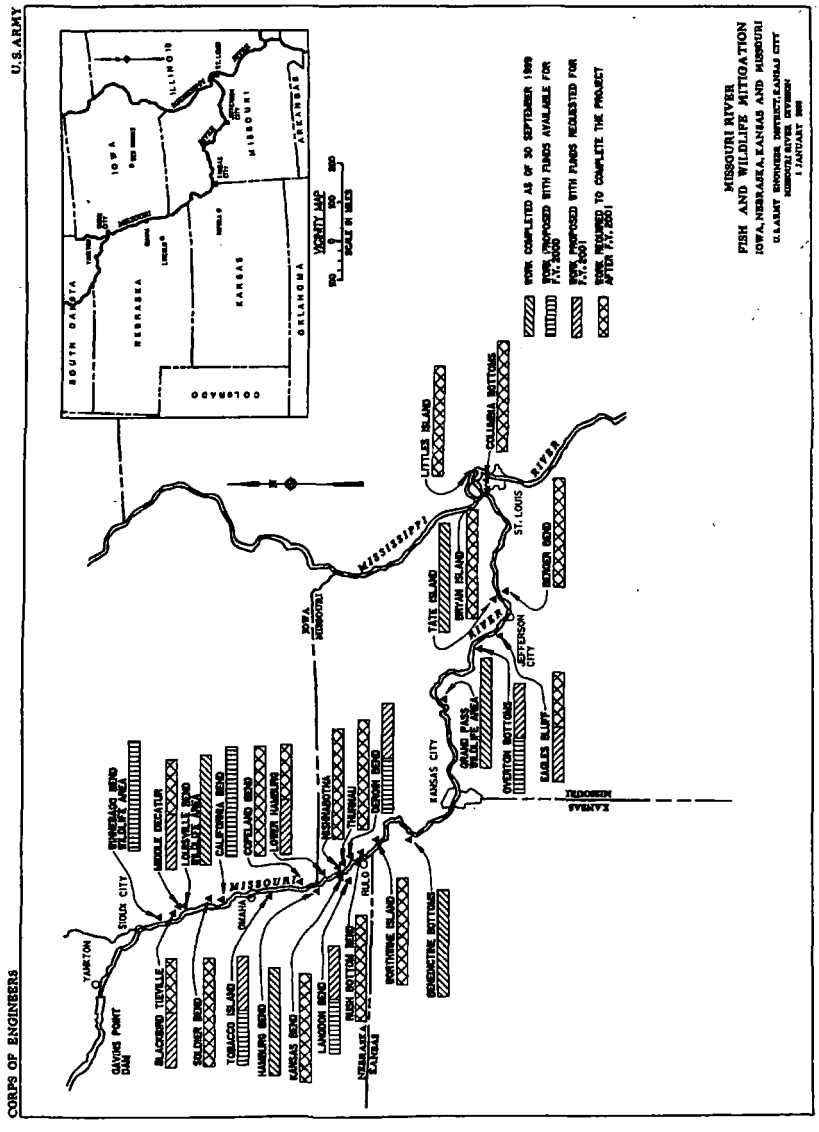
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $84,500,000 is an increase of $3,100,000 from the latest estimate ($81,400,000) submitted to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features and Changes in Projected Inflation Rates	$ -226,000
Post Contract Award and Other Estimating Adjustments	+3,326,000
Total	$+3,100,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Missouri River Mitigation Project Final Environmental Impact Statement was filed with the U.S. Environmental Protection Agency on 23 December 1982.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1990. Initial construction funds were appropriated in FY 1992.

1148



7 February 2000

APPROPRIATION TITLE: Construction, General - Local Protection Projects (Multiple-Purpose Power Project)

PROJECT: Willamette River Temperature Control, OR

LOCATION: Located in the Willamette River Basin in northwestern Oregon and contains an area of approximately 12,000 square miles.

DESCRIPTION: During the last 40 years, 13 Corps reservoirs have been constructed in the basin to control floods, generate power and provide water for navigation, irrigation, improving water quality, recreation and fish and wildlife. State and Federal resource agencies including the Northwest Power Planning Council want to modify water temperatures downstream from two reservoirs, Blue River and Cougar Lakes, to achieve more beneficial temperatures for anadromous fish under present flow conditions in the McKenzie River subbasin. Project facilities are intended to restore fish and wildlife habitat by improving downstream water temperatures that may have been degraded by the existing Corps projects at Blue River and Cougar Lakes. Restoring pre-project temperatures will improve survival rates and increase populations of three important native fish species: the wildstock of Willamette spring chinook salmon (a species of special concern being considered for listing under the Endangered Species Act, ESA), the bull trout (listed as threatened under the ESA), and the rainbow trout. These fisheries once provided important recreational and commercial benefits to the region. Justification for the project is based on non-monetary fishery and other biological benefits. Since benefits are non-monetary, a benefit-to-cost ratio has not been prepared. A feasibility study was completed in April 1995.

AUTHORIZATION: Water Resources Development Act of 1996 (PL 104-303), October 12, 1996; Water Resources Development Act of 1999 (PL 106-53), August 17, 1999.

REMAINING BENEFIT - REMAINING COST RATIO: N/A 1/

TOTAL BENEFIT-COST RATIO: N/A 1/

INITIAL BENEFIT-COST RATIO: N/A 1/

BASIS OF BENEFIT-COST RATIO: N/A 1/

1/ Mitigation is incrementally justified through consideration of costs and monetary and non-monetary benefits. A benefit-cost ratio is not computed.

SUMMARIZED FINANCIAL DATA			STATUS (1 Jan 00)	PERCENT COMPLETE	COMPLETION SCHEDULE
Estimated Appropriation Requirement		$ 72,900,000			
Future Non-Federal Reimbursement		10,219,000			
Estimated Federal Cost (Ultimate)		62,681,000	Entire project	3%	Being Determined
Estimated Non-Federal Cost		10,219,000			
Cash Contribution	$ 0				
Other Costs	0				
Reimbursements	10,219,000				
Power $10,219,000					
Total Estimated Project Cost		72,900,000			

Division: Northwestern

District: Portland

Willamette River Temperature Control, OR

7 February 2000

SUMMARIZED FINANCIAL DATA (Continued)

		ACCUM. PCT. OF EST. PED COST
Allocations to 30 September 1999 (PED)	$ 4,596,000	
Conference Allowance for FY 2000	$ 1,700,000	
Allocation for FY 2000	1,458,000 2/	
Allocations through FY 2000	6,054,000	8%
Allocation Requested for FY 2001	8,200,000	20%
Programmed Balance to Complete after FY 2001	58,646,000	
Unprogrammed Balance to Complete after FY 2001	0	

PHYSICAL DATA

Improvements: Modifications of the existing intakes towers by adding new wetwells with discrete throttled ports at Cougar and Blue River projects.

2/ Includes a $242,000 reduction assigned as savings and slippage.

JUSTIFICATION: The Willamette spring chinook salmon is being considered for listing under the ESA and the bull trout is listed as threatened (June 98). Both of these species and the native rainbow trout will benefit as a direct result of this project. It is expected that this project will reverse the decline of the once popular fisheries stocks on the McKenzie River and preclude the listing of yet another of the region's highly valued fish species. Construction of McKenzie, Blue, and the McKenzie rivers below the projects. Because of reservoir operation for flood control, river temperatures are now warmer in fall and early winter and cooler in spring and summer than they were prior to reservoir construction. The magnitude of impacts to fisheries from change in temperature regimes of the rivers below the dams were not expected at the time of design and construction. These effects are primarily above Leaburg Diversion Dam near Vida. Populations of salmon and resident trout are less than optimal due to the fishes failure to migrate to available habitat on the mainstem McKenzie above Leaburg. Habitats below Leaburg are over-crowded. Fishery resource agencies' studies indicate that the reason for the underutilization of habitat above Leaburg is due to the change in temperature regime. Restoring water temperatures downstream of these projects to general pre-project conditions will benefit native Willamette spring chinook salmon, bull trout, and native rainbow trout. Installation of selective withdrawal at both projects will significantly improve water temperatures in the South Fork and Blue Rivers and provide the best conformance to pre-project water temperatures on the main stem McKenzie downstream to Leaburg Dam.

NON-FEDERAL COSTS: This project is totally Federal funded.

STATUS OF LOCAL COOPERATION: N/A

FISCAL YEAR 2001: The requested amount of $8,200,000 will be applied as follows:

Engineering and Design	$ 1,880,000
Continue Construction	5,870,000
Construction Management	450,000
Total	$ 8,200,000

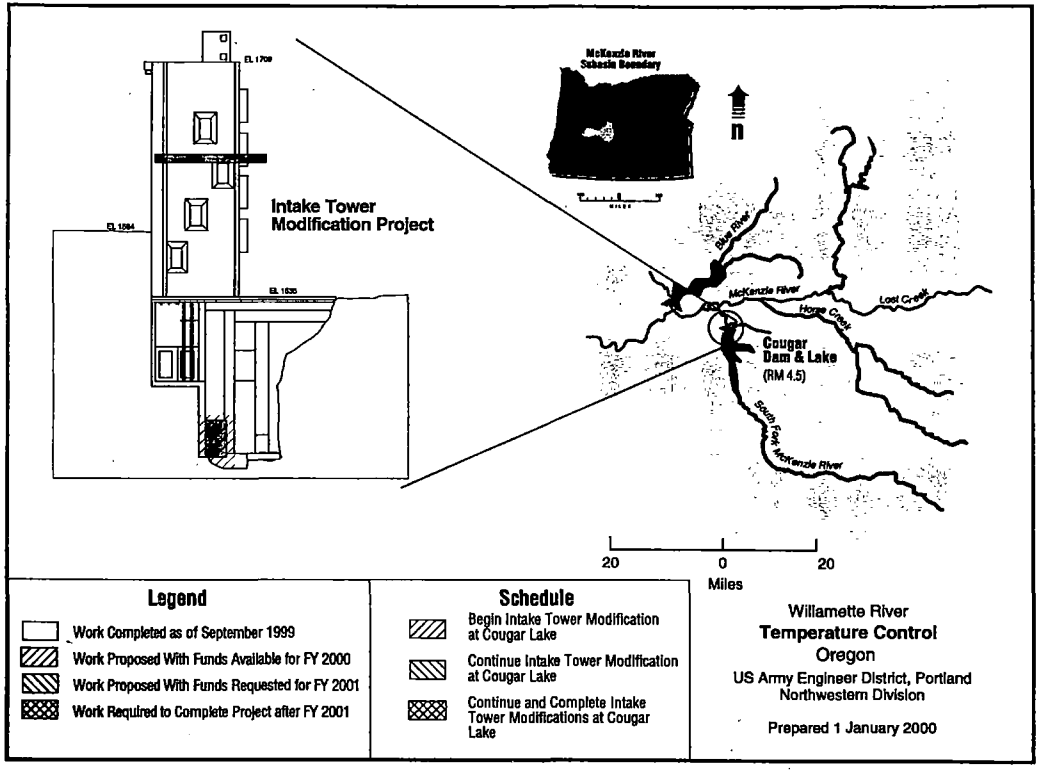
COMPARISON OF FEDERAL COST ESTIMATE: The current Federal cost estimate of $72,900,000 is an increase of $2,300,000 from the latest estimate ($70,600,000) presented to Congress (FY 2000). This change is due to price escalation on construction features.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Draft Environmental Impact Statement indicates the potential environmental impacts from the development are minor. The Environmental Impact Statement was completed and a Finding of No Significant Impact was signed by the Division Commander 24 April 1996.

OTHER INFORMATION: The cost of the recommended plan will be repaid based on allocations to the original project purposes of flood control, navigation, and hydropower. Twenty-three percent of the Cougar project modification costs were allocated to hydropower, therefore, twenty-three percent of the Cougar project modification costs will be allocated to hydropower and repaid to the Federal Treasury through rates established by the Bonneville Power Administration (BPA). The balance of the costs would be borne by the Federal Government.

The costs presented herein reflect the total estimate for Cougar and Blue River as presented in the Cougar Lake Feature Design Memorandum (FDM), dated July 31, 1998. WRDA 1999 reauthorized the project in accordance with this FDM at a total uninflated cost of $64,741,000 (1 Oct 98 price level) which is the basis for the fully funded estimate of $72,900,000.

1152


Intake Tower
Modification Project
McKenzie River
Subasin Boundary
N
Blue River
McKenzie River
Horse Creek
Lost Creek
Cougar
Dam & Lake
(RM 4.5)
South Fork McKenzie River
20
0
20
Miles
Legend
Work Completed as of September 1999
Work Proposed With Funds Available for FY 2000
Work Proposed With Funds Requested for FY 2001
Work Required to Complete Project after FY 2001
Schedule
Begin Intake Tower Modification at Cougar Lake
Continue Intake Tower Modification at Cougar Lake
Continue and Complete Intake Tower Modifications at Cougar Lake
Willamette River
Temperature Control
Oregon
US Army Engineer District, Portland
Northwestern Division
Prepared 1 January 2000

APPROPRIATION TITLE: Construction, General - Environmental Mitigation, Restoration and Protection

PROJECT: Cheyenne River Sioux Tribe, Lower Brule Sioux Tribe, and State of South Dakota Terrestrial Wildlife Habitat Restoration - (Continuing)

LOCATION: The lands subject to Section 601 of the Water Resources Development Act of 1999 (WRDA 99) are generally Corps lands located in South Dakota that was acquired by the Secretary of the Army for the implementation of the Pick-Sloan Missouri River Basin program. Lands to be transferred to the State is Corps land that is located above the top of the exclusive flood pool of the Oahe, Big Bend, Fort Randall and Gavins Point projects and is located outside the external boundaries of a reservation of an Indian Tribe. Lands to be transferred to the Secretary of the Interior are those lands located above the top of the exclusive flood pool of the Big Bend and Oahe projects and is located within the external boundaries of the reservation of the Cheyenne River Sioux Tribe and the Lower Brule Sioux Tribe.

DESCRIPTION: Review and submittal to Congress of wildlife habitat restoration plans developed by the State and Indian Tribes. Accomplish the transfer of Corps of Engineers land to State of South Dakota and transfer of Corps of Engineers land to Department of Interior (DOI) for the two Indian Tribes.

AUTHORIZATION: P.L. 106-53 WRDA 99.

REMAINING BENEFIT-REMAINING COST RATIO: N/A

TOTAL BENEFIT-COST RATIO: N/A

INITIAL BENEFIT-COST RATIO: N/A

BASIS OF BENEFIT-COST RATIO: N/A

SUMMARIZED FINANCIAL DATA:

			ACCUM PCT OF EST FED COST	STATUS: (1 JAN 2000)	PCT CMPL	COMPLETION SCHEDULE
Estimated Federal Cost		$108,000,000				
Estimated Non-Federal Cost		0		Entire Project	0	Being Determined
Cash Contribution	$ 0					
Other Costs	$ 0					
Total Estimated Project Cost		$108,000,000				

Division: Northwestern

District: Omaha

Cheyenne River Sioux Tribe, Lower Brule Sioux Tribe State of South Dakota Terrestrial Wildlife Habitat Restoration

1154

SUMMARIZED FINANCIAL DATA (continued):		ACCUM PCT OF EST FED COST
Allocations to 30 September 1999	$ 0	
Conference Allowance for FY 2000	1,500,000	
Allocation for FY 2000	2,286,000 1/	
19,400		
Allocations through FY 2000	2,286,000	1
Allocation Requested for FY 2001	4,000,000	5
Programmed Balance to Complete after FY 2001	101,714,000	
Unprogrammed Balance to Complete after FY 2001	0	

PHYSICAL DATA	
Land - Estimated Acres to be transferred	133,150
(To the State of South Dakota	91,000 Acres)
(To the Cheyenne River Tribe	33,300 Acres)
(To the Lower Brule Tribe	8,850 Acres)
Land - Estimated Acres to remain with the Corps of Engineers	
Recreation Sites to be transferred	81
(To the State of South Dakota	64 sites)
(To the Cheyenne River Tribe	6 sites)
(To the Lower Brule Tribe	11 sites)
Number of Significant Cultural Sites Involved	388

1/ Reflects $214,000 reduction assigned as savings and slippage and a pending reprogramming of $1,000,000 to the project to be equally shared in supporting activities by the Cheyenne River Sioux Tribe, the Lower Brule Sioux Tribe, and the State of South Dakota.

JUSTIFICATION: Transfer of Federal lands to the State and DOI for the two Indian Tribes as authorized by Section 601 of WRDA 99 for the restoration of wildlife stewardship lands.

FISCAL YEAR 2001: The requested amount of $4,000,000 will be applied as follows:

Item	Amount
Real Estate Activities	$ 100,000
Fish and Wildlife Activities	1,225,000
Recreation Facilities	1,225,000
Cultural Resources Preservation	1,250,000
Project Coordination Costs	150,000
Engineering and Design Activities	25,000
Supervision and Administration	25,000
Total	$ 4,000,000 2/

2/Includes $2,500,000 to support activities by the Cheyenne River Sioux Tribe, the Lower Brule Sioux Tribe, and the State of South Dakota.

NON-FEDERAL TOTAL COST: There is no requirement for a non-Federal sponsor for this project.

STATUS OF LOCAL COOPERATION: N/A

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $108,000,000 is unchanged for the latest estimate presented to Congress (Fiscal Year 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: N/A
OTHER INFORMATION:

In accordance with WRDA 99, trust funds to be established (which will total $165,400,000) by the Treasury of the United States for the State of South Dakota, Cheyenne River Sioux Tribe, and Lower Brule Sioux Tribe, will allow interest to be used for implementation of the restoration program.

The State of South Dakota and the two Tribes cannot use interest from trust fund established for implementation of the restoration program until fully capitalized and plans for restoration have been transmitted to Congress through the Secretary of the Army. The plans developed by the State and two Tribes have been transmitted to Congress.

Interest from the capitalized fund will be used by the State and Tribes for recreation and wildlife mitigation. State and Tribes must first fully fund annually scheduled work described in restoration plans submitted to Congress. Remaining annual funds are to be used to protect cultural resource sites and all costs associated with management and development of recreation areas.

During the period that it takes the Corps to accomplish the land transfers, the Corps must fund wildlife habitat restoration programs equal to the amount funded in prior year. Corps must also develop a map of lands needed for project operations for 20 years from the date of the act and dams and related structures that are to be retained by the Secretary of the Army.

Normal Corps activities continue until transfer including implementation of the State and Tribe plans for restoration of terrestrial wildlife habitat during transition period.

No transfer of land shall occur until a USGS study determines that the transfer of land will not significantly reduce the amount of water flow to the downstream States. The Army has determined, based on the completed USGS study, that the land transfer would not have a significant effect on downstream flows.

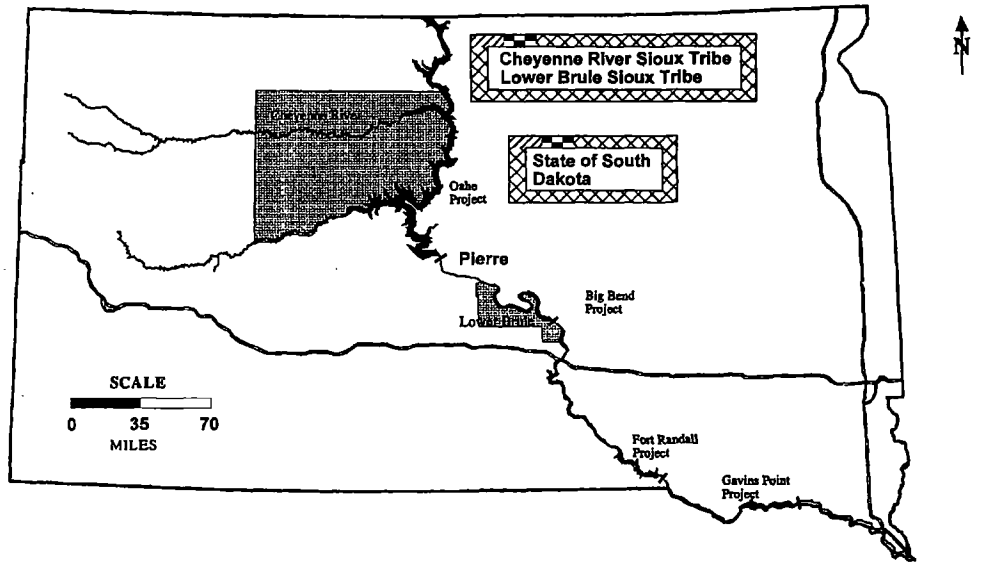
Corps loses authority to manage recreation and wildlife habitat, retains authority to operate project consistent with project authorities.

Corps not responsible for any damages to transferred lands caused by flooding, sloughing, erosion or other changes caused by operations of any project.

Does not relieve Corps from complying with NEPA.

Implementation satisfies mitigation requirements with State of South Dakota, Cheyenne River and Lower Brule Tribes. Silent on remaining responsibilities for Crow Creek Tribes and Standing Rock Sioux Tribe.

Division: Northwestern | District: Omaha | Cheyenne River Sioux Tribe, Lower Brule Sioux Tribe, and State of South Dakota Terrestrial Wildlife Habitat Restoration



WORK COMPLETED

WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR

WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR

WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR

Cheyenne River Sioux Tribe, Lower Brule Sioux Tribe, and State of South Dakota Terrestrial Wildlife Habitat Restoration

U.S. Army Engineer District, Omaha
Northwestern Division
1 January 2000

APPROPRIATION TITLE: Construction, General - Multiple Purpose Power

PROJECT: Columbia River Fish Mitigation, Washington, Oregon, & Idaho (Continuing)

LOCATION: Lower Columbia and Snake Rivers.

DESCRIPTION: The mitigation consists of (1) adult and juvenile fish bypass improvements at Lower Granite, Little Goose, Lower Monumental, and Ice Harbor on the Snake River; McNary, John Day, The Dalles, and Bonneville on the Columbia River, and avian predation controls and habitat improvement measures in the Lower Columbia River estuary, (2) a mitigation analysis, prepared in cooperation with regional interests, to evaluate additional measures to increase fish survival in the Columbia and Snake Rivers. The mitigation analysis provides the analytical process for consideration and implementation of Federal actions necessary to support regional initiatives and Federal salmon and resident fish ESA recovery initiatives.

AUTHORIZATION: 1933 Federal Emergency Administration of Public Works; 1935, 1945 and 1950 River and Harbor Acts; 1937 Bonneville Project Act; the 1950 Flood Control Act, and WRDA 1999, Section 582.

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable 1/

TOTAL BENEFIT-COST RATIO: Not applicable 1/

INITIAL BENEFIT-COST RATIO: Not applicable 1/

BASIS OF BENEFIT-COST RATIO: Not applicable 1/

1/ Mitigation is incrementally justified through consideration of costs and non-monetary and monetary benefits; accordingly, a benefit-cost ratio is not computed.

SUMMARIZED FINANCIAL DATA	
Estimated Total Appropriation Requirement (Corps of Engineers)	$ 1,376,330,000
Estimated Other Federal Costs (Bonneville Power Administration)	9,670,000
Total Initial Federal Cost	1,386,000,000
Future Non-Federal Reimbursement	1,188,900,000 2/
Estimated Federal Cost (Ultimate)	197,100,000

STATUS (1 Jan 00)	PERCENT COMPLETE	COMPLETION SCHEDULE
Entire Project	40	Being Determined

2/ Allocation for actual reimbursement by the Bonneville Power Administration is made as each element is placed in service.

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SUMMARIZED FINANCIAL DATA (Continued)

Estimated Non Federal Cost	$1,188,900,000
Cash Contributions	0
Other Costs	0
Reimbursements	$1,188,900,000
Power	$1,188,900,000
Total Estimated Project Cost	$1,386,000,000

		ACCUM. PCT OF EST FED COST
Allocations to 30 September 1999	$ 568,014,000	
Conference Allowance for FY 2000	67,500,000	
Allocation for FY 2000	57,887,000 3/	
Allocation through FY 2000	625,901,000	45%
Allocation requested for FY 2001	91,000,000	52%
Programmed Balance to Complete after FY 2001	659,429,000	
Unprogrammed Balance to Complete after FY 2001	0	

3/ Reflects a $9,613,000 reduction assigned as savings and slippage.

PHYSICAL DATA

Lower Granite Lock & Dam
- Extended Screens
- Fish Loading Improvements
- Barge Moorage Expansion
- Fish Transportation Barges
- Bypass Channel Improvement
- Surface Bypass Facilities

McNary Lock & Dam
- Extended Screens
- Holding & Loading Improvements
- Intake Gate Raise

Bonneville Lock and Dam
- Bypass Channel Improvements Including Outfall Relocation
- Independent Station Service
- Juvenile Fish Monitoring Facilities

Division: Northwestern

District: Portland / Walla Walla

Columbia River Fish Mitigation
Washington, Oregon and Idaho

PHYSICAL DATA (Cont'd)

Little Goose Lock & Dam
- Aux Water Supply-Fish Ladder
- Extended Screens
- Holding and Loading Facility
- Surface Bypass Facilities

Lower Monumental Lock & Dam
- Screened Bypass
- Holding and Loading Facility
- Surface Bypass Facilities
- Aux Water Supply-Fish Ladder

Ice Harbor Lock & Dam
- Screened Bypass

Aux Water Supply-Fish Ladder
- Spillway Flow Deflectors for Gas Abatement
- Surface Bypass Facilities

John Day Lock & Dam
- Juvenile Fish Monitoring Facilities
- Spillway Flow Deflectors for Gas Abatement
- Extended Screens

The Dalles Lock & Dam
- Extended Screen Bypass
- Emergency Aux Water Supply
- Adult Ladder Dewater System
- Bypass System Maint Facility

Lower Columbia River estuary
- Avian predation controls

Mitigation Analysis
- Phase One System Configuration Report
- Surface Collection and Bypass
- Drawdown of Lower Snake Reservoirs

John Day Fall Chinook Hatchery
- Adult Passage

Mitigation Study
- Turbine Passage
- Gas Abatement
- Light and Sound Guidance
- Baseline and Miscellaneous Studies
- Phase I Study of John Day Drawdown
- Anadromous fish use and needs in the estuary
- Impacts of Federal Columbia River Power System and other activities on esturian habitat

1160

JUSTIFICATION: Columbia River Fish Mitigation provides mitigation for the impact of Corps' dams on migrating salmon. Completed and scheduled mitigation measures are based on analyses completed to date. Mitigation measures are being considered as a result of the Northwest Power Planning Council's regional rebuilding efforts for upriver salmon stocks, the NMFS listing of Snake River salmon as threatened/endangered, and the NMFS Biological Opinions on operation of the FCRPS issued on March 2, 1995 and May 14, 1998. The current scope of this project has been adjusted to be in accord with biological opinion. The Mitigation Analysis, begun in FY 1991, is contributing to a regionally cooperative process for analyzing potential new measures.

In response to Section 582 of WRDA 1999 and in recognition of the effects of the hydrosystem operations and other Corps activities on the Columbia River estuary and concomitant impacts on salmonids, efforts will begin in the Budget Year to address habitat and avian predation issues in the estuary. The total project cost remains unchanged.

Division: Northwestern

District: Portland / Walla Walla

Columbia River Fish Mitigation
Washington, Oregon and Idaho

FISCAL YEAR 2001: The requested amount of $91,000,000 will be applied on major measures as follows:

Lower Granite	$3,300,000	John Day	$3,000,000
Adult Passage System Auxiliary Water		Extended Length Screen Evaluation	
Extended Length Screen Bypass System			
Juvenile Bypass Facilities			
Miscellaneous		The Dalles	
		Emergency Auxiliary Water Supply	$5,750,000
		Adult Channel Dewatering	
Little Goose	$2,450,000	Bonneville	
Extended Length Screen Bypass System		Phases I & II Monitoring and Outfall Relocation	$11,025,000
Auxiliary Water Supply			
Juvenile Bypass System Improvements			
Trash Shear Boom		Lower Columbia River estuary	
		Avian predation controls	$100,000
Lower Monumental	$8,850,000		
Adult Passage System Auxiliary Water		Mitigation Analysis	$40,705,000
Outfall Relocation		Studies: Surface Bypass at Lower Granite;	
Juvenile Bypass System Improvements		Juvenile Bypass System at Little Goose;	
Miscellaneous		Supply Flow Deflectors at Ice Harbor;	
		Lamprey Evaluation at McNary; Biological	

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FISCAL YEAR 2001: (cont'd)

Ice Harbor	$6,800,000	Mitigation Analysis - Studies (cont'd)
Adult Passage System Auxillary Water		Studies at John Day; Surface Bypass and
Misscellaneous		Spillway and Sluiceway Survival Studies
		at The Dalles; Surface Bypass, Fish
		Guidance Efficiency Retest, Adult Fall-back,
McNary	$9,020,000	Passage Improvements, Survival Studies at
Extended Length Screen Bypass		Bonneville; Gas Abatement, Adult Passage, estuary
Modifications and Improvements		evaluations, Misc Studies, and Lower Columbia
Extended Length Screen Bypass		River Configuratioin Study (LCRCS) 4/
Modifications and Improvements		
Fish Ladder Exit Modifications		==========
Miscellaneous		
Adult Collection Channel Stoplogs		Total $ 91,000,000

4/ As required by the NMFS 1998 Supplement to the Biological opinion the LCRCS study could include Phase II of the John Day drawdown study if continued study of John Day is determined appropriate based on findings of the Phase I report which will be completed in May 2000 and subject to Congressional appropriations. Further, the LCRCS is proposed to include evaluation of drawdown of McNary as an alternative per the 1998 biological opinion and subject to Congressional appropriations.

NON-FEDERAL COST: Costs eventually determined to be allocable to power are reimbursable. The dams being modified and analyzed are a part of the Federal Columbia River Power System. Bonneville Power Administration (BPA), the Federal marketing agency, establishes system rate levels adequate to recover all capital investment costs for generating projects (including Corps generating projects) within a 50-year period and to repay annual OM&R and interest expenses. BPA submits an annual financial statement to Congress, as required by law, on repayment and periodically recommends rate adjustments as required for meeting repayment obligations.

STATUS OF LOCAL COOPERATION: None required.

COMPARISON OF FEDERAL COST ESTIMATE: The current initial Federal cost estimate of $1,386,000,000 is the same as the last estimate presented to Congress (Fiscal Year 2000).

1162

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: Mitigation construction is generally covered by existing environmental impact statements. Additional Environmental documentation pursuant to NEPA will be accomplished as necessary. Consultations with the National Marine Fisheries Service will be held and biological assessments prepared as necessary to conform with requirements of NEPA and of the Endangered Species Act (ESA).

OTHER INFORMATION:

Initial Construction Date

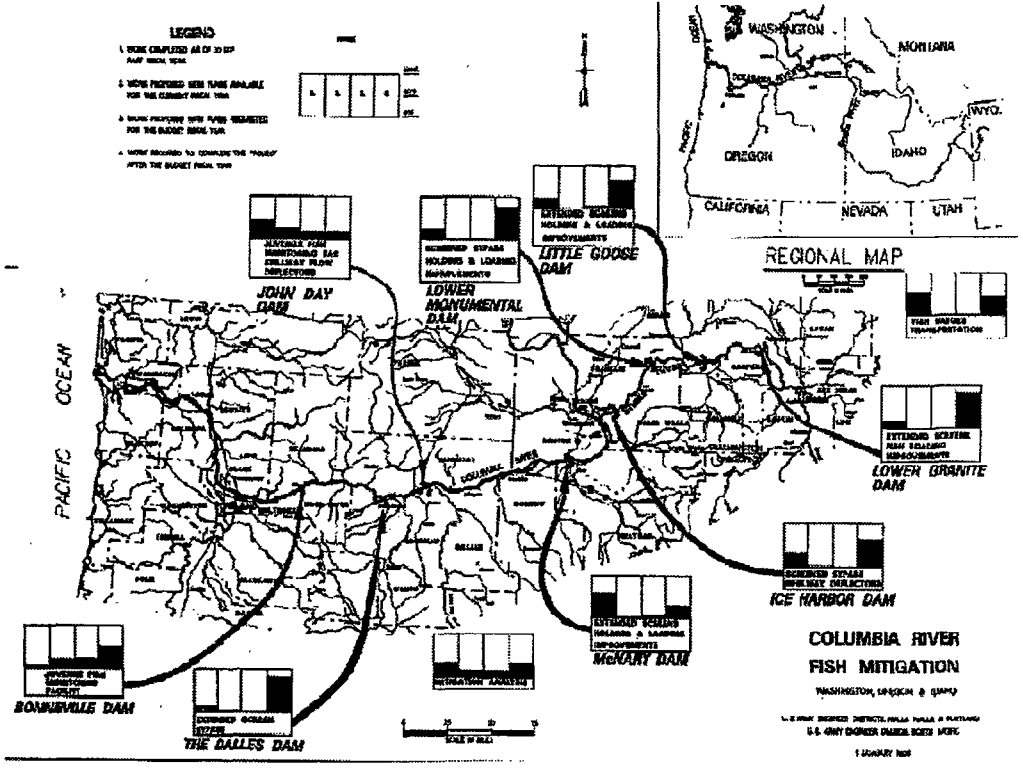
Funds to initiate construction were appropriated in Fiscal Year 1988.

Scheduled Completion Dates

The project completion date is being determined. The last project completion date presented to Congress was September 2007.

Potential Future Changes

Salmon rebuilding initiatives for Corps implementation have been adopted by the Northwest Power Planning Council as a part of its amended Columbia River Basin Fish and Wildlife Program. NMFS is currently developing a recovery plan required under ESA for listed Snake River salmon stocks. A formal memorandum of agreement regarding hydropower reimbursed costs for Columbia River basin fish and wildlife costs was signed in September 1996. These developments, and recommendations resulting from the Lower Snake Feasibility Study and a new FY00 biological opinion from NMFS, may affect Corps actions and future budget requirements. In the Budget Year there is potential for adjustments in measures and activities based on results of current year research and development, and monitoring and evaluation. This adaptive management approach is regionally recognized and accepted. The Corps will continue to coordinate all of its fish mitigation project activities with regional entities as final and specific plans and priorities in FY 01 are determined.


LEGEND
WASHINGTON
MONTANA
OREGON
IDAHO
WYO.
CALIFORNIA
NEVADA
UTAH
REGIONAL MAP
PACIFIC OCEAN
JOHN DAY DAM
LOWER MONUMENTAL DAM
LITTLE GOOSE DAM
LOWER GRANITE DAM
ICE HARBOR DAM
McNARY DAM
BONNEVILLE DAM
THE DALLES DAM
COLUMBIA RIVER
FISH MITIGATION

APPROPRIATION TITLE: Construction, General - Multiple Purpose Power

PROJECT: Lower Snake River Fish and Wildlife Compensation, Washington, Oregon, Idaho, (Continuing)

LOCATION: Hatchery sites are located at McCall, Idaho, about 1,500 feet downstream from Payette Lake; Lyons Ferry, Washington, at River Mile 59 on the Snake River; Lookingglass, Oregon, about 10 miles northwest of Elgin, Oregon; Hagerman, Idaho, 10 miles west of Twin Falls, Idaho; Irrigon Hatchery, about 10 miles west of Umatilla, Oregon; Dworshak Expansion, Sawtooth Hatchery about 5 miles south of Stanley, Idaho; Magic Valley Hatchery about 4 miles north of Buhl, Idaho; and Clearwater Hatchery about 5 miles west of Orofino, Idaho. Fishing and hunting access and wildlife habitat lands will be located in Washington and Idaho.

DESCRIPTION: The project consists of a number of Chinook and Steelhead hatcheries that will provide 27,000,000 juvenile salmon and steelhead annually. These fish will be released in streams for migration to the Pacific Ocean. Adult salmon and steelhead resulting from these releases will provide both sport and commercial fishing opportunities with over 4 million pounds of fish going to the commercial fisheries and providing approximately 689,000 additional angler days of sport fishing. An estimated 132,000 adult fish will return to the project area of the Snake River. In addition to the anadromous fish, 93,000 pounds of trout will be reared and released in Eastern Washington which will provide 45,000 additional angler days of sport fishing. There will be an aggregate of 24,150 acres in fee or easement for fisherman access, wildlife habitat and hunting access. Additionally, a program has been implemented with Washington State Department of Game to produce the equivalent of 20,000 game birds per year for 20 years.

AUTHORIZATION: Water Resources Development Act of 1976 as modified by the Water Resources Development Act of 1986.

REMAINING BENEFIT-REMAINING COST RATIO: Not Applicable. 1/

TOTAL BENEFIT-COST RATIO: Not Applicable. 1/

INITIAL BENEFIT-COST RATIO: Not Applicable. 1/

BASIS OF BENEFIT COST RATIO: Not Applicable. 1/

1/ Mitigation is incrementally justified through consideration of costs and non-monetary benefits; accordingly, a benefit-cost ratio is not computed.

SUMMARIZED FINANCIAL DATA		ACCUM PCT. OF EST. FED COST	STATUS: (1 Jan 00)	PERCENT COMPLETE	COMPLETION SCHEDULE
Estimated Total Appropriation Requirements	$ 232,000,000		Entire Project	4/	Being Determined 2/
Future Non-Federal Reimbursement	225,162,000		Wildlife Compensation	91	Being Determined
Estimated Federal Cost (Ultimate)	6,838,000		Fish Facility	4/	Being Determined 2/
Estimated Non-Federal Cost	225,385,000		Lands	100	Sep 1994
Cash Contributions	223,000				
Reimbursements	225,162,000				
Power	225,162,000				
Total Estimated Project Cost	$ 232,223,000 2/				
Allocations to 30 Sep 1999	$ 228,659,000				
Conference Allowance for FY 2000	1,300,000				
Allocation for FY 2000	1,115,000 3/				
Allocations through FY 2000	229,774,000	99			
Allocation Requested for FY 2001	1,000,000	99			
Programmed Balance to Complete after FY 2001	1,226,000				
Unprogrammed Balance to Complete after FY 2001	0				

2/ Scope for hatchery facilities initially identified via the FY 95 appropriations are now included, however the cost estimate and the completion schedule for the Lookingglass Hatchery water treatment work is not yet available pending regional agreement on design criteria.

3/ Reflects $185,000 reduction assigned as savings and slippage..

4/ Percent complete is not available pending preparation of a cost estimate for all the additional hatchery facilities included in the FY 1995 appropriations; however, the remainder of the fish facilities are essentially complete.

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PHYSICAL DATA

Capacity of Hatcheries
9,160,000 Fall Chinook Smolts - 101,800 lbs
6,750,000 Spring and Summer Chinook
Smolts - 450,000 lbs.
11,020,000 Summer Steelhead - 1,377,500 lbs.
93,000 lbs. Of Resident Sport Fishery

Acquisition of 24,150 acres for fisherman access and wildlife compensation and improvemen of land for wildlife compensation.

JUSTIFICATION: The Lower Snake River Fish and Wildlife project will provide compensation for the losses to fish and wildlife resources that were caused by the construction and operation of the four Lower Snake River dam projects (Ice Harbor, Lower Monumental, Little Goose, and Lower Granite).

FISCAL YEAR 2001: The requested amount of $1,000,000 will be applied as follows:

Continue Wildlife Compensation Facilities	$ 1,000,000

NON-FEDERAL COSTS: Costs allocable to power presently estimated at $225,162,000 are reimbursable. This project is a part of the Federal Columbia River Power System. Bonneville Power Administration (BPA), the Federal marketing agency, establishes system rate levels adequate to recover all capital investment costs for generating projects (including Corps generating projects) within a 50-year period and to repay annual OM&R and interest expenses. BPA submits an annual financial statement to Congress, as required by law, on repayment and periodically recommends rate adjustments as required for meeting repayment obligations. In addition, a cash contribution to expand the Lyons Ferry Hatchery ($223,000) has been furnished.

STATUS OF LOCAL COOPERATION: None required for construction.

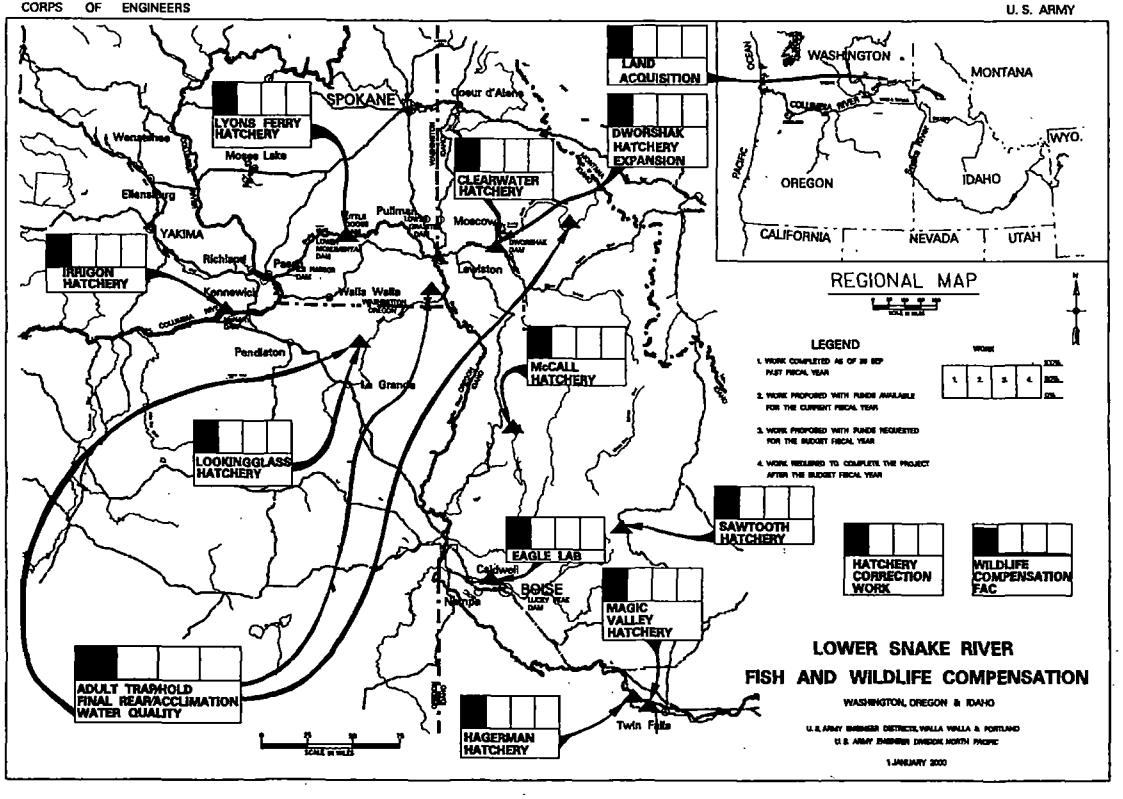
COMPARISON OF FEDERAL COST ESTIMATE: The current Federal cost estimate of $232,000,000 is the same estimate presented to Congress (FY 2000) last year.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed with the Council on Environmental Quality of 29 October 1977. Additional Environmental documentation pursuant to NEPA will be accomplished as necessary. Consultations with the National Marine Fisheries Service will be held and biological assessments prepared as necessary to conform with requirements of the Endangered Species Act.

OTHER INFORMATION:
Funds to initiate preconstruction planning were appropriated in Fiscal Year 1978 and for Construction in Fiscal Year 1979.

The purpose of the entire project is fish and wildlife compensation for the four mainstem dams on the Snake River.

Division: Northwestern | District: Walla Walla | Lower Snake River Fish and Wildlife Compensation, Washington, Oregon, Idaho


CORPS OF ENGINEERS
U. S. ARMY
LAND ACQUISITION
DWORSHAK HATCHERY EXPANSION
CLEARWATER HATCHERY
LYONS FERRY HATCHERY
IRRIGON HATCHERY
LOOKINGGLASS HATCHERY
McCALL HATCHERY
SAWTOOTH HATCHERY
EAGLE LAB
MAGIC VALLEY HATCHERY
HAGERMAN HATCHERY
ADULT TRAP/HOLD
FINAL REAR/ACCLIMATION
WATER QUALITY
HATCHERY CORRECTION WORK
WILDLIFE COMPENSATION FAC
SPOKANE
Coeur d'Alene
Moscow
Lewiston
Pullman
Walla Walla
Pendleton
La Grande
Ellensburg
Yakima
Richland
Kennewick
Moses Lake
Wenatchee
Caldwell
Nampa
Boise
Twin Falls
WASHINGTON
MONTANA
OREGON
IDAHO
WYO.
CALIFORNIA
NEVADA
UTAH
REGIONAL MAP
LEGEND
LOWER SNAKE RIVER
FISH AND WILDLIFE COMPENSATION
WASHINGTON, OREGON & IDAHO
1 JANUARY 2000

APPROPRIATION TITLE: Construction, General - Dam Safety Assurance

PROJECT: Mud Mountain Dam, Washington (Continuing)

LOCATION: Mud Mountain Dam is located at river mile 29.6 on the White River, 6 miles upstream and southeast of Enumclaw, and 38 miles southeast of Tacoma in western Washington.

DESCRIPTION: Dam safety modifications completed to date include installing a concrete cut-off wall in the dam's core along the centerline of the dam, raising the dam crest elevation, raising the spillway chute wall to contain the spillway discharge during the Spillway Design Flood event, reconstructing the maintenance roads, constructing a new reservoir outlet control tower, and modifying the two existing flood control discharge tunnels. The new outlet tower is accessible at all pool levels, serves both existing tunnels, remains open during and after high water and debris flows, and will withstand the Maximum Credible Earthquake. Remaining work (based on a Jun 99 approved supplemental design memorandum) consists of modifications to the outlet works, spillway, and right-bank canyon slopes which are required to assure dam safety standards.

AUTHORIZATION: Flood Control Act of 1936 authorized the Mud Mountain Dam and reservoir on the White River as the main unit of the Puyallup River flood control project.

REMAINING BENEFIT - REMAINING COST RATIO: Not applicable to dam safety assurance projects.

TOTAL BENEFIT-COST RATIO:.THE INITIAL BENEFIT - COST RATIO: Not applicable to dam safety assurance projects.

BASIS OF BENEFIT-COST RATIO: Not applicable.

SUMMARIZED FINANCIAL DATA		Accum. Pct. of Est. Fed Cost	STATUS (1 Jan 00)	PERCENT COMPLETE	COMPLETION SCHEDULE
Estimated Federal Cost	$ 80,918,000		Entire Project	90	Sept 2001
Estimated Non-Federal Cost	0				
Total Estimated Project Cost	$ 80,918,000				
Allocations to 30 September 1999	$ 71,868,000				
Conference Allowance for FY 2000	0				
Allocation for FY 2000	7,050,000 1/				
Allocations through FY 2000	78,918,000	97 %			
Allocation Requested for FY 2001	2,000,000	100 %			
Programmed Balance to Complete after FY 2001	0				
Unprogrammed Balance to Complete after FY 2001	0				

1/Reflects $7,050,000 to be reprogrammed to the project.

Division: Northwestern

District: Seattle

Mud Mountain Dam, Washington
(Dam Safety Assurance)

7 February 2000

PHYSICAL DATA:

Dam: Type - Rockfill with earth core and concrete cutoff wall
Height - 425 feet above bedrock
Crest - 700 feet long
Width - 1,600 feet at base, 26 feet at crest

Spillway: Type - Uncontrolled
Design Capacity - 139,000 cfs
Overtopping Capacity - 220,000 cfs

JUSTIFICATION: Mud Mountain Dam became operational in 1948, and presently provides flood damage protection for about 850 acres of land on the White River and approximately 6,200 acres on the Puyallup River. The area is used for agriculture, residential, industrial, commercial, and transportation developments related to the expanding Port of Tacoma area. Migratory fish are live trapped at the Buckley Fish Trap and trucked and released upstream of the dam. Two of the species, Bull Trout and Puget Sound Chinook, have been listed in accordance with the Endangered Species Act. Major transportation facilities include the Burlington Northern and the Tacoma Beltline Railroads, Interstate Highway 5; and U.S. Highways 99 and 410. The area has a population of more than 190,000 people, with 73,000 in the Mud Mountain Dam flood plain.

The original spillway was inadequate for the Spillway Design Flood (SDF) based on current criteria. With an SDF, the dam would have been overtopped and would probably have failed. The resulting flood would have inundated the White and Puyallup River Valleys and could have caused flow into the adjacent Green River Valley below Auburn. Widespread flooding would have resulted in catastrophic damages with a high potential for loss of human life. Potential damages during the SDF conditions without dam failure have been estimated to be about $3.1 billion at October 1999 prices and conditions. Damages associated with a dam failure during the SDF conditions have been estimated to be about $4.8 billion at October 1999 prices and conditions. Should the dam fail, costs to repair the dam structure are estimated to be $175 million, and yearly flood losses would occur until the dam is replaced. The modified dam was tested by record floods in Nov 1995 and Feb 1996, reaching a record reservoir level of elevation 1198.

There would have been a high probability for loss of reservoir control by failure of the old reservoir outlet towers during the Maximum Credible Earthquake or plugging of the towers with debris during floods. Loss of control would have caused a rapid and uncontrolled rise in pool level resulting in unregulated flow over the spillway and loss of flood protection. Under these conditions, the integrity of the right reservoir rim could have been jeopardized by seepage resulting from the prolonged high pool.

1170

JUSTIFICATION (continued)

The modification of the two discharge tunnels was completed as part of the new outlet tower construction contract. Modification of the 23-foot tunnel substantially altered the hydraulic regimen from the original design. This was done in order to enhance the flood protection capability of the outlet works while minimizing environmental impacts to the river. Yearly inspections since completion of the construction contract (1995) have identified greater than anticipated erosion in the concrete invert of the 23-foot tunnel and in the entrance chamber portion of the outlet tower. The damage that has occurred due to the on-going erosion warranted immediate remedial action.

Construction of the new intake tower required the installation of a pedestrian bridge and stairway along the right bank slope. These features provide the only personnel access to the intake tower during high reservoir pools, and, support the intake tower's lifeline utilities. Recent inspections and an engineering review of the slope-bridge-stairway system has revealed that this system may not remain intact after a major seismic event. Should this access system fail due to soil instability, operational control of the service and emergency gates would be lost.

FISCAL YEAR 2001: The requested amount of $2,000,000 will be applied as follows:

Complete Dam Safety Modification Construction Related to the New Intake Tower	$ 1,800,000
Planning, Engineering, and Design	100,000
Construction Management	100,000
Total	$ 2,000,000

NON-FEDERAL COSTS: None required.

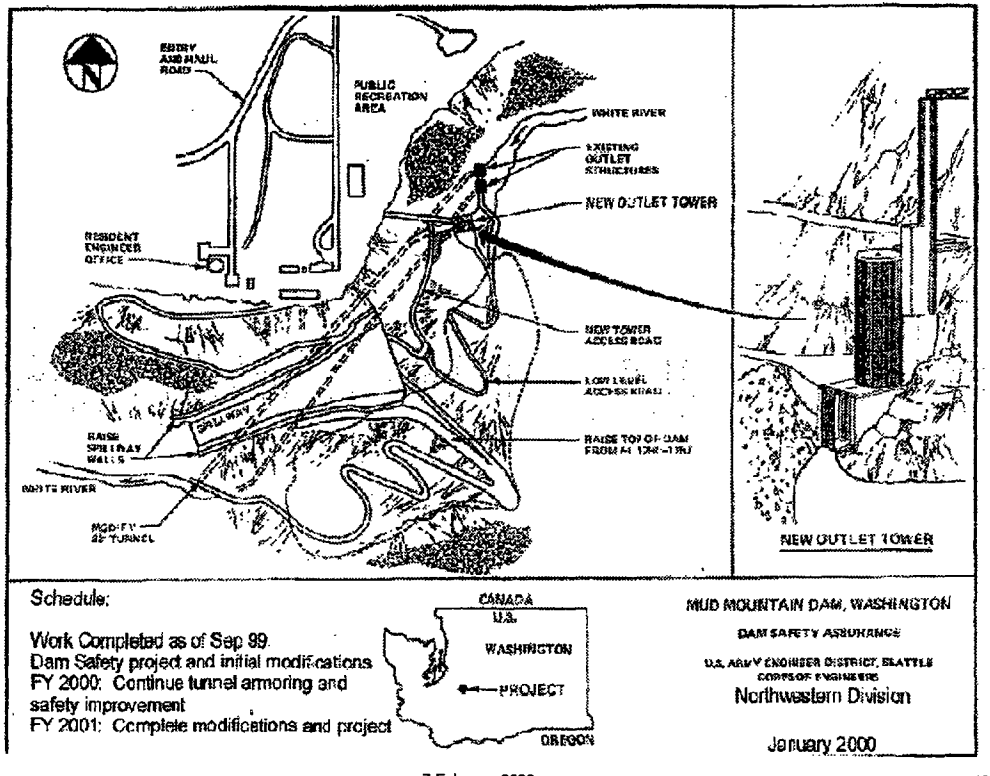
STATUS OF LOCAL COOPERATION: Mud Mountain Dam is an operational Federal project with no local sponsorship. Local cooperation is not required for this dam safety project.

COMPARISON OF FEDERAL COST ESTIMATE: The current Federal cost estimate of $80,918,000 is an increase of $14,118,000 from the latest estimate ($66,800,000) presented to Congress (FY 1995). This change is due to needed modifications to the outlet works, spillway and right-bank canyon slopes to assure dam safety standards.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An Environmental Assessment was completed in June 1986 with an additional Environmental Assessment and Finding Of No Significant Impact completed in June 1999.

OTHER INFORMATION: The original project became operational in 1948. The Dam Safety Assurance modifications began in 1986 and were originally completed in 1995.

1171


ENTRY AND HAUL ROAD
PUBLIC RECREATION AREA
WHITE RIVER
EXISTING OUTLET STRUCTURES
NEW OUTLET TOWER
RESIDENT ENGINEER OFFICE
NEW TOWER ACCESS ROAD
LOW LEVEL ACCESS ROAD
SPILLWAY
RAISE SPILLWAY WALLS
RAISE TOP OF DAM FROM EL 1249 TO 1260
WHITE RIVER
MODIFY DIVERSION TUNNEL
NEW OUTLET TOWER
Schedule:
Work Completed as of Sep 99
Dam Safety project and initial modifications
FY 2000: Continue tunnel armoring and safety improvement
FY 2001: Complete modifications and project
CANADA
U.S.
WASHINGTON
PROJECT
OREGON
MUD MOUNTAIN DAM, WASHINGTON
DAM SAFETY ASSURANCE
U.S. ARMY ENGINEER DISTRICT, SEATTLE
CORPS OF ENGINEERS
Northwestern Division
January 2000

1172

APPROPRIATION TITLE: Construction, General (Major Rehabilitation)

PROJECT: Garrison Dam and Power Plant, North Dakota (Continuing)

LOCATION: The Garrison Dam Project is located in McLean and Mercer Counties in North Dakota on the Missouri River approximately 77 river miles upstream of Bismarck near Riverdale, North Dakota.

DESCRIPTION: Garrison Dam and Reservoir is a multi-purpose project consisting of a rolled earth-filled dam with a sheet pile cutoff, a hydroelectric power plant, and a reservoir with storage capacity of 23,821,000 acre feet for flood control, navigation, power, recreation, irrigation, and municipal supply. Five hydraulic turbine-driven generating units with a total plant rated capacity of 518 MW and the operation and maintenance facilities are housed in the powerhouse. The present hydropower benefits directly associated with Garrison Power Plant include (1) clean, non-polluting power generation for the region, and (2) average power generation revenues of about $33.6 million per year to the U.S. Treasury. This major rehabilitation project will replace the existing turbine runners on all five units with new runners designed to improve reliability and maximize efficiency over a broad range of operating conditions.

AUTHORIZATION: Flood Control Act of 1944, PL 78 -534 (existing project)

REMAINING BENEFIT-REMAINING COST RATIO: 1.9 to 1 at 7 3/4 percent

TOTAL BENEFIT-COST RATIO: 1.9 to 1 at 7 3/4 percent

INITIAL BENEFIT-COST RATIO: 1.9 to 1 at 7 3/4 percent (FY 1997)

BASIS OF BENEFIT-COST RATIO: Benefits are from the Garrison Dam & Power Plant Major Rehabilitation Evaluation Report approved 27 February 1995 at 1994 price levels.

SUMMARIZED FINANCIAL DATA:

Estimated Federal Cost	$37,122,000
Estimated Non-Federal Cost	0
Cash Contributions	$ 0
Other Costs	0
Total Estimated Project Cost	37,122,000

	STATUS (1 Jan 2000)	PERCENT COMPLETE	COMPLETION SCHEDULE
Entire Project		16	Being Determined

1173

Division: Northwestern

District: Omaha

Garrison Dam and Power Plant, North Dakota

SUMMARIZED FINANCIAL DATA: (Continued)

		ACCUM PCT. OF EST. FED COST
Allocations to 30 September 1999	$ 5,909,000	
Conference Allowance for FY 2000	6,000,000	
Allocation for FY 2000	6,000,000 1/	
Allocations through FY 2000	11,909,000	32
Allocation Requested for FY 2001	5,300,000	46
Programmed Balance to Complete after FY 2001	19,913,000	
Unprogrammed Balance to Complete after FY 2001	0	

PHYSICAL DATA

Power Installation: 3 Units at 109,250 KW
2 Units at 95,000 KW
Average Gross Head 161 ft.

1/ Reflects $854,000 reduction assigned as savings and slippage and $854,000 reprogrammed to the project.

JUSTIFICATION: All five of the Garrison turbine runners have experienced cracking at the trailing edges of their runner blades near the runner crown. Cracking was first discovered on Unit 3 in 1958 during an annual inspection. Cracking has continued through the years such that occasional repairs of blades in Unit 1 and annual-to-biennial repairs of blades in Units 2 through 5 must be performed. The continued cracking jeopardizes the future reliability of the runners, creating a potential for long outages due to a possible failure requiring complete shutdown of an affected unit. While no failures have occurred, continued weld repairs produce increasingly unfavorable metallurgy and residual stress distribution, increasing the probability of a failure. Studies indicate that without the proposed correction the failure probability will gradually increase until failure occurs. Installation of new improved turbine runners for all five units will avoid such reliability problems, both present and future, by correcting the cyclic loading which causes the turbine runner blade cracking. This will decrease operation and maintenance costs and extend the life of the hydropower plant. Lost plant efficiency will be restored and efficiency will be increased beyond the original 1950's design without an increase in cost over a replacement option using in-kind turbine runners. Average annual benefits are as follows:

Annual Benefits	Amount
Deferred Maintenance Benefits	$ 1,598,000
Restored Efficiency Benefits	4,016,000
Efficiency Improved Benefits	2,773,000
Total Benefits	$ 8,387,000

1174

Division: Northwestern

District: Omaha

Garrison Dam and Power Plant, North Dakota

FISCAL YEAR 2001: The requested amount of $5,300,000 will be applied as follows:

ITEM	AMOUNT
Turbine Runner Work	$ 4,283,000
Turbine Display	286,000
Planning, Engineering & Design	397,000
Construction Management Activities	334,000
Total	$ 5,300,000

NON-FEDERAL COSTS: There is no requirement for a non-Federal sponsor for this project. Garrison Dam is a multi-purpose project, and the cost for the turbine runner modifications will benefit hydropower generation only. The hydropower from Garrison Powerplant is marketed by Western Area Power Administration (WAPA), thru which project costs are repaid to the Treasury. WAPA has provided a letter stating that they "will be able to market any additional power gained through increased efficiency of the turbines."

STATUS OF LOCAL COOPERATION: N/A

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $37,122,000 is an increase of $22,000 from the latest estimate ($37,100,000) presented to Congress (FY 2000).

This change includes the following items:

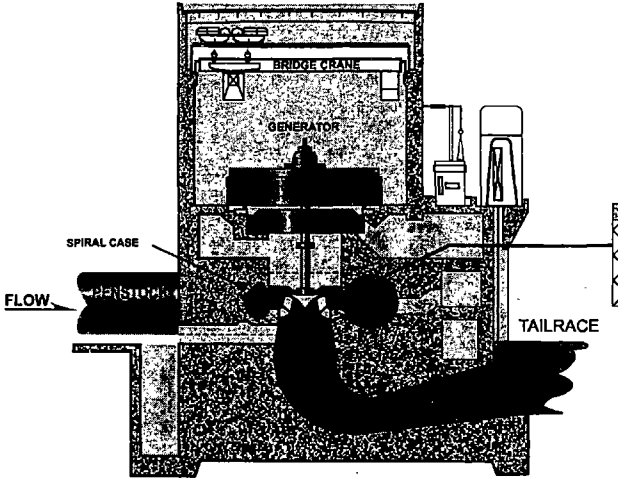
ITEM	AMOUNT
Changes in projected inflation rates	$+ 22,000
Total	$+ 22,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The proposed rehabilitation is not a major Federal action that would significantly affect the quality of the human environment, and therefore did not require the preparation of an environmental impact statement. The U.S. Fish and Wildlife Service concurred with the "Finding Of No Significant Impact."

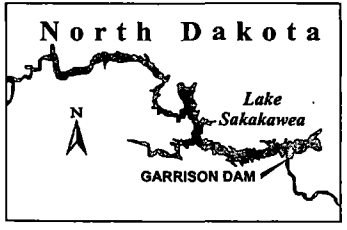
OTHER INFORMATION: This project consists of replacing all 5 turbine runners at the Garrison Dam Project. Turbine related work will be done under a furnish and install contract. Machining and painting work will be subcontracted. The units being removed will be torched and sold as scrap metal, except for one unit which will become a display for the plant tourists. The estimate assumes that only one unit at a time will be off line. A one month allowance has been included in the estimate for startup and testing for each unit prior to starting on the next unit. There is no requirement to undertake fish and wildlife mitigation measures in conjunction with this rehabilitation project.

Initial construction of the powerhouse was completed in 1955.

Division: Northwestern District: Omaha Garrison Dam and Power Plant, North Dakota



TRANSFER SECTION THRU
GARRISON DAM POWER PLANT



VICINITY MAP

5 TURBINE RUNNERS

WORK COMPLETED

WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR

WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR

WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR

GARRISON DAM & POWER PLANT
NORTH DAKOTA
MAJOR REHABILITATION

U.S. Army Engineer District, Omaha
Northwestern Division
1 January 2000

1176

APPROPRIATION TITLE: Construction, General (Major Rehabilitation on Multiple-Purpose Power Projects)

PROJECT: Bonneville Powerhouse (Phase II - Main Unit), Oregon and Washington (Continuing)

LOCATION: On the Columbia River 42 miles east of Portland, Oregon, along Interstate 84, between the states of Oregon and Washington.

DESCRIPTION: Replace the windings of five generators and replacement of ten turbines for the generating units.

AUTHORIZATION: National Recovery Act, 30 September 1933; River and Harbor Act, 74th Congress, 2nd Session, 30 August 1935; Public Law 329, 75th Congress, 20 August 1937 (Existing Project).

REMAINING BENEFIT - REMAINING COST RATIO: 2.15 to 1 at 8.25 percent

TOTAL BENEFIT - COST RATIO: 1.27 to 1 at 8.25 percent

INITIAL BENEFIT - COST RATIO: 1.5 to 1 at 8-1/2 percent

BASIS OF BENEFIT - COST RATIO: Benefits are from the Evaluation Report submitted 15 March 1992 at March 1992 price levels.

SUMMARIZED FINANCIAL DATA		
Estimated Appropriation Requirement		$110,800,000
Future Non-Federal Reimbursement		$110,800,000
Estimated Federal Cost (Ultimate)		0
Estimated Non-Federal Cost		$110,800,000
Cash Contributions	$ 0	
Other Costs	0	
Reimbursements	110,800,000	
Power $110,800,000		
Total Estimated Project Cost		$110,800,000

STATUS (1 JAN 00)	PERCENT COMPLETE	COMPLETION SCHEDULE
Entire Project	35	Being Determined

1177

Division: Northwest

District: Portland

Bonneville Powerhouse, Main Unit - Phase II, OR & WA (Major Rehabilitation)

SUMMARIZED FINANCIAL DATA (Cont'd)		Accum.% of Est Federal Cost
Allocations to 30 September 1999	$ 36,152,390	
Conference Allowance for FY 2000	10,800,000	
Allocation for FY 2000	9,262,000 1/	
Allocations through FY 2000	45,414,000	41%
Allocation Requested for FY 2001	6,110,000	50%
Programmed Balance to Complete after FY 2001	59,276,000	
Unprogrammed Balance to Complete after FY 2001	0	

PHYSICAL DATA (EXISTING PROJECT)

Powerhouse: Number of generating units - 10
Total plant capacity - 531,630 kw

1/ Reflects $1,538,000 reduction assigned as savings and slippage.

JUSTIFICATION: The Bonneville Powerhouse was dedicated on 28 September 1937. This powerhouse was the first of several multi-unit powerhouses constructed by the Corps of Engineers on the Columbia River System. It serves as an integral part of the Northwest Power Pool Transmission Grid and contributes nearly 5% of the total Corps of Engineer's output to the Department of Energy's (Bonneville Power Administration) transmission System. The plant has ten Kaplan type main unit turbines, with a total rated capacity of 531,630 kW. The original design of the plant was primarily for base load operation. The plant is presently used both as a base load and peaking plant. Current operation of the plant for peaking as well as balancing regional power load variations requires rapid control of generating units to compensate for changing load and voltage conditions. This imposes increased stress on the generating/power train components contributing to the most recent failures (specifically winding coil and blade failures). Moreover, the main operational constraints imposed to enhance fish migration result in more numerous unit starts and stops. Tests conducted by both Bonneville Power Administration and the Corps of Engineers personnel indicate slow voltage and system load restoration response. This work will increase the overall reliability and efficiency power generation of the powerhouse, and enhance downstream juvenile fish survival due to increased turbine efficiency. The power plant requires frequent and complex maintenance, resulting in increased maintenance costs and, more importantly, lost generating capability through unscheduled equipment outages. Five units have experienced winding failures and three units are currently operating at slightly reduced capacity because of coil failures. Also to be considered is the role which the Second Powerhouse plays
in the operation of the first Powerhouse. Since 1983, operation of the Second Powerhouse has been restricted during juvenile fish migration periods (15 March through 15 November). Operation during this period has been necessary to meet Firm Energy Carrying Capabilities, to conduct ongoing research, control total dissolved gas, or to maintain spill at or below 75,000 cfs during daylight hours. Total average annual benefits are estimated to be $9,650,000.
For all ten replacement turbines, the contractor has been requested to manufacture and install fish friendly turbines. Model tests indicate that there is less mechanical injury to fish and an increase in efficiency.

1178

Division: Northwest

District: Portland

Bonneville Powerhouse, Main Unit - Phase II, OR & WA (Major Rehabilitation)

STATUS OF LOCAL COOPERATION: None required for major rehabilitation.

NON-FEDERAL COSTS: Costs allocated to power, presently estimated at $110,800,000, are reimbursable. This project is part of the Federal Columbia River power system. Bonneville Power Administration (BPA), the federal marketing agency, establishes system rate levels adequate to recover all capital investment cost for generating projects (including Corps generating projects) within 50-year period and to repay annual OM&R and interest expenses. BPA submits annual financial statements to Congress, as required by law, on repayment and periodically recommends rate adjustment as required for meeting repayment obligations.

FISCAL YEAR 2001: The requested amount of $ 6,110,000, will be applied as follows:

Continue Powerhouse Rehabilitation	$ 5,100,000
Continue Planning, Engineering, and Design	340,000
Continue Construction Management	670,000
Total	$ 6,110,000

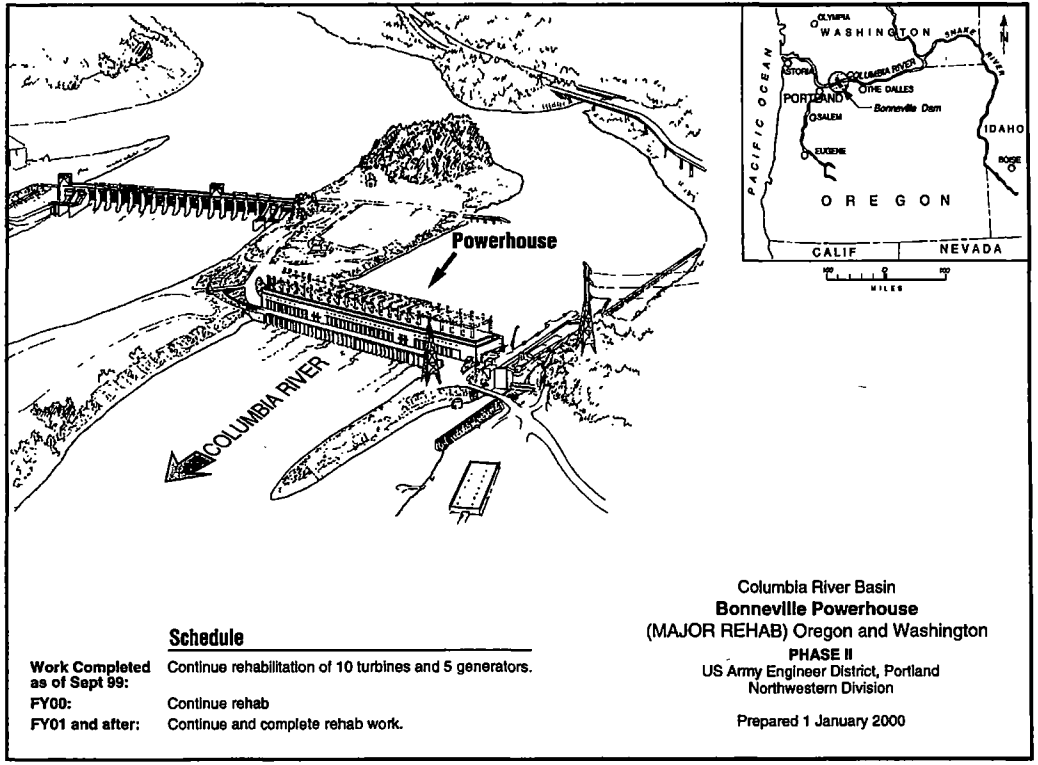
COMPARISON OF FEDERAL COST ESTIMATE: The current federal cost estimate of $110,800,000 is an increase of $6,200,000 from the latest estimate ($104,600,000) presented to Congress (FY 2000). This change includes the following items:

Price Escalation on Construction Features	$ 1,662,000
Post Contract Award and Other Estimating Adjustments	4,538,000
Total	$ 6,200,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An Environmental Assessment (EA) and a Finding of No Significant Impact (FONSI) was finalized on 6 March 1992 for the Bonneville Powerhouse, Major Rehabilitation (Phase II) work.

OTHER INFORMATION: Initial construction of the powerhouse was completed in 1943.

1179



Schedule

Work Completed as of Sept 99:	Continue rehabilitation of 10 turbines and 5 generators.
FY00:	Continue rehab
FY01 and after:	Continue and complete rehab work.

Columbia River Basin

Bonneville Powerhouse

(MAJOR REHAB) Oregon and Washington

PHASE II

US Army Engineer District, Portland
Northwestern Division

Prepared 1 January 2000

1180

APPROPRIATION TITLE: Construction, General (Major Rehabilitation on Multiple-Purpose Power Projects)

PROJECT: The Dalles Powerhouse (Units 1-14), Washington and Oregon (Major Rehabilitation) (New)

LOCATION: On the Columbia River at the head of Bonneville Lake, 191.5 miles upstream from the mouth of the river and three miles east of The Dalles, Oregon.

DESCRIPTION: Rewind nine generators, replace the blades on twelve turbine units, refurbish the blades on two turbine units, and refurbish two powerhouse bridge cranes.

AUTHORIZATION: River and Harbor Flood Control Act of 17 May 1950, Public Law 516, 81st Congress, 2nd Session; Public Laws 78-534, 85-624, 98-396, and 92-500.

REMAINING BENEFIT - REMAINING COST RATIO: 4.15 To 1 at 7-5/8 percent

TOTAL BENEFIT - COST RATIO: 3.61 to 1 at 7-5/8 percent

INITIAL BENEFIT - COST RATIO: 4.34 to 1 at 7-3/4 percent

BASIS OF BENEFIT - COST RATIO: Benefits are from the Evaluation Report submitted 15 March 1995 at October 1995 price levels.

SUMMARIZED FINANCIAL DATA		STATUS (1 JAN 2000)	PERCENT COMPLETE	COMPLETION SCHEDULE
Estimated Appropriation Requirement	$101,000,000			
Future Non-Federal Reimbursement	$101,000,000			
Estimated Federal Cost (Ultimate)	0	Entire Project	12	Being Determined
Estimated Non-Federal Cost	$101,000,000			
Reimbursements $101,000,000				
Power $101,000,000				
Total Estimated Project Cost	$101,000,000			

1181

SUMMARIZED FINANCIAL DATA (Cont'd)		Accum.% of Est Federal Cost
Allocations to 30 September 1999	$ 12,090,000	
Conference Allowance for FY 2000	2,300,000	
Allocation for FY 2000	2,972,000 1/	
Allocations through FY 2000	15,062,000	15%
Allocation Requested for FY 2001	7,000,000	22%
Programmed Balance to Complete after FY 2001	78,938,000	
Unprogrammed Balance to Complete after FY 2001	0	

PHYSICAL DATA (EXISTING PROJECT)

Powerhouse (Units 1-14)
Units 1-14 capacity - 1,092 MW

1/ Reflects $328,000 reduction assigned as savings and slippage and $1,000,000 reprogrammed to the project.

JUSTIFICATION: The Dalles Powerhouse has been producing commercial power since 1957. It serves as an integral part of the Northwest Power Pool Transmission Grid and accounts for 6.5% of the total hydroelectric power generated by the Columbia River Projects. The Dalles Powerhouse itself is nearly one-half mile long with a total of 22 generating units. Fourteen units were installed during initial construction of the powerhouse (1952-1960); eight more units were added later (1969-1972). There are four additional small generating units at the powerhouse; two discharge fish attraction water and two generate power for use at the project. The project's generating capacity is 1,807 megawatts (MW). The Dalles provides hydroelectric power for both base load and peaking operations, but operates primarily in a peaking mode. The peaking operation results in an average of 180 start-stops per unit per year. On Units 1-14, the cumulative effects of age and start-stops are showing up as a pattern of generator failures that indicates declining reliability, several of which have required rewinding. Currently, Unit 2 is being rewound following its failure in March 1998. Following Unit 2 completion, seven of the nine generators will remain to be rehabilitated. Additionally, turbine efficiency on units 1-14 has declined an average of two percent. This reduces the total amount of energy The Dalles Project can produce.

FISCAL YEAR 2001: The requested amount of $7,000,000 will be applied as follows:

Continue Powerhouse Rehabilitation	$6,400,000
Continue Planning, Engineering, and Design	260,000
Continue Construction Management	340,000
Total	$ 7,000,000

STATUS OF LOCAL COOPERATION: None required for major rehabilitation.

NON-FEDERAL COST: Costs allocated to power, presently estimated at $101,000,000, are reimbursable. This project is a part of the Federal Columbia River power system. Bonneville Power Administration (BPA), the federal marketing agency, establishes system rate levels adequate to recover all capital investment cost for generating projects (including Corps generating projects) within 50-year period and to repay annual OM&R and interest expenses. BPA submits annual financial statements to Congress, as required by law, on repayment and periodically recommends rate adjustment as required for meeting repayment obligations.

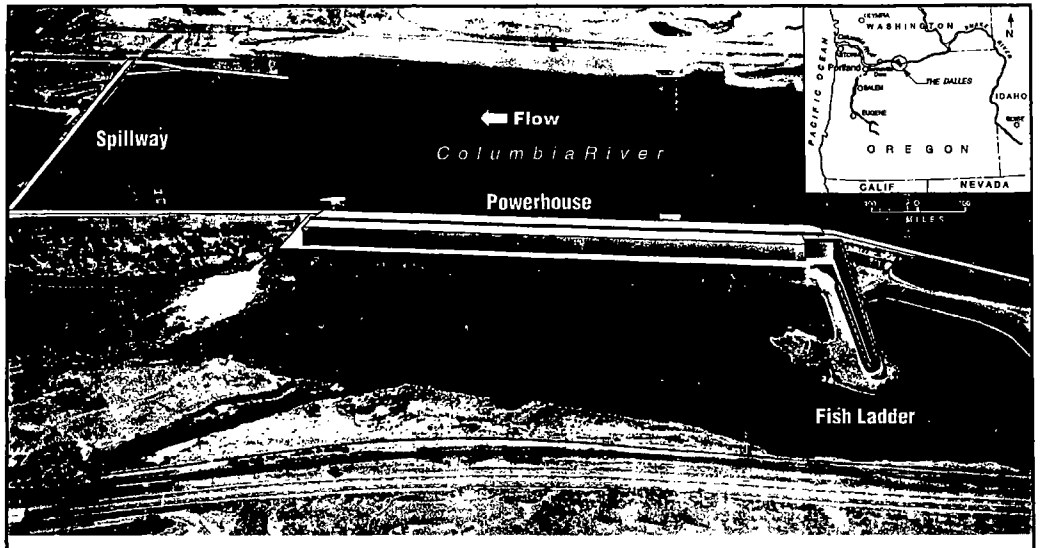
Division: Northwestern | District: Portland | The Dalles Powerhouse (Units 1-14), WA & OR (Major Rehabilitation)

1182

COMPARISON OF FEDERAL COST ESTIMATE: The current federal cost estimate of $101,000,000 is an increase of $7,000,000 from the latest estimate ($94,000,000) presented to Congress (FY 2000). This change is due to price escalation of construction features.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An Environmental Assessment (EA) and a Finding of No Significant Impact (FONSI) was finalized on 13 March 1995 for The Dalles Powerhouse (Units 1-14) Major Rehabilitation work.

OTHER INFORMATION: Initial construction of the powerhouse was completed in 1960.



Legend

- Work Completed as of September 1999
- Work Proposed With Funds Available for FY 2000
- Work Proposed With Funds Requested for FY 2001
- Work Required to Complete Project after FY 2001

Schedule

- Refurbish Crane
- Continue Powerhouse Rehab *(excitor replacement and generator rewinds)*
- Continue Powerhouse Rehab
- Complete Rehab

Columbia River Basin
The Dalles Powerhouse
(MAJOR REHAB)
Washington and Oregon

US Army Engineer District, Portland
Northwestern Division

Prepared 1 January 2000

1184

NORTHWESTERN DIVISION
JUSTIFICATION OF ESTIMATE

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. NAVIGATION.

a. Channels and Harbors.

The FY 2001 program request of $60,957,000 provides for essential maintenance work on 23 channel and harbor projects named in the list which follows. The work to be accomplished under this activity consists of maintaining the navigation channels and basins of coastal harbors by means of dredging, removal of navigation obstructions, and repair of navigation structures, as authorized in the laws adopting river and harbor projects.

Project Name	OBLIGATIONS Estimated FY 2000 ($) Total (Operations) (Maintenance)	Estimated FY 2001 ($) Total (Operations) (Maintenance)	EXPLANATION OF MAJOR CHANGES 1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold ($500,000).
IOWA			
Missouri River, Sioux City, Iowa to the Mouth, IA, NE, KS & MO	7,182,000 (2,605,000) (4,577,000)	7,361,000 (2,734,000) (4,627,000)	1. None. 2. Perform bank stabilization.
OREGON			
Chetco River	586,000 (28,000) (558,000)	435,000 (30,000) (405,000)	1. None. 2. None.
Columbia and Lower Willamette Rivers below Vancouver, WA and Portland, OR	16,094,000 (674,000) (15,420,000)	16,274,000 (633,000) (15,641,000)	1. None. 2. Dredging and provide pile dikes.
Columbia River at the Mouth	7,080,000 (817,000) (6,263,000)	7,403,000 (412,000) (6,991,000)	1. Prepare major rehab report for North Jetty FY 00. 2. Dredging.

1185

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. NAVIGATION. (Continued).

a. Channels and Harbors (Continued).

State Project Name	OBLIGATIONS Estimated FY 2000 ($) Total (Operations) (Maintenance)	Estimated FY 2001 ($) Total (Operations) (Maintenance)	EXPLANATION OF MAJOR CHANGES 1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold ($500,000).
OREGON (Continued)			
Columbia River between	356,000	357,000	
Vancouver, WA and	(96,000)	(96,000)	1. None.
The Dalles, OR	(260,000)	(261,000)	2. None.
Coos Bay	4,918,000	4,144,000	
	(154,000)	(143,000)	1. None.
	(4,764,000)	(4,001,000)	2. Dredging.
Coquille River	430,000	316,000	
	(18,000)	(27,000)	1. Sediment Quality evaluation FY 01.
	(412,000)	(289,000)	2. None.
Depoe Bay	204,000	3,000	
	(9,000)	(3,000)	1. Structural analysis FY 00.
	(195,000)	0	2. None.
Port Orford	787,000	702,000	
	(313,000)	(87,000)	1. Prepare breakwater major maintenance report and ocean dredge material disposal site evaluation FY 00.
	(474,000)	(615,000)	2. None.

1186

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. NAVIGATION. (Continued).

a. Channels and Harbors (Continued).

State Project Name	OBLIGATIONS Estimated FY 2000 ($) Total (Operations) (Maintenance)	Estimated FY 2001 ($) Total (Operations) (Maintenance)	EXPLANATION OF MAJOR CHANGES 1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold ($500,000).
OREGON (Continued)			
Rogue River	399,000 (37,000) (362,000)	641,000 (45,000) (596,000)	1. Incresed condition surveys FY 01. 2. Dredging.
Siuslaw River	809,000 (88,000) (721,000)	822,000 (59,000) (763,000)	1. Reduced condition surveys FY 01. 2. Dredging.
Skipanon Channel	1,767,000 (5,000) (1,762,000)	176,000 (23,000) (153,000)	1. Periodic sediment quality evaluation FY 01. 2. None.
Tillamook Bay and Bar	149,000 (14,000) (135,000)	148,000 (14,000) (134,000)	1. None. 2. None.
Umpqua River	1,249,000 (51,000) (1,198,000)	1,421,000 (77,000) (1,344,000)	1. Periodic sediment quality evaluation FY 01. 2. Dredging.
Yaquina Bay and Harbor	2,029,000 (130,000) (1,899,000)	7,895,000 (205,000) (7,690,000)	1. Ocean dredge material disposal site evaluation FY 01. 2. Dredging.

NORTHWESTERN DIVISION
JUSTIFICATION OF ESTIMATE

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. NAVIGATION. (Continued).

a. Channels and Harbors (Continued).

State Project Name	OBLIGATIONS Estimated FY 2000 ($) Total (Operations) (Maintenance)	Estimated FY 2001 ($) Total (Operations) (Maintenance)	EXPLANATION OF MAJOR CHANGES 1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold ($500,000).
WASHINGTON			
Columbia River at Baker Bay	1,080,000 (3,000) (1,077,000)	3,000 (3,000) 0	1. None. 2. None.
Columbia River between Chinook and Sand Island	749,000 (6,000) (743,000)	6,000 (6,000) (0)	1. None. 2. None.
Everett Harbor and Snomish River	1,225,000 (75,000) (1,150,000)	1,212,000 (42,000) (1,170,000)	1. Increased hydrographic surveys FY 00. 2. Dredging.
Grays Harbor and Chehalis River	16,150,000 (400,000) (15,750,000)	9,820,000 (206,000) (9,614,000)	1. Increased hydrographic surveys FY 00. 2. Dredging and south jetty extension.
Puget Sound and Its Tributary Waters	700,000 (0) (700,000)	967,000 (0) (967,000)	1. None. 2. Debris removal.
Quillayute River	909,000 (20,000) (889,000)	37,000 (37,000) 0	1. Increased hydrographic surveys FY 01. 2. Dredging.

1188

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. NAVIGATION. (Continued).

a. Channels and Harbors (Continued).

State Project Name	OBLIGATIONS Estimated FY 2000 ($) Total (Operations) (Maintenance)	Estimated FY 2001 ($) Total (Operations) (Maintenance)	EXPLANATION OF MAJOR CHANGES 1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold ($500,000).
WASHINGTON (Continued)			
Seattle Harbor	425,000 (17,000) (408,000)	714,000 (19,000) (695,000)	1. None. 2. Dredging.
Seattle Harbor, East Waterway Deepening	3,005,000 (0) (3,005,000)	100,000 0 (100,000)	1. None. 2. None.
Other Projects Maintained Periodically	755,000 (84,000) (671,000)	0 (0) (0)	1. None. 2. None.
TOTAL - CHANNELS AND HARBORS	69,037,000 (5,644,000) (63,393,000)	60,957,000 (4,901,000) (56,056,000)	

1189

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. NAVIGATION. (Continued).

b. Locks and Dams.

The FY 2001 program request of $8,031,000 provides the amount for operational requirements of two projects. Annual requirements are for operation and ordinary maintenance of project facilities; labor, supplies, materials and parts required for the day-to-day functioning of projects; and periodic maintenance, repairs, replacement and modernization.

State Project Name	OBLIGATIONS Estimated FY 2000 ($) Total (Operations) (Maintenance)	Estimated FY 2001 ($) Total (Operations) (Maintenance)	EXPLANATION OF MAJOR CHANGES 1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold ($500,000).
~~OREGON~~			
Willamette River at Willamette Falls	503,000 (303,000) (200,000)	1,234,000 (276,000) (958,000)	1. None. 2. None.
WASHINGTON Lake Washington Ship Canal	8,274,000 (5,250,000) (3,024,000)	6,797,000 (5,151,000) (1,646,000)	1. None. 2. None.
TOTAL - LOCKS AND DAMS	8,777,000 (5,553,000) (3,224,000)	8,031,000 (5,427,000) (2,604,000)	
TOTAL - NAVIGATION	77,814,000 (11,197,000) (66,617,000)	68,988,000 (10,328,000) (58,660,000)	

1190

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. FLOOD CONTROL.

a. Reservoirs.

1. Project Reservoirs. The FY 2001 program request of $43,988,000 is for the operation and maintenance of 35 flood control reservoirs and includes essential repair work and scheduling of flood control reservoir eruptions within the Division. Annual requirements are for operation and ordinary maintenance of project facilities; labor, supplies, material and parts required for day-by-day functioning of projects; periodic maintenance, repairs, and replacements; and contract law enforcement. The requested amount also includes application of special recreation use fees for recreation areas.

State Project Name	OBLIGATIONS Estimated FY 2000 ($) Total (Operations) (Maintenance)	Estimated FY 2001 ($) Total (Operations) (Maintenance)	EXPLANATION OF MAJOR CHANGES 1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold ($500,000).
COLORADO			
Bear Creek Lake	454,000	425,000	
	(329,000)	(399,000)	1. Periodic inspection and coyote gulch drainage study in FY 01.
	(125,000)	(26,000)	2. None.
Chatfield Lake	778,000	1,568,000	
	(740,000)	(723,000)	1. None.
	(38,000)	(845,000)	2. Replace 54 inch irrigation conduit.
Cherry Creek Lake	530,000	707,000	
	(508,000)	(587,000)	1. Relief well and toe drain study FY 01.
	(22,000)	(120,000)	2. None.
IDAHO			
Lucky Peak Lake	1,238,000	1,206,000	
	(868,000)	(945,000)	1. None.
	(370,000)	(261,000)	2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. FLOOD CONTROL. (Continued)

a. 1. Reservoirs. (Continued)

State Project Name	OBLIGATIONS Estimated FY 2000 ($) Total (Operations) (Maintenance)	Estimated FY 2001 ($) Total (Operations) (Maintenance)	EXPLANATION OF MAJOR CHANGES 1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold ($500,000).
IOWA			
Rathbun Lake	2,147,000 (1,701,000) (446,000)	2,058,000 (1,541,000) (517,000)	1. None. 2. None.
KANSAS			
Clinton Lake	1,582,000 (1,292,000) (290,000)	1,621,000 (1,212,000) (409,000)	1. None. 2. None.
Hillsdale Lake	938,000 (809,000) (129,000)	908,000 (667,000) (241,000)	1. Periodic inspection and report FY 00. 2. None.
Kanopolis Lake	1,370,000 (1,025,000) (345,000)	1,541,000 (1,091,000) (450,000)	1. None. 2. None.
Melvern Lake	2,016,000 (1,563,000) (453,000)	1,872,000 (1,381,000) (491,000)	1. Periodic inspection and report in FY 00. 2. None.

1192

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. FLOOD CONTROL. (Continued)

a. 1. Reservoirs. (Continued)

State Project Name	OBLIGATIONS Estimated FY 2000 ($) Total (Operations) (Maintenance)	Estimated FY 2001 ($) Total (Operations) (Maintenance)	EXPLANATION OF MAJOR CHANGES 1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold ($500,000).
KANSAS (Continued)			
Milford Lake	1,856,000 (1,592,000) (264,000)	1,906,000 (1,434,000) (472,000)	1. None. 2. None.
Perry Lake	1,981,000 (1,554,000) (427,000)	1,966,000 (1,412,000) (554,000)	1. None. 2. None.
Pomona Lake	1,752,000 (1,391,000) (361,000)	1,830,000 (1,374,000) (456,000)	1. None. 2. None.
Tuttle Creek Lake	1,767,000 (1,129,000) (638,000)	2,546,000 (1,456,000) (1,090,000)	1. Complete dam safety assurance evaluation report, and periodic inspection and report in FY 01. 2. None.
Wilson Lake	1,731,000 (1,185,000) (546,000)	2,017,000 (1,132,000) (885,000)	1. None. 2. None.

1193

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. FLOOD CONTROL. (Continued)

a. 1. Reservoirs. (Continued)

State Project Name	OBLIGATIONS Estimated FY 2000 ($) Total (Operations) (Maintenance)	Estimated FY 2001 ($) Total (Operations) (Maintenance)	EXPLANATION OF MAJOR CHANGES 1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold ($500,000).
MISSOURI			
Little Blue River Lakes	825,000	854,000	
	(759,000)	(655,000)	1. Periodic inspection report in FY 00.
	(66,000)	(199,000)	2. None.
Long Branch Lake	801,000	931,000	
	(712,000)	(652,000)	1. None.
	(89,000)	(279,000)	2. None.
Pomme de Terre Lake	1,888,000	2,065,000	
	(1,539,000)	(1,522,000)	1. None.
	(349,000)	(543,000)	2. None.
Smithville Lake	1,083,000	1,160,000	
	(951,000)	(838,000)	1. Periodic inspection report in FY 00.
	(132,000)	(322,000)	2. None.
NEBRASKA			
Harlan County Lake	2,379,000	2,198,000	
	(1,917,000)	(1,338,000)	1. Tainter gate evaluation, periodic inspection and report, study of future operations, and spillway stability evaluation in FY 00.
	(462,000)	(860,000)	2. None.
Papillion and	678,000	721,000	
Tributaries Lakes	(635,000)	(682,000)	1. None.
	(43,000)	(39,000)	2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. FLOOD CONTROL. (Continued)

a. 1. Reservoirs. (Continued)

State Project Name	OBLIGATIONS Estimated FY 2000 ($) Total (Operations) (Maintenance)	Estimated FY 2001 ($) Total (Operations) (Maintenance)	EXPLANATION OF MAJOR CHANGES 1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold ($500,000).
NEBRASKA (Continued)			
Salt Creek and Tributaries	796,000 (740,000) (56,000)	796,000 (744,000) (52,000)	1. None. 2. None.
NORTH DAKOTA			
Bowman-Haley Lake	204,000 (202,000) (2,000)	241,000 (239,000) (2,000)	1. Periodic inspection FY 01. 2. None.
Pipestem Lake	802,000 (472,000) (330,000)	401,000 (374,000) (27,000)	1. Periodic inspection and surveys FY 00. 2. None.
OREGON			
Applegate Lake	837,000 (703,000) (134,000)	748,000 (602,000) (146,000)	1. Seismic Re-evaluation study FY 00. 2. None.
Blue River Lake	233,000 (188,000) (45,000)	332,000 (218,000) (114,000)	1. Periodic inspections of structures FY 01. 2. None.
Cottage Grove Lake	916,000 (549,000) (367,000)	919,000 (539,000) (380,000)	1. None. 2. None.

1195

NORTHWESTERN DIVISION
JUSTIFICATION OF ESTIMATE

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. FLOOD CONTROL. (Continued)

a. 1. Reservoirs. (Continued)

State Project Name	OBLIGATIONS Estimated FY 2000 ($) Total (Operations) (Maintenance)	Estimated FY 2001 ($) Total (Operations) (Maintenance)	EXPLANATION OF MAJOR CHANGES 1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold ($500,000).
OREGON (Continued)			
Dorena Lake	538,000	580,000	
Tributaries	(364,000)	(390,000)	1. None.
	(174,000)	(190,000)	2. None.
Fall Creek Lake	425,000	619,000	
	(320,000)	(292,000)	1. None.
	(105,000)	(327,000)	2. None.
Fern Ridge Lake	989,000	1,277,000	
	(654,000)	(779,000)	1. Seismic Re-evaluation study FY 01.
	(335,000)	(498,000)	2. None.
Willow Creek Lake	626,000	646,000	
	(504,000)	(508,000)	1. None.
	(122,000)	(138,000)	2. None.
SOUTH DAKOTA			
Cold Brook Lake	644,000	496,000	
	(635,000)	(336,000)	1. Reduced dam safety study effort in FY01.
	(9,000)	(160,000)	2. None.
Cottonwood Springs Lake	223,000	172,000	
	(182,000)	(153,000)	1. Periodic inspection in FY 00.
	(41,000)	(19,000)	2. None.

1196

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. FLOOD CONTROL. (Continued)

a. 1. Reservoirs. (Continued)

State Project Name	OBLIGATIONS Estimated FY 2000 ($) Total (Operations) (Maintenance)	Estimated FY 2001 ($) Total (Operations) (Maintenance)	EXPLANATION OF MAJOR CHANGES 1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold ($500,000).
WASHINGTON			
Howard A. Hanson Reservoir	1,659,000	1,849,000	
	(1,220,000)	(1,146,000)	1. Additional operational studies FY 00.
	(439,000)	(703,000)	2. None.
Mill Creek, Virgil B.	1,120,000	925,000	
Bennington Lake	(624,000)	(590,000)	1. None.
	(496,000)	(335,000)	2. None.
Mud Mountain Dam	3,062,000	2,440,000	
	(1,735,000)	(1,521,000)	1. Additional operational studies FY 00.
	(1,327,000)	(919,000)	2. None.
Other Projects Maintained	0	0	
Periodically	(0)	(0)	1. None.
	(0)	(0)	2. None.

1197

NORTHWESTERN DIVISION
JUSTIFICATION OF ESTIMATE

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. FLOOD CONTROL.

a. Reservoirs.

2. Scheduling Reservoir Operations. The FY 2001 program request of $1,447,000 supports preparation, review and updating of water control manuals, real-time data collection to monitor hydrologic conditions, and the issuance of date regulation instructions as necessary at non-Corps dam and reservoir projects at which the Corps is responsible for flood control or navigation.

State Project Name	OBLIGATIONS Estimated FY 2000 ($) Total (Operations) (Maintenance)	Estimated FY 2001 ($) Total (Operations) (Maintenance)	EXPLANATION OF MAJOR CHANGES 1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold ($500,000).
Scheduled Reservoir Operations	$1,429,000	$1,447,000	
State:			
Idaho	(328,000)	(332,000)	1. None.
Nebraska	(323,000)	(327,000)	1. None.
Oregon	(66,000)	(67,000)	1. None.
South Dakota	(302,000)	(306,000)	1. None.
Washington	(410,000)	(415,000)	1. None.
TOTAL - RESERVOIRS	$42,297,000	$43,988,000	
	(32,720,000)	(30,919,000)	
	(9,577,000)	(13,069,000)	

1198

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. FLOOD CONTROL. (Continued).

b. Channels.

1. Channel Improvements, Inspection and Miscellaneous Maintenance. The FY 2001 program request of $3,366,000 provides for the essential annual and periodic maintenance requirements of six flood control protection projects and inspection of completed works within the Division during the budget year.

State Project Name	OBLIGATIONS Estimated FY 2000 ($) Total (Operations) (Maintenance)	 Estimated FY 2001 ($) Total (Operations) (Maintenance)	EXPLANATION OF MAJOR CHANGES 1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold ($500,000).
IOWA			
Missouri River - Kenslers Bend, NE to Sioux City, IA	211,000 (87,000) (124,000)	146,000 (85,000) (61,000)	1. None. 2. None.
OREGON			
Willamette River Basin Bank Protection	67,000 (67,000) 0	285,000 (66,000) (219,000)	1. None. 2. None.
WASHINGTON			
Mt. St. Helens	277,000 (221,000) (56,000)	312,000 (253,000) (59,000)	1. 2. None.
Stillaguamish River	189,000 (0) (189,000)	205,000 (0) (205,000)	1. None. 2. None.
Tacoma, Puyallup River	70,000 (24,000) (46,000)	78,000 (23,000) (55,000)	1. None. 2. None.

NORTHWESTERN DIVISION
JUSTIFICATION OF ESTIMATE

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. FLOOD CONTROL. (Continued).

b.1. Channel Improvements, Inspections and Miscellaneous Maintenance. (Continued)

1. Channel Improvements, Inspection and Miscellaneous Maintenance. The FY 2001 program request of $3,366,000 provides for the essential annual and periodic maintenance requirements of six flood control protection projects and inspection of completed works within the Division during the budget year.

State Project Name	OBLIGATIONS Estimated FY 2000 ($) Total (Operations) (Maintenance)	Estimated FY 2001 ($) Total (Operations) (Maintenance)	EXPLANATION OF MAJOR CHANGES 1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold ($500,000).
WYOMING			
Jackson Hole Levees	1,126,000 (43,000) (1,083,000)	1,163,000 (41,000) (1,122,000)	1. None. 2. Provide additional riprap to protect levees FY 01.
Other Projects Maintained Periodically	341,000 (0) (341,000)	0 (0) (0)	1. None. 2. None.

1200

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. FLOOD CONTROL. (Continued).

b. Channel (Continued)

2. Inspection of Completed Works. The FY 2001 program request of $1,177,000 supports inspections at flood control projects constructed by the Corps and operated and maintained by non-Federal interests. The inspections are conducted to determine the extent of compliance with legal standards and to advise local interests, as necessary, of corrective measures required to ensure that project structures and facilities will continue to safely provide flood protection benefits. These projects consist of features such as channels, levees, flood walls, drainage structures and pumping plants.

State Project Name	OBLIGATIONS Estimated FY 2000 ($) Total (Operations) (Maintenance)	Estimated FY 2001 ($) Total (Operations) (Maintenance)	EXPLANATION OF MAJOR CHANGES 1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold ($500,000).
Inspection of Completed Works	1,187,000	1,177,000	
State:			
Idaho	(74,000)	(73,000)	1. None.
Iowa	(742,000)	(738,000)	1. None.
Oregon	(223,000)	(220,000)	1. None.
Washington	(148,000)	(146,000)	1. None.
TOTAL - CHANNEL IMPROVEMENTS,	3,468,000	3,366,000	
INSPECTIONS AND MISCELLANEOUS	(1,629,000)	(1,645,000)	
	(1,839,000)	(1,721,000)	

1201

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. FLOOD CONTROL. (Continued).

State Project Name	OBLIGATIONS Estimated FY 2000 ($) Total (Operations) (Maintenance)	 Estimated FY 2001 ($) Total (Operations) (Maintenance)	EXPLANATION OF MAJOR CHANGES 1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold ($500,000).
TOTAL - FLOOD CONTROL	45,765,000 (34,349,000) (11,416,000)	47,354,000 (32,564,000) (14,790,000)	

1202

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

3. MULTIPLE PURPOSE POWER PROJECTS. The FY 2001 program request of $106,500,000 for the operation and maintenance of 29 multiple purpose projects provides the amount for operational requirements. Annual requirements are for operation and ordinary maintenance of project facilities; labor, supplies, materials and parts required for the day-by-day functioning of the projects; and periodic maintenance, repairs and replacements. The requested amount also includes application of special recreation use fees for recreation areas. Specific power costs and joint-use costs allocated to power for North Pacific area projects will be direct funded by Bonneville Power Administration.

State Project Name	OBLIGATIONS Estimated FY 2000 ($) Total (Operations) (Maintenance)		Estimated FY 2001 ($) Total (Operations) (Maintenance)		EXPLANATION OF MAJOR CHANGES 1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold ($500,000).
IDAHO					
Albeni Falls Dam	2,676,000 (1,222,000) (1,454,000)	1/	2,291,000 (1,216,000) (1,075,000)	1/	1. None. 2. None.
Dworshak Dam and Reservoir	3,081,000 (1,398,000) (1,683,000)	1/	2,689,000 (1,390,000) (1,299,000)	1/	1. None. 2. None.
MISSOURI					
Harry S. Truman Dam and Reservoir	7,461,000 (4,182,000) (3,279,000)		7,688,000 (4,317,000) (3,371,000)		1. None. 2. None.
Stockton Lake	3,247,000 (2,330,000) (917,000)		3,486,000 (2,129,000) (1,357,000)		1. None. 2. None.

1203

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

3. MULTIPLE PURPOSE POWER PROJECTS. (Continued)

State Project Name	OBLIGATIONS Estimated FY 2000 ($) Total (Operations) (Maintenance)		Estimated FY 2001 ($) Total (Operations) (Maintenance)		EXPLANATION OF MAJOR CHANGES 1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold ($500,000).
MONTANA					
Fort Peck Dams and Lake	3,842,000		3,620,000		
	(2,520,000)		(2,569,000)		1. None.
	(1,322,000)		(1,051,000)		2. None.
Libby Dam, Lake Koocanusa	2,444,000	1/	2,273,000	1/	
	(1,351,000)		(1,227,000)		1. None.
	(1,093,000)		(1,046,000)		2. None.
NEBRASKA					
Gavins Point Dam, Lewis and Clark Lake, NE & SD	7,184,000		6,151,000		
	(3,579,000)		(3,478,000)		1. None.
	(3,605,000)		(2,673,000)		2. Provide bank stabilization on the right bank.
Missouri River Basin Collaborative Water Resource Planning / Partnering	250,000		250,000		
	(250,000)		(250,000)		1. None.
	(0)		(0)		2. None.
Missouri River Master Water Control Manual, NE, IA, KS, MO, MT, ND	900,000		709,000		
	(900,000)		(709,000)		1. Reduced Master Manual effort Fiscal Year 01.
	(0)		(0)		2. None.
NORTH DAKOTA					
Garrison Dam, Lake Sakakawea	7,997,000		8,513,000		
	(5,249,000)		(5,822,000)		1. Uplift pressure study and dam safety task group issue FY 01.
	(2,748,000)		(2,691,000)		2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

3. MULTIPLE PURPOSE POWER PROJECTS. (Continued)

State Project Name	OBLIGATIONS Estimated FY 2000 ($) Total (Operations) (Maintenance)		Estimated FY 2001 ($) Total (Operations) (Maintenance)		EXPLANATION OF MAJOR CHANGES 1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold ($500,000).
OREGON					
Bonneville Lock and Dam	5,585,000 (2,851,000) (2,734,000)	1/	6,250,000 (2,989,000) (3,261,000)	1/	1. None. 2. None.
Cougar Lake	685,000 (507,000) (178,000)	1/	705,000 (508,000) (197,000)	1/	1. None. 2. None.
Detroit Lake	603,000 (422,000) (181,000)	1/	672,000 (513,000) (159,000)	1/	1. Periodic inspection, tainter gate evaluation study, and E&D to paint spillway gates. 2. None.
Green Peter-Foster Lake	949,000 (709,000) (240,000)	1/	1,050,000 (760,000) (290,000)	1/	1. None. 2. None.
Hills Creek Lake	360,000 (274,000) (86,000)	1/	408,000 (245,000) (163,000)	1/	1. None. 2. None.
John Day Lock and Dam	3,351,000 (1,935,000) (1,416,000)	1/	4,507,000 (2,066,000) (2,441,000)	1/	1. None. 2. None.
Lookout Point Lake	1,671,000 (1,373,000) (298,000)	1/	1,990,000 (1,538,000) (452,000)	1/	1. Tainter gate evaluation study, replace potable water system, and install oil spill prevention measures. 2. None.

1205

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

3. MULTIPLE PURPOSE POWER PROJECTS. (Continued)

State Project Name	OBLIGATIONS Estimated FY 2000 ($) Total (Operations) (Maintenance)		Estimated FY 2001 ($) Total (Operations) (Maintenance)		EXPLANATION OF MAJOR CHANGES 1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold ($500,000).
OREGON (Continued)					
Lost Creek Lake	3,497,000 (2,287,000) (1,210,000)	1/	2,919,000 (2,178,000) (741,000)	1/	1. None. 2. None.
McNary Lock and Dam	4,366,000 (2,298,000) (2,068,000)	1/	4,989,000 (2,578,000) (2,411,000)	1/	1. Spillway stilling basin and increased operation requirements FY 01. 2. None.
SOUTH DAKOTA					
Big Bend Dam, Lake Sharpe	6,853,000 (3,514,000) (3,339,000)		6,422,000 (3,514,000) (2,908,000)		1. None. 2. None.
Fort Randall Dam, Lake Francis Case	8,091,000 (4,943,000) (3,148,000)		8,852,000 (4,815,000) (4,037,000)		1. None 2. None.
Missouri River between Ft. Peck , Dam, MT and Gavins Point Dam, SD & NE (section 33)	130,000 (0) (130,000)		586,000 (350,000) (236,000)		1. Resum environmental impact studies FY 01. 2. None.
Oahe Dam, Lake Oahe	10,984,000 (5,768,000) (5,216,000)		11,192,000 (6,508,000) (4,684,000)		1. Dam Safety task group issues FY 01. 2. None.

1206

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

3. MULTIPLE PURPOSE POWER PROJECTS. (Continued)

State Project Name	OBLIGATIONS Estimated FY 2000 ($) Total (Operations) (Maintenance)		Estimated FY 2001 ($) Total (Operations) (Maintenance)		EXPLANATION OF MAJOR CHANGES 1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold ($500,000).
WASHINGTON					
Chief Joseph Dam	787,000 (520,000) (267,000)	1/	2,113,000 (726,000) (1,387,000)	1/	1. Reduced operational requirements FY 00. 2. None.
Ice Harbor Lock and Dam	3,891,000 (2,001,000) (1,890,000)	1/	6,094,000 (2,047,000) (4,047,000)	1/	1. None. 2. None.
Little Goose Lock and Dam	1,104,000 (585,000) (519,000)	1/	1,537,000 (715,000) (822,000)	1/	1. Replacing recreactional signs and navigation lock stability study FY 01. 2. None.
Lower Granite Lock and Dam	3,044,000 (1,788,000) (1,256,000)	1/	4,291,000 (1,114,000) (3,177,000)	1/	1. Dredged material management study FY 00. 2. Provide navigation lock downstream gate repair.
Lower Monumental Lock and Dam	1,750,000 (555,000) (1,195,000)	1/	2,821,000 (1,291,000) (1,530,000)	1/	1. Spillway stilling basin study and increased service contracts for recreation and janitorial services FY 01. 2. None.

1207

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

3. MULTIPLE PURPOSE POWER PROJECTS. (Continued)

State Project Name	OBLIGATIONS Estimated FY 2000 ($) Total (Operations) (Maintenance)		Estimated FY 2001 ($) Total (Operations) (Maintenance)		EXPLANATION OF MAJOR CHANGES 1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold ($500,000).
OREGON					
The Dalles Lock and Dam	2,187,000 (1,498,000) (689,000)	1/	3,432,000 (1,519,000) (1,913,000)	1/	1. None. 2. None.
TOTAL - MULTIPLE PURPOSE PROJECTS	98,970,000 (56,809,000) (42,161,000)	2/	108,500,000 (59,081,000) (49,419,000)	2/	

1/ Specific power costs and joint-use costs allocated to power for this project will be direct funded by Bonneville Power Administration.

2/ Specific power costs and joint-use costs allocated to power for North Pacific area hydropower projects will be direct funded by Bonneville Power Administration.

1208

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

4. PROTECTION OF NAVIGATION.

a. Project Condition Surveys

The $516,000 requested in FY 2001 supports hydrographic surveys, inspections, and studies to determine the condition of navigation channels that do not have any other maintenance work included in the budget request and disseminate the information to users of the projects. For the projects that do not require maintenance, surveys are performed at many of them in order to determine the degree of sedimentation so that users can be advised of channel conditions and future maintenance can be scheduled.

State Project Name	OBLIGATIONS Estimated FY 2000 ($) Total (Operations) (Maintenance)	Estimated FY 2001 ($) Total (Operations) (Maintenance)	EXPLANATION OF MAJOR CHANGES 1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold ($500,000).
Project Condition Surveys	441,000	516,000	
State:			
Oregon	(170,000)	(200,000)	1. Increased surveys in FY 01.
Washington	(271,000)	(316,000)	2. None.

1209

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

4. PROTECTION OF NAVIGATION.

b. Surveillance of Northern Boundary Waters

The $190,000 requested in FY 2001 supports meeting U.S. obligations under provisions of boundary water treaties and other international agreements. Data collection includes current velocity measurements, presence and intensity of ice, water levels, land use patterns and estimating potential damages caused by extreme levels. This information can be used to enhance water level forecasts, develop crises response plans, and provide advance warning to area residents and waterway users of impending floods or ice jams.

State Project Name	OBLIGATIONS Estimated FY 2000 ($) Total (Operations) (Maintenance)	Estimated FY 2001 ($) Total (Operations) (Maintenance)	EXPLANATION OF MAJOR CHANGES 1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-). 2. Major Maintenance Items Budgeted in FY 2001 (Threshold ($500,000).
Surveillance of Northern Boundary Waters	190,000	190,000	
State:			
Oregon	(134,000)	(134,000)	1. None.
Washington	(56,000)	(56,000)	1. None.
TOTAL - PROTECTION OF NAVIGATION	631,000 (631,000) (0)	706,000 (706,000) (0)	
GRAND TOTAL	223,180,000 3/ (102,986,000) (120,194,000)	225,548,000 3/ (102,679,000) (122,869,000)	

3/ The following applies to North Pacific area power project: Specific power costs and joint-use costs allocated to power will be direct funded by Bonneville Power Administration.

1210

U.S. ARMY CORPS OF ENGINEERS
CIVIL WORKS PROGRAM

CONGRESSIONAL SUBMISSION
FISCAL YEAR 2001

(1211)

PACIFIC OCEAN DIVISION

Budgetary information will not be released outside the Department of the Army until 7 February 2000

DEPARTMENT OF THE ARMY
FISCAL YEAR 2001

PACIFIC OCEAN DIVISION

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1213

DEPARTMENT OF THE ARMY
FISCAL YEAR 2001

SUMMARY PACIFIC OCEAN DIVISION

	FY 2000 Allocations $	FY 2001 Request $	Increase or Decrease $
General Investigations			
Survey	1,482,000	2,969,000	+1,487,000
Preconstruction Engineering and Design	327,000	831,000	+504,000
Subtotal General Investigations	(1,809,000)	(3,800,000)	(+1,991,000)
Construction, General			
Construction	8,331,000	16,437,000	(+8,106,000)
Operation and Maintenance, General			
Project Operation	2,925,000	2,648,000	-277,000
Project Maintenance	4,414,000	7,378,000	+2,964,000
Subtotal Operation and Maintenance	(7,339,000)	(10,026,000)	(+2,687,000)
GRAND TOTAL, PACIFIC OCEAN DIVISION	17,479,000	30,263,000	+12,748,000

Division: Pacific Ocean

7 February 2000

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
1. SURVEYS - NEW					
1a. Navigation Studies: The amount of $100,000 is requested to initiate one reconnaissance study.					
Hawaii					
Navigation Improvements, CNMI Honolulu District	100,000	0	0	100,000	0

The Commonwealth of the Northern Mariana Islands (CNMI) is comprised of a chain of 14 islands in the western Pacific approximately 3,700 miles west-southwest of Hawaii and 1,400 miles south of Tokyo, Japan. The three major islands are Saipan, Rota and Tinian.

As island communities, CNMI's population and economy are vitally linked to the shipment of goods into and out of each island's sole commercial harbor. However, Rota and Tinian's existing harbor size and configuration restrict larger sized vessels from calling on the harbors. Saipan is the only harbor capable of handling larger sized vessels and serves as a transshipment point for goods destined for Rota and Tinian. Deepening Rota and Tinian harbors to accommodate larger vessels would save an estimated $26 million in transshipment costs annually. The islands in CNMI are subjected to storm waves associated with tropical storms and typhoons. Successive typhoons during the last few years have contributed to the deterioration of all of the existing harbors. This deterioration severely limits the capacities at each of the harbors and could jeopardize the economies of these insular communities. If navigation improvements are not conducted at the harbors, the next significant typhoon could lead to harbor closure and threaten the life and safety of all inhabitants.

Discussions have been held with the local sponsor, the Commonwealth Ports Authority, and a letter requesting initiation of a reconnaissance study was received in July 1997. Individual feasibility studies will be initiated if the reconnaissance report determines federal interest and is certified to be in accord with policy. The local sponsor fully understands the cost-sharing requirements for any project resulting from this study.

Authority to conduct this study is provided under Section 444 of the Water Resources Development Act of 1996 (P.L. 104-303). Fiscal Year 2001 funds will be used to conduct a preliminary analysis of Federal interest, cost, benefits, environmental impacts and an estimate of the costs of preparing a feasibility report. The reconnaissance report is scheduled for completion in December 2001, which is 12 months after initiating the study.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

1b. Flood Damage Prevention Studies: None.

1c. Shoreline Protection Studies: None.

1d. Special Studies: None.

1e. Comprehensive Studies: None.

1f. Project Review Studies: None.

2. SURVEYS - CONTINUING

2a. Navigation Studies: The amount of $2,176,000 is requested in Fiscal Year 2001 for sixteen feasibility studies.

Alaska

Akutan Harbor, AK Alaska District	612,000	440,000	64,000	108,000	0

The city of Akutan lies on the north shore of Akutan Bay, a large, well-protected bay opening to the Bering Sea on the eastern side of Akutan Island. The city is about 40 miles east of Unalaska/Dutch Harbor (55 miles by boat). Akutan Island is approximately 590 miles southwest of Kodiak and 790 miles southwest of Anchorage. Protected moorage is needed for the fleet of commercial fishing vessels that use Akutan as a base of operations. Local residents report the most severe winds blow from the southeast/east and southwest directions and along the length of the bay throughout the fall and winter months. The eastern part of the bay can sustain waves of 8 feet or more during particularly severe easterly/southeasterly storms. Waves of 5 to 6 feet are common during major storms in the mid-bay vicinity off the Trident Seafood processing plant. The best and most sheltered location for a dock or small boat harbor facility is west of the Trident plant on the north side of the bay. During storms, vessels anchor in the head of the bay for protection, but still maintain a crew watch and often maintain power to prevent dragging their anchors. Vessels requiring storm protection include 76 crabbers and trawlers, ranging in size from 80 to 210 feet, and 19 smaller vessels and skiffs, ranging in size from 14 to 32 feet. Fish processing is the major industry attracting vessels to Akutan. The number and size of vessels requiring moorage would vary depending

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

on the type of fishing in season at the time. The Aleutians East Borough is the sponsor for the feasibility study. The feasibility cost sharing agreement was signed on 10 March 1998. The borough is eager to complete the feasibility study and project construction.

Fiscal Year 2000 funds are being used to continue the feasibility study. Funds requested for Fiscal Year 2001 will be used to complete the feasibility report. The preliminary estimated cost of the feasibility phase is $1,224,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,224,000
Reconnaissance Phase (Federal)	N/A
Feasibility Phase (Federal)	$612,000
Feasibility Phase (Non-Federal)	$612,000

The feasibility study is scheduled for completion in July 2001.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
DeLong Mountain Regional Port, AK Alaska District	1,850,000	0	70,000	422,000	1,328,000

The DeLong Mountain Regional Port is located in northwestern Alaska about 75 miles west of Kotzebue. It currently serves the world class Red Dog zinc mining operation and could serve as a regional hub for distribution of fuel to several communities in the region. The Alaska Industrial Development and Export Authority (AIDEA) and the Northwest Arctic Borough are interested in expanding the terminal for additional ore capacity, future potential shipment of coal, and general use by communities in this area. Expansion of the port would significantly reduce lightering costs, which are approximately $20 million per year. Shallow draft barges currently carry the processed ore to large ore carriers that anchor several miles offshore. Navigation improvements that are desired include dredging a deep draft channel and maneuvering area to a new trestle facility that would extend out from shore as far as practical. The estimated dredging cost is $30 to $50 million. Potential benefits for navigation improvements include significant reduction in transportation costs for zinc and future coal shipments, reduced costs of dry goods arriving at the port, savings in fuel transportation costs to communities in the region, and the enhanced feasibility of coal export and other metal mines in the region. The AIDEA is the sponsor and has listed this project as a high priority.

If the reconnaissance report, being prepared under the Coastal Navigation Improvements Study, is certified to be in accord with policy, the funds for Fiscal Year 2000 will be used to initiate the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility study. The preliminary estimated cost of the feasibility phase is $3,700,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$3,700,000
Reconnaissance Phase (Federal)	N/A (Prepared under Coastal Navigation, AK parent study)
Feasibility Phase (Federal)	1,850,000
Feasibility Phase (non-Federal)	1,850,000

The reconnaissance phase is being prepared under the Coastal Navigation Improvements Study and is scheduled for completion in February 2000. The feasibility study completion is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Douglas Harbor Expansion, AK Alaska District	316,000	160,000	47,000	109,000	0

Douglas is a small community near Juneau on the northeast side of Douglas Island in southeastern Alaska. Local interests desire expansion of the Douglas Small Boat Harbor, which is on the northeast shoreline of Douglas Island with a harbor entrance from Gastineau Channel. Gastineau channel is the main waterway to the city of Juneau and the Douglas area. The Corps of Engineers constructed Douglas Harbor in 1962. The small boat basin is about 3.5 acres. Both basin and channel are dredged to a depth of 12 feet below mean lower low water. A jetty protects the harbor area from wave action in Gastineau Channel. The harbor has moorage for about 100 small boats. The harbor has a large commercial fleet and a waiting list for berths. Overcrowding of harbor facilities is most common during the commercial fishing season. The harbor can be expanded to accommodate the vessels waiting for moorage, but a wave reduction structure would be needed to protect the entrance channel and new mooring basin from wave action. Commercial fishing vessels have increased in length and draft in the past 10 years, so a deeper entrance channel may also be warranted. Some large vessels are unable to obtain safe moorage in the Douglas/Juneau area and must travel long distances to overwinter, which greatly increases their operating costs. The City of Juneau is the sponsor and has listed this project as a high priority.

Fiscal Year 2000 funds will be used to initiate the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility study. The preliminary estimated cost of the feasibility phase is $432,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$532,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	216,000
Feasibility Phase (non-Federal)	216,000

The reconnaissance phase was completed in September 1999. The feasibility study is scheduled for completion in July 2001.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Gastineau Channel, Juneau, AK Alaska District	500,000	0	86,000	50,000	364,000

Gastineau Channel, a narrow strait 16 miles long that separates Douglas Island from the mainland of southeastern Alaska, connects Stephens Passage on the east with Fritz Cove on the west. Gastineau Channel provides direct access from the Juneau/Douglas area to fishing grounds north of the cities and saves about 20 miles over the alternate route around the south end of Douglas Island. More than 1,000 commercial fishing and recreation vessels are berthed in the Juneau/Douglas complex. Juneau, located adjacent to Gastineau Channel, has evolved from its founding as a mining town to State capital and is a supply and service center for surrounding communities. In the absence of a connected highway system, waterways provide the basic means for travel, and for a large segment of the population, vessels are as vital as the automobile or aircraft as a means of transportation. Of particular importance is the role waterways play in the social and economic well-being of the community. Inaccessibility to Gastineau Channel by the vast majority of vessels results in increased operating time and costs, a reduction in the navigation season due to adverse weather conditions, and the added risk of life and property because of the longer voyage through unprotected waters. An accessible channel would result in substantial annual savings for commercial fishers, tugboats serving Juneau, charter operators, and the U.S. Coast Guard. Gastineau Channel is an authorized Corps of Engineers project, but was not maintained due to the rapid shoaling from adjacent side streams immediately after construction. New technologies in sediment control and bank stabilization will be considered in the study to alleviate this post construction shoaling in addition to reassessing the channel design based on current vessel spectrum requirements. The study will propose measures with a Federal interest, which are economically justified or otherwise in keeping with current administration policy. The City and Borough of Juneau is the likely sponsor. They have listed this project as a high priority and understand the cost sharing requirements.

Fiscal Year 2000 funds will be used to negotiate the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to initiate the feasibility study. The preliminary estimated cost of the feasibility phase is $800,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$500,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	400,000
Feasibility Phase (non-Federal)	400,000

The reconnaissance phase is scheduled for completion in July 2001. The feasibility study completion is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Napaskiak Navigation Improvements, AK Alaska District	250,000	0	0	69,000	181,000

Napaskiak is a small Yupik village of 420 people in 99 households in the tidal reach of the Kuskokwim River. It lies across the river and 4 miles downstream of Bethel, the commercial hub of southwestern Alaska. The town is not connected to a road system and small boats are the normal means of local transportation and commerce for most of the year. Commercial fishing of salmon is the major income producing activity in the village and subsistence fishing is the dominant socioeconomic lifestyle. Despite its critical dependence on small boats, there are no harbor or dock facilities. Boats are drawn onto the shore or tied up along the water's edge of the river or a slough where they become mired at low tides. The operators of the barges bringing fuel and supplies to the village must watch water levels carefully and rapidly unload to avoid being stranded. Preliminary studies indicate that the cost of not having a proper harbor is costing the residents over $305 thousand per year in increased costs, lost time, and lost opportunities. Proposals to dredge a deep channel and for building a dock on an adjacent sandbar with connecting roadway and bridge have been investigated. The high capital cost of the dock and bridge complex diminish its economic viability. Estimates of the recurrent costs of dredging should be further defined. A third alternative, a wharf or dock on the main channel of the river connected by a 2000 ft road, should be investigated. The most likely potential sponsor is the City of Napaskiak, and they understand the cost sharing requirements for feasibility studies.

If the reconnaissance report, being prepared under the Coastal Navigation Improvement Study, is certified to be in accord with policy, available funds for Fiscal Year 2000 will be used to negotiate the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to initiate the feasibility study. The preliminary estimated cost of the feasibility phase is $500,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$500,000	
Reconnaissance Phase (Federal)	N/A	(Prepared under Coastal Navigation,AK parent study)
Feasibility Phase (Federal)	250,000	
Feasibility Phase (non-Federal)	250,000	

The reconnaissance phase is scheduled for completion in October 2000. The feasibility study completion is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Perryville Harbor, AK Alaska District	160,000	0	0	120,000	40,000

Perryville is located on the south coast of the Alaska Peninsula, approximately 810 miles southwest of Anchorage. Perryville is a remote community that depends on waterborne and airborne commerce for a variety of goods, including fuel oil and gasoline. Commercial fishing is the largest employer in the community, although no navigation system presently exists at Perryville. Consequently, maritime activities are severely impacted by tide and wave conditions that would normally not affect marine vessels that had access to a navigation and harbor system. Present navigation conditions at Perryville allow for inefficient barge delivery, are non-conducive to subsistence harvesting, and do not allow the commercial fishing fleet to fully utilize the nearby cod fishery.

Three Star Point Lagoon, which is presently used for mooring vessels, has been identified at the reconnaissance level as the ideal location for a navigation project. The proposed project would consist of an entrance stabilization structure, channel, and turning basin. Designing the entrance stabilization structure to allow for barge deliveries would also be investigated. The Lake and Peninsula Borough fully supports the project and is the likely sponsor.

The reconnaissance report was certified to be in accord with policy in September 1998. Local funding is not expected until after July 2000. Once local funding has been secured, the funds for Fiscal Year 2001 will be used to initiate the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $320,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$320,000	
Reconnaissance Phase (Federal)	N/A	(Prepared under Coastal Navigation, AK parent study)
Feasibility Phase (Federal)	160,000	
Feasibility Phase (non-Federal)	160,000	

The reconnaissance phase is scheduled for completion in October 2000. The feasibility study completion is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Port Lions Harbor, AK Alaska District	400,000	100,000	129,000	107,000	64,000

Port Lions Harbor is in Settler Cove, adjacent to the southeast coast of Kodiak Island, about 19 air miles west-northwest of the city of Kodiak, Alaska. The Corps of Engineers constructed a breakwater and entrance channel in 1981 to provide safe anchorage for the local fleet of fishing boats and transient vessels. The project consists of a 5-acre mooring basin behind a 600-foot breakwater and 170-foot stub breakwater. A winter storm in November 1981 severely damaged the main breakwater just 4 months after completion. Reconstruction in 1983 added 125 feet to the length of the main breakwater and strengthened it. The harbor design is for 125 vessels, but only about 56 vessels use the harbor, as the remaining portion still experiences damage during severe storms, and it is unsafe. Additional breakwaters are needed to provide adequate wave protection for the moorage area and to reduce damages to the vessels and the mooring system. Also, larger vessels with deeper drafts desire use of the harbor but must travel to other harbors, which greatly increases their operating costs. If the harbor had sufficient protection, commercial fishing vessels would occupy the majority of mooring berths not now usable. The city of Port Lions is the likely sponsor, with financial support from the Alaska Department of Transportation and Public Facilities.

Fiscal Year 2000 funds are being used to initiate the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility study. The preliminary estimated cost of the feasibility phase is $600,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$700,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	300,000
Feasibility Phase (non-Federal)	300,000

The reconnaissance phase is scheduled for completion in July 2000. The feasibility study completion is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Quinhagak Navigation Improvements, AK Alaska District	290,000	0	0	100,000	190,000

Quinhagak is located 470 miles west of Anchorage and 71 miles southwest of Bethel on the east shore of Kuskokwim Bay. The city is located on the Kanektok River less than a mile from the coast. The population of the city is 570. Bethel is the regional transportation hub and is the only nearby city with commercial air and marine transportation. The school district is the largest employer, providing 20 full-time and part-time positions during the school year. Almost every household in the village has a commercial fishing permit. The city dock and cannery area has silted in due to changes to the flow pattern of the river. This causes delays and at times limits transient vessels coming to the dock for supplies. It also limits the amount of fish that are brought in to be processed at the cannery. Fishing vessels prefer to deliver their catch where it can be processed without delay. These conditions have the potential to adversely impact the commercial fishing value at Quinhagak. Benefits will also accrue to general cargo transportation to Quinhagak. Fuel and general cargo barges must be either unloaded at Bethel and reshipped to Quinhagak, or wait for the next high tide. In either case there will be an impact on waiting times and damages will occur to grounded barges during low tides. There are frequent oil spills that occur from barge grounding. Benefits from improvements to the small boat harbor facilities will derive from reduction of physical damage to boats, and time saved by keeping boats nearer to the fishing grounds and always accessible. The City of Quinhagak is the likely sponsor, and they understand the cost sharing requirements for a feasibility study.

If the reconnaissance report, being prepared under the Coastal Navigation Improvements Study, is certified to be in accord with administration policy, the feasibility phase of the study will be initiated in Fiscal Year 2000 within available funds. Funds requested for Fiscal Year 2001 will be used to continue the feasibility study. The preliminary estimated cost of the feasibility phase is $580,000, which is to be shared on a 50-50 basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services.

A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$580,000
Reconnaissance Phase (Federal)	N/A(Prepared under Coastal Navigation,AK parent study)
Feasibility Phase (Federal)	$290,000
Initial Non-Federal Share	$290,000

The reconnaissance phase is scheduled for completion in November 2000. The feasibility completion is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Skagway Harbor, AK Alaska District	450,000	0	86,000	100,000	264,000

Skagway is a small community located at the northernmost end of Taiya Inlet. The community is 90 miles northeast of Juneau. Local interests desire the expansion of the Skagway Small Boat Harbor. The Corps of Engineers dredged the original harbor in 1945. The entrance channel and the harbor were dredged to a depth of -8 feet MLLW. The basin was one acre. In 1958 the City of Skagway constructed the rubblemound breakwater, and in 1959, the City of Skagway expanded the basin to the depth of -12 feet MLLW. The basin was also expanded by 2.5 acres. The total acres of the present harbor are 5.78 acres. The harbor has moorage for about 140 small boats. The harbor has a waiting list of over 130 vessels. Over crowding of the harbor is common during the commercial fishing and tourist season. Commercial fishing, tugs, and charter vessels have increased in length and draft in the past 40 years so deepening the entrance channel and the mooring basin may also be warranted. Tugs must leave the harbor early and delay return when assisting arriving or departing cruise ships or ore ships in order to work around tides. Tugs could be stuck in the harbor during emergency situation with cruise or ore ships, or other commercial vessels needing assistance. Tour boat traffic landings have increased in the last year from 80 to 140 vessels. The harbor is over crowded during the summer months, and vessels are turned away and have to travel to places like Juneau or Haines. Cruise ships visits range from 350 to 450 vessels a year. The study will consider the benefits and costs for deepening the entrance channel and expanding the harbor to accommodate the current and projected fleet and tugs. The City of Skagway is the likely sponsor and has listed this project as a high priority. They are familiar with the cost sharing requirements for the feasibility study.

Fiscal Year 2000 funds will be used prepare the reconnaissance report. Funds requested for Fiscal Year 2001 will be used to initiate the feasibility study. The preliminary estimated cost of the feasibility phase is $700,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$800,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	350,000
Feasibility Phase (non-Federal)	350,000

The reconnaissance phase is scheduled to be completed in July 2001. The feasibility study completion is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Unalakleet Harbor, AK Alaska District	300,000	0	0	74,000	226,000

Unalakleet is located on Norton Sound at the mouth of the Unalakleet River, 148 miles southeast of Nome and 395 miles northwest of Anchorage. Approximately 82 percent of the 800 people in Unalakleet are Alaska Natives. Unalakleet has a history of diverse cultures and trade activity. The local economy is the most active in Norton Sound, along with a traditional Unaligmiut Eskimo subsistence lifestyle. Both commercial fishing for herring and subsistence activities are major components of Unalakleet's economy. Approximately 113 residents hold commercial fishing permits, and a new fish processing plant was recently completed. Presently, the fishing fleet, operating out of Unalakleet, uses a lagoon on the leeward side of the spit where the city is located. Vessels in the lagoon are able to moor, haul out, and access the fish processing facility. Vessels navigate both the submerged alluvial fan, created seaward of the Unalakleet River, and the mouth of the river to gain access to the lagoon area. Due to very shallow water and frequent shifts in the thalweg, numerous vessels and propulsion systems are damaged. Frequent delays are also experienced due to vessels being forced to work around tide windows to gain access to the fish processor and other facilities within the lagoon. The study will consider the benefits and costs of constructing a navigation system that would significantly reduce delays and vessel damages. The city of Unalakleet is the likely sponsor and is familiar with the cost sharing requirements for the feasibility study.

If the reconnaissance report, being prepared under the Coastal Navigation Improvement Study, is certified to be in accordance with policy, the funds for Fiscal Year 2001 will be used to initiate the feasibility phase of the study The preliminary estimated cost of the feasibility phase is $600,000, which is to be cost shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Costs	$600,000
Reconnaissance Phase	N/A (Prepared under Coastal Navigation,AK parent study)
Feasibility Phase (Federal)	$300,000
Feasibility Phase (non-Federal)	$300,000

The reconnaissance phase is scheduled for completion in July 2001. The feasibility study completion is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Unalaska Harbor, AK	450,000	191,000	50,000	209,000	0

Alaska District

The City of Unalaska overlooks Iliuliuk Bay and Dutch Harbor on Unalaska Island in the Aleutian Chain. It lies 800 air miles from Anchorage and 1,700 miles northwest of Seattle. Unalaska's economy is based on commercial fishing, fish processing, and fleet services such as fuel, repairs and maintenance, trade, and transportation. The community enjoys a strategic position as the center of a rich fishing area, ranking number one in the nation for seafood volume and value, and for transshipment of cargo between Pacific Rim trading partners. The Great Circle shipping route from major west-coast ports to the Pacific Rim passes within 50 miles of Unalaska. Publicly owned marine facilities in the area do not adequately meet moorage needs at Unalaska. The proposed harbor, located in Iliuliuk Bay, would be protected by stub rubblemound and floating breakwaters and could accommodate over 250 boats when fully developed. The estimated project cost is $20 million and the benefit cost ratio is estimated at 1.3. The City of Unalaska is the sponsor for the project.

The funds for Fiscal Year 2000 will be used to continue the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to complete the feasibility study. The preliminary estimated cost of the feasibility phase is $900,000, which is to be shared on a 50-50 basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services.
A summary of the study cost sharing is as follows.

Total Estimated Study Cost	$900,000
Reconnaissance Phase (Federal)	N/A (Prepared under Coastal Navigation,AK parent study)
Feasibility Phase (Federal)	$450,000
Initial Non-Federal Share	$450,000

The reconnaissance phase was completed in June 1999. The feasibility study is scheduled for completion in June 2001.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Valdez Harbor, AK Alaska District	451,000	408,000	0	43,000	0

This study investigates the Valdez Small Boat Harbor. The demand for moorage space in the harbor far exceeds the existing design capacity of 513 boats. This demand is so great that in summer, commercial vessels are often rafted eight deep. This practice requires constant shifting of vessels, strains the existing mooring system, results in a significant amount of damages to vessels in unsafe conditions, and causes hazards when accessing vessels due to dissimilar deck design. Currently, more than 100 vessels are on a waiting list for permanent moorage space in the harbor. The City of Valdez is the local sponsor.

The feasibility phase of the study is being continued in FY 2000 within available funds. Funds requested for Fiscal Year 2001 will be used to continue the feasibility study. The preliminary estimated cost of the feasibility phase is $702,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$802,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	351,000
Feasibility Phase (non-Federal)	351,000

The reconnaissance phase was completed in June 1999. The feasibility study is scheduled for completion in May 2001.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Hawaii					
Honolulu Harbor Modifications, Oahu, HI Honolulu District	750,000	225,000	193,000	200,000	132,000

Honolulu Harbor is located along the southern coast of the island of Oahu, Hawaii, and is situated adjacent to the downtown area of Honolulu. The harbor is the principal port for the state of Hawaii and is an important link in the commerce of the Pacific Basin. Due to the tremendous growth in the container shipping sector since the harbor was last modified in 1981, the State has recognized a need to modify the existing harbor to enable it to service larger sized vessels than the harbor was originally designed to accommodate. Since 1981 incoming and outgoing cargo has increased 3 percent per year on average. Due to Hawaii's isolated location, 80 percent of consumer goods are imported into the State, with 98 percent of these goods being transported by ship into Honolulu Harbor. "State of the art" container vessels are currently unable to utilize the harbor due to the existing configuration. Smaller and less efficient vessels must be used, resulting in congestion delays and increased handling costs which continue to be exacerbated and directly impact upon Hawaii's economy.

The local sponsor is the State Department of Transportation. They recognize the critical role that Honolulu Harbor plays in Hawaii's economy. The State fully understands the cost-sharing requirements to conduct the feasibility study and is fully committed to active participation with the Corps of Engineers. The feasibility cost sharing agreement was executed in April 1999.

Fiscal Year 2000 funds are being used to conduct ship simulation studies to determine the ship response to various harbor configurations and to continue with ongoing economic, geotechnical, environmental and hydraulic engineering studies. Fiscal Year 2001 funds will be used to continue with ongoing feasibility studies. The preliminary estimated cost of the feasibility phase is $1,300,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,400,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	650,000
Feasibility Phase (Non-Federal)	650,000

The feasibility study completion schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	*Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Kahului Harbor Modifications, Maui, HI Honolulu District	700,000	68,000	107,000	150,000	375,000

Kahului Harbor is located on the northern coast of the island of Maui, the economic center for Maui County which includes the islands of Molokai, Lanai, and Kahoolawe. The island of Maui is currently experiencing a period of major economic growth which is expected to continue over the next 10-20 years. Cargo tonnage handled at Kahului Harbor, Maui's only commercial harbor, has risen to more than 10% above levels experienced during the construction boom era of the early 1990's and continues to grow. The growing demand for cargo to support Maui's expanding economy is placing growing demands on inter-island cargo carriers as well as Kahului Harbor's limited cargo handling facilities resulting in inefficiencies in harbor operations. Another factor expected to impact the demand on facilities at Kahului Harbor is the State's plan to aggressively pursue a larger share of the lucrative North American passenger cruise market. If the marketing campaigns prove successful, port calls by foreign cruise vessels are eventually expected to increase by as much as 30-percent. In addition to the increasing burden being placed on existing shoreside facilities, surge within the harbor contributes to the operating inefficiencies being experienced at the piers. Problems attributable to surge include damages to vessels and piers and cargo handling delays. Opportunities to increase the efficiency of harbor operations by deepening the harbor basin (currently -35 feet) and addressing the problem of surge within the harbor were the focus of reconnaissance level investigations.

A 905(b) analysis was completed in July 1999 with a finding of sufficient Federal interest to continue to feasibility level studies. However, the State Department of Transportation, the project sponsor, has asked to defer execution of the Feasibility Cost Sharing Agreement (FCSA) pending completion of their Kahului Harbor 2025 Master Plan in June 2000. Fiscal Year 2000 funds are being used to develop a Project Study Plan and prepare the FCSA for execution in September 2000. Fiscal Year 2001 funds will be used to initiate feasibility level economic, environmental, and hydraulic engineering studies. The estimated cost of the feasibility phase is $1,200,000, which will be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of the study cost sharing follows:

Total Estimated Study Cost	$1,300,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	600,000
Feasibility Phase (Non-Federal)	600,000

The feasibility study completion schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Kawaihae Deep Draft Harbor Modifications Hawaii, HI Honolulu District	$900,000	0	100,000	40,000	760,000

Kawaihae Harbor is located on the northwest coast of the island of Hawaii, approximately 85 miles northwest from Hilo, the county seat of the island of Hawaii. The existing project was completed in July 1962 and enlarged in January 1973. The project consists of a 3,270-foot long, 40-foot deep entrance channel; a 1,450-foot wide, 35-foot deep harbor basin; and a 2,650-foot long rubblemound breakwater. The barge pier and approximately half of the transpacific pier are not usable due to increased surge activity within the harbor causing delays in the loading and unloading of cargo. The surge problem occurs especially during the winter months when the north to northwest swells dominate the wave spectrum. Additionally, the surge actions within the harbor have resulted in damage to the piers and vessels. If improvements to the harbor are not implemented, the State's existing infrastructure will continue to be damaged, resulting in costly repairs.

The State Department of Transportation, the local sponsor, has requested by a letter dated June 1999 that a reconnaissance study be initiated to investigate the reported surge problem within the harbor. Preliminary discussions with the local sponsor indicate that navigation outputs are in accordance with Corps policy and the local sponsor fully understands the cost-sharing requirements of the study.

Fiscal Year 2000 funds are being used to fully fund the reconnaissance phase at Federal expense. If the study is certified to be in accord with policy, the funds requested for Fiscal Year 2001 would be used to continue into the feasibility phase of the study. The total estimated cost of the feasibility phase is $1,600,000, which will be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of the study cost sharing follows:

Total Estimated Study Cost	$1,700,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	800,000
Feasibility Phase (Non-Federal)	800,000

The reconnaissance phase is scheduled for completion in January 2001. The feasibility study completion schedule is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Tutuila Harbor, Tutuila Island, American Samoa Honolulu District	400,000	0	125,000	275,000	0

A reconnaissance study was conducted under Western District Harbor, Tutuila Island, American Samoa, in Fiscal Year 1999 and initially focused on the potential development of a second commercial harbor within the Western District of Tutuila Island. Preliminary economic and cost data indicated that a harbor located within the Western District was not economically justified. However, potential federal and local sponsor interest was identified in a second commercial facility within Pago Pago Bay that will relieve congestion at the existing commercial harbor. The congestion is due to inadequate entrance channel, turning basin, and berthing space for the numerous fishing vessels that regularly visit American Samoa. Delays of one to three days have been experienced by vessels entering the existing harbor. The development of this second commercial facility would alleviate the congestion being experienced at Pago Pago Harbor, which is currently not a Federal harbor, but is important as the largest and only deep draft harbor in the territory.

The American Samoa government, the local sponsor, supports the development of a second commercial facility in Pago Pago Bay to include federal navigation features of an entrance channel and turning basin. Authority to conduct this study is provided under Section 444 of the Water Resources Development Act of 1996 (P.L. 104-303). The reconnaissance report was completed in July 1999. A Feasibility Cost Sharing Agreement is scheduled to be executed in April 2000. Fiscal Year 2000 funds are being used to complete the reconnaissance phase and continue into the feasibility phase of the study. Feasibility studies include compiling of economic data, environmental studies, design efforts and public involvement. Fiscal Year 2001 funds will be used to complete the feasibility report.

The American Samoa government is fully aware of the cost sharing requirements for a feasibility study. Although the preliminary estimated cost of the feasibility phase is $400,000, to be shared on a 50-50 percent basis by Federal and non-Federal interests, Section 1156 of P.L. 99-662 provides for a waiver of local cost-sharing requirements up to $200,000. A summary of cost sharing is as follows:

Total Estimated Study Cost	$400,000
Reconnaissance Phase (Federal)	N/A (Conducted under Western District Harbor Study)
Feasibility Phase (Federal)	400,000
Feasibility Phase (Non-Federal)	0

The feasibility study is scheduled for completion in September 2001.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
2b. Flood Damage Prevention Studies: The amount of $200,000 is requested in Fiscal Year 2001 for two feasibility study.					
Alaska					
Aniak, AK Alaska District	676,000	256,000	0	50,000	370,000

Aniak, which is on the Kuskokwim River in southwestern Alaska, experiences severe floods every 4 years or less on average. The city is a service and transportation center for other communities on the river and a transfer point for the commercial fishing industry. A technical report was completed in November 1991 under the authority of Section 205 of the 1948 Flood Control Act, as amended, which showed that a $20-million ring levee was economically feasible and would prevent $1.7 million of flood damage on an average annual basis. However, the continuing authority Federal funding limit of $5 million would have required Aniak to pay $15 million, which was beyond their ability to fund. If Congress authorized the project, cost sharing would be in accordance with the Water Resources Development Act of 1996, and local interests would pay for 35 percent of the costs and would get credit for lands provided. Ice jams that form in the river each spring cause the most frequent and most severe floods, sometimes accompanied by erosion of a levee system built to keep ice flows out of the city. Recent expansion of the airport facilities and growth of the community make flood damage reduction even more urgent. In May 1993, the city of Aniak requested a study of the area to determine appropriate measures for reducing the threat to life and property associated with the frequent flooding of the city and ice damage to the existing levee system constructed in 1951 to protect an important airport runway. Studies will concentrate on evaluating measures to reduce flood damages, including flood proofing structures and other lower-cost alternatives. The city is willing to cost-share the feasibility study and project with funding assistance from the State of Alaska.

The reconnaissance phase of the study is being continued in FY 2000 with available funds. The funds requested for Fiscal Year 2001 will be used to initiate the feasibility study. The preliminary estimated cost of the feasibility phase is $840,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$1,096,000
Reconnaissance Phase (Federal)	256,000
Feasibility Phase (Federal)	420,000
Feasibility Phase (non-Federal)	420,000

The reconnaissance phase is scheduled for completion in April 2001. The feasibility study completion is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Barrow Coastal Storm Damage Reduction, AK Alaska District	600,000	0	86,000	150,000	364,000

Barrow, the northernmost community in North America, is located on the Chukchi Sea coast, 10 miles south of Point Barrow from which it takes its name. It lies 725 air miles from Anchorage. Barrow is the economic center of the North Slope Borough and numerous businesses provide support services to oil fields. Marine and land transportation provide seasonal access. Presently, the continued loss of shoreline and the narrowing of approximately 5,000 feet of beach fronting the community threaten numerous public facilities. During the winter, nearshore pack ice prevents the formation of waves during severe storms; this in turn protects the shoreline that is composed of a very fine, well-rounded sand. However, recent years have seen the pack ice remaining further offshore for longer periods of time thereby allowing severe storms to generate wind driven waves that cause massive erosion along the shoreline. If this trend continues, the threatened facilities at Barrow could be impacted within the next one to two years. Local officials also believe that sand-mining operations carried out by the Department of Defense during the 1950's through the 1970's have contributed to the existing shoreline erosion problems. Utilidors (below ground tunnels containing utility lines), roads, wastewater treatment facilities, and a 32-unit borough-owned apartment building are among the public facilities threatened. Also, the Barrow solid waste landfill is threatened and poses a tremendous environmental threat to the marine environment, if breached, due to the potentially hazardous nature of wastes placed in the landfill. Private facilities are also threatened and would incidentally benefit from a project. These include a gas station, a hotel, and numerous small shops. The study will consider the benefits and costs for protecting the shoreline fronting the city. It will also evaluate the merits of navigation improvement to facilitate development of a harbor and related facilities.

The reconnaissance Section 905(b) assessment is scheduled to be completed in December 2000. The city of Barrow will be the local sponsor, and it understands the cost sharing that would be needed for a feasibility study.

Fiscal Year 2000 funds are being used to initiate the reconnaissance phase of the study. FY 2001 funds will be used to initiate the feasibility report. The preliminary estimated cost of the feasibility phase is $1,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$1,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	500,000
Feasibility Phase (non-Federal)	500,000

The reconnaissance phase is scheduled for completion in July 2001. The feasibility study completion is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
2c. Shoreline Protection Studies: None					
2d. Special Studies: The amount of $493,000 is requested in Fiscal Year 2001 for seven feasibility studies.					
Alaska					
Chandalar River Watershed Study, AK Alaska District	500,000	0	86,000	50,000	364,000

The Chandalar River flows approximately 113 miles from its headwaters in the Brooks Range to the Yukon River, in northern interior Alaska. The Chandalar River watershed covers approximately 8,180 square miles. Environmental resources within the watershed include salmon, whitefish, moose, caribou, bear, waterfowl, and small game. The Village of Venetie is the population center for the area, with approximately 241 residents. Subsistence activities are critical to the local culture and the residents in the area. Residents have a long history of working together to protect their land for subsistence use. Watershed planning is needed to insure this protection and develop solutions for past and future activities that could pose threats to the ecosystem. With recent flooding, residents are concerned that the environmental resources of the river are at risk from fuels and other harmful substances released from abandoned aircraft, machinery along the river, and transformers left at a previous village site. Access to Venetie is almost exclusively by air. Future transportation developments include highways to be aligned along the Chandalar River. The environmental impacts these transportation developments could have on the river is a concern. There is also concern that the numbers of important subsistence species have dropped dramatically in recent years. The Venetie and Arctic Village own as tenants in common 1.8 million acres of land through the Native Village of Venetie Tribal Government. The Chandalar River watershed study will develop and document information on the hydrology of the watershed, condition of fish and wildlife resources, and the potential impacts of present and future development on hunting and fishing. Adverse impacts will be identified and eliminated, attenuated or otherwise mitigated. A management plan will be developed with sufficient information on the ecology and human impacts to serve as an initial watershed management plan. The study will propose measures with a Federal interest, which are economically justified or otherwise in keeping with administration policy. Information developed could also be valuable for Corps permit review. A need for watershed planning has been expressed by the Native Village of Venetie Tribal Government, who most likely would be the sponsor. They understand the cost sharing that would be needed for a feasibility study.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

Fiscal Year 2000 funds are being used to initiate the reconnaissance phase of the study. The funds for Fiscal Year 2001 will be used to initiate the feasibility study. The preliminary estimated cost of the feasibility phase is $800,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the cost sharing is as follows:

Total Estimated Study Cost	$900,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	400,000
Feasibility Phase (non-Federal)	400,000

The reconnaissance phase is scheduled for completion in April 2001. The feasibility study completion is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Chena River Watershed Study, AK Alaska District	777,000	477,000	0	50,000	250,000

The Chena River originates in a mountainous area about 90 air miles east of Fairbanks in central Alaska. The river flows southwest from its headwaters to its confluence with the Tanana River at Fairbanks. The Chena River watershed encompasses approximately 2,115 square miles. The Chena River Lakes Flood Control Project, completed in 1981, is located 17 miles east of Fairbanks on the Chena River. The project functions to divert flood flows into the Tanana River, providing flood protection to the city and surrounding low areas. Much of the watershed, especially the lower areas, contains environmentally sensitive wetlands. About 75 regulatory permit actions per year have been processed regarding these wetlands, and future urbanization and mining activity is expected to increase the number of actions. Concern has been expressed about the effects of population growth and development on fish and wildlife in the watershed. Problems identified within the Chena River watershed include a lack of quality brood production habitat for waterfowl and limited spring and fall migratory bird habitat in and around the Fairbanks/North Pole area and project lands of the Chena River Lakes Flood Control Project; degraded aquatic habitat on streams in the Little Chena River watershed due to abandoned mines; and degraded arctic grayling and other fisheries habitat on Noyes and Badger Sloughs. Other problems identified within the watershed include problems related to erosion and bank protection measures on the Chena River, the potential for degradation of water quality and aquatic habitat with uncontrolled erosion, and the potential for loss of important riparian habitat as landowners along the river attempt to protect their investments. The potential for loss of important fish and wildlife habitat on the Little Chena River watershed was also noted. Within the Chena River watershed, there is also the potential for the loss of flood control capability if key wetland areas are developed. To address these problems, the reconnaissance study recommends further cost-shared feasibility studies for the following:

- Creation of shallow-water wetlands on the Chena Lakes Flood Control Project lands (potential sponsor: Ducks Unlimited).
- Restoration of aquatic habitat on streams degraded by mining in the Little Chena River Watershed (potential sponsor: Alaska Department of Fish and Game, State of Alaska Parks Division Office).
- Restoration of arctic grayling and other fisheries habitat on Noyes Slough, in downtown Fairbanks (potential sponsors: Fairbanks North Star Borough, Alaska Department of Fish and Game).
- Restoration of arctic grayling habitat on Badger Slough (potential sponsor: Alaska Department of Fish and Game).

Further recommendations include the immediate initiation of cost-shared management plans for the following:

- Bank stabilization and erosion control on the Chena River (potential sponsors: various fish and wildlife agencies, state and local planning agencies).

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

- Protection of valuable fish and wildlife habitats in the Little Chena River Watershed (potential sponsor: Alaska Department of Fish and Game).
- Options to maintain current flood control capability, or improved capability, through identification and management of wetlands (potential sponsor: Fairbanks North Star Borough).
- Options to reduce groundwater flooding in the North Pole area caused by high water levels during floods on the Chena River.

The feasibility phase of the study is being negotiated in FY 2000 within available funds.. Funds requested for Fiscal Year 2001 will be used to initiate the feasibility phase. The preliminary estimated cost of the feasibility phase is $600,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$1,077,000
Reconnaissance Phase (Federal)	477,000
Feasibility Phase (Federal)	300,000
Feasibility Phase (non-Federal)	300,000

The feasibility study completion is being determined.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Kenai River Watershed, AK Alaska District	900,000	100,000	60,000	50,000	690,000

The Kenai River originates in the Kenai Mountain Range, approximately 100 miles south of Anchorage. The Kenai River watershed encompasses approximately 2,148 square miles. The watershed is one of the most easily accessible and intensely used areas for commercial and recreational activities in Alaska. The watershed includes significant habitat for all five wild Pacific salmon, 23 other fish, 30 mammals, 200 plants, and numerous bird species. The watershed study will focus on fish and wildlife impacts stemming from the significant increase in commercial and recreational use within the watershed; the elimination, attenuation, and/or prevention of these impacts; ecosystem restoration; in-stream flow needs for water supply and fisheries; the need for and associated impacts of bank stabilization and erosion control; water quality; adverse impacts to wetlands and the riparian zone; the establishment and use of conservation zones and/or special management areas; and other water resources problems such as flood prevention and protection. The Alaska Department of Natural Resources is the potential sponsor, with support from other State agencies, local governments, and interest groups.

Funds available in Fiscal Year 2000 are being used to negotiate the feasibility phase of the study. The funds requested for Fiscal Year 2001 will be used to continue the feasibility study. The preliminary estimated cost of the feasibility phase is $1,600,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$1,700,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	800,000
Feasibility Phase (non-Federal)	800,000

The reconnaissance phase is scheduled for completion in December 2000. The feasibility study completion is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Matanuska River Watershed, AK Alaska District	900,000	100,000	0	100,000	700,000

The Matanuska River rises in the glacier fields of the Chugach Mountains and flows westerly about 77 miles to empty into the head of Cook Inlet through Knik Arm. Its basin covers 1,092 square miles. The Matanuska Glacier, source of much of the river's flow, is one of the largest glaciers in the area. In its upper reaches the channel of the river is confined within high banks, but in its downstream reaches the river meanders over a bed more than a mile wide. An estimated 276,000 cubic yards of gravel and rock is deposited in the lower reaches of the riverbed each year. These sediments are slowly raising that portion of the river. Soils in the lower valley are loosely consolidated alluvial gravel and silt from the glacial fields at the headwaters, which were deposited in an earlier geologic period. The low riverbanks erode readily. The combination of sediment deposition and erodible banks makes the river channel wander across its broad valley. The valley consists of various types of wetlands interspersed with well-drained forests; it contains numerous lakes and streams.

The Matanuska River Valley has a wealth of natural water and land resources that are being converted from wilderness to mixed urban and agricultural uses. Logging is planned for the near future, along with clearing and development of more land for agricultural use. The agricultural production of the Matanuska Valley is the best in the state, with about 11,000 acres in cultivation. Coal and gravel are important subsurface resources; the Matanuska River is a prime source of gravel. Placer mining is also an important activity, and the region appears to contain significant minerals and ores. The valley, favored with scenic beauty, abundant fish and wildlife, and proximity to Anchorage, the State's largest city, supports much recreation and tourism. Because it is within commuting distance of Anchorage, its population is growing. Currently the valley has about 15,000 residents; Palmer, the largest city, has about 3,700. Development is impacting the river. For example, the Corps has issued nearly 200 regulatory permits for the Matanuska River itself, and considerably more throughout the valley. The Corps, the State, and the Matanuska-Susitna Borough have all built projects for flood and erosion control on the river.

This pending development creates an urgent need to map out an ecosystem management plan for proper use and conservation of the river and its resources. The watershed includes environmentally sensitive wetlands that could be affected by future urbanization, mining, and logging. This feasibility study will evaluate the various alternatives in the continuing studies of the watershed to reduce flooding and erosion problems. The study will develop a watershed plan for those actions that meet the local goals for wise development and protection of important environmental resources. The study would also provide a basis on which the Corps would issue general permits or avoid adverse impacts on wetlands while making approval of minor activities easier for the public. In February 1995 the Matanuska-Susitna Borough expressed its intent to be the local sponsor and to provide the necessary cost sharing for future studies.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

The feasibility phase of the study is being negotiated in FY 2000 within available funds. Funds requested for fiscal Year 2001 will be used to initiate the feasibility study. The preliminary estimated cost of the feasibility phase is $1,600,000, to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$1,700,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	$800,000
Feasibility Phase (non-Federal)	$800,000

The reconnaissance phase is scheduled for completion in April 2001. The feasibility study completion is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Naknek River Watershed Study, AK Alaska District	500,000	100,000	0	50,000	350,000

The Naknek River is located at the northeastern end of Bristol Bay, approximately 300 miles southwest of Anchorage, AK. The river is approximately 30 miles long beginning at the outlet of Naknek Lake and emptying into Bristol Bay at the City of Naknek. The watershed includes Naknek Lake, tributaries entering the lake and part of the Katmai National Park and Preserve. The City of King Salmon is located on the north bank of the river about 15 miles upstream. Fishing, fish processing, and transportation related employment are the mainstay of the local economy. Naknek is one of the primary staging areas for the large Bristol Bay salmon fleet. The watershed provides spawning and rearing habitat for millions of sockeye, pink, coho, chinook, and chum salmon as well as rainbow trout, grayling and Dolly Varden. The 30-year average of the estimated number of sockeye salmon returning to the Naknek-Kvichak District alone is 13.6 million, or 57% of the total average annual run for all of Bristol Bay, the largest sockeye salmon runs in the world. The watershed provides spawning and rearing habitat for millions of sockeye, pink, coho, chinook, and chum salmon as well as rainbow trout, grayling and Dolly Varden. The strong fishery within this watershed is rapidly attracting sport fishermen from around the country and the world. The Naknek - King Salmon area is the departure point for the Katmai National Park and Preserve, which includes the McNeil River State Game Sanctuary and Valley of Ten Thousand Smokes, both popular tourist attractions. Over 30,000 visitors pass through King Salmon airport annually seeking wilderness and fishing adventures and the number of tourists is growing annually. The wild and scenic rivers are popular rafting destinations and big game hunting for brown bear, moose, and caribou also occurs throughout much of the area. Currently, there are no restrictions or regulations on guides or boats within the watershed, which is beginning to lead to accelerated shoreline erosion and other problems along the Naknek River and its' tributaries. There are many diverse user groups and issues that have surfaced in recent years given the explosive growth in the use of the watershed. Therefore, there is great interest in developing a watershed management plan that will insure that the Naknek watershed continues to be a vital and healthy fishery, while allowing for the utilization of its other resource values.

The Naknek River watershed study will assess the present conditions within the basin, including the hydrology, fish and wildlife resources, and the use of resources and those using them. A management plan will be developed to balance competing interests within the watershed through coordinating with all involved parties. The study will also identify actions with a Federal interest, which are economically and/or environmentally justified, or otherwise in keeping with administration policy. The Bristol Bay Borough and/or the Lake and Peninsula Borough are the most likely sponsors, and both understand the cost sharing that would be needed for a feasibility study.

The feasibility phase of the study is being negotiated in FY 2000 within available funds. The funds for Fiscal Year

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

2001 will be used to initiate the feasibility study. The preliminary estimated cost of the feasibility phase is $800,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the cost sharing is as follows:

Total Estimated Study Cost	$900,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	400,000
Feasibility Phase (non-Federal)	400,000

The reconnaissance phase is scheduled for completion in January 2001. The feasibility study completion is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Ship Creek Watershed Study, AK Alaska District	474,000	160,000	159,000	53,000	102,000

Ship Creek begins in the Chugach Mountains east of Anchorage. The creek flows through Fort Richardson Army Post and Elmendorf Air Force Base and finally through an industrial part of Anchorage before emptying into Cook Inlet. Ship Creek is a non-glacial stream with clear water and an average annual flow of 144 cubic feet per second (cfs). Extreme low flows, which occur in winter when the creek is frozen, can be less than 10 cfs. In the developed part of the creek, there are many storm drain outfalls, which are a major source of contamination. There is a superfund site along the creek, which has undergone a major cleanup since 1986. EPA has initiated a final cleanup of the site to include long-term, on-site storage of contaminated soil. There are two State-operated fish hatcheries and four dams on the creek. Water diverted from the creek is used by the Municipality of Anchorage and the military bases for drinking water and as coolant for electric generating plants. Ship Creek is popular for sport fishing among local residents and tourists. Approximately 5,000 king salmon return to the creek each year. With the king and silver sport fishery, Ship Creek is the second most heavily fished stream in Alaska and has one of the largest urban king salmon fisheries in the State. Anchorage and the Alaska Railroad Corporation (ARRC) have great interest in improving this watershed, but have found that the lack of documented information about the watershed and conflicting interests have been a major factor in their lack of progress. The Corps' watershed study would focus on the creek's hydraulics, hydrology, and sediment transport dynamics. Sedimentation traps and inputs would be assessed, as well as flooding and erosion issues. Trends in fish and wildlife population health, and in fishing and hunting harvests would also be evaluated. The study would identify means to eliminate, attenuate, or otherwise mitigate fish and wildlife resource adversity. The study can provide a basis for initiating a watershed management plan that could be used to guide development in the area and eliminate or minimize potential pollution sources while improving water quality. The study would propose measures with a Federal interest, which are economically justified or otherwise in keeping with current administrative policy.

The reconnaissance assessment [Section 905(b)] was completed in November 1998. Anchorage and the ARRC would be the local sponsors. Anchorage and the ARRC understand the cost sharing that would be needed for a feasibility study.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

Fiscal Year 2000 funds are being used to initiate the feasibility phase of the study. FY 2001 funds will be used to complete the feasibility report. The preliminary estimated cost of the feasibility phase is $628,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$788,000
Reconnaissance Phase (Federal)	160,000
Feasibility Phase (Federal)	314,000
Feasibility Phase (non-Federal)	314,000

The reconnaissance phase is scheduled for completion in April 2000. The feasibility study completion is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Hawaii					
Ala Wai Canal, Oahu, HI Honolulu District	800,000	100,000	34,000	140,000	526,000

The Ala Wai Canal, located in the Waikiki area on the Island of Oahu, is a two-mile long man-made waterway constructed during the 1920's that has served as a collection and transmission point for discharged silt, pollutants and floodwaters from the Makiki, Manoa and Palolo drainage basins and surrounding areas of Waikiki. This drainage area encompasses a total land area of approximately 16.3 square miles. The two-mile long canal is approximately half a mile inland from Hawaii's major landmark and primary tourist destination Waikiki Beach. The 150 to 250 foot wide canal was originally dredged to a depth of 25 feet. In recent years the accumulation of debris, especially at the confluence of the major stream tributaries of the Makiki and Manoa-Palolo Stream and the Ala Wai Canal, has resulted in depths of only one to two feet. With increased urbanization of the drainage basin, the potential flood risk to the Waikiki area has become a major concern to the local sponsor. During the passage of Hurricane Iniki in 1992 the Ala Wai Canal overtopped its bank near the McCully Bridge and caused some flooding of streets in the Waikiki area. Flood mitigation measures including both non-structural and structural alternatives will be addressed and investigated for potential implementation.

The Ala Wai Canal also serves as an important link between the freshwater ecosystems of the upper drainage basins and the marine environment along the coast. Endemic amphidromous species such as native gobies and shrimp that had once utilized the Ala Wai Canal as a migratory pathway from the mountains to the sea are nearly non-existent. The accumulation of silt and pollutants over the years has resulted in a steady decline in water quality and has affected water flow and circulation. The deterioration of water quality in the canal is evidenced by health warning signs posted by the State of Hawaii Department of Health relating to the consumption of fish and crab, murky waters, floating and submerged debris, foul stench, and the proliferation of tilapia, one of the few fish species capable of surviving in this aquatic environment. This deterioration of water quality has adversely impacted traditional recreational and marine activities. The degradation of water quality in the canal has limited aquatic fauna to alien species capable of surviving in low dissolved oxygen-high sediment aquatic environments. According to a 1989 Hawaii Stream Assessment Survey, native species of gobies once present within the Ala Wai tributaries were no longer found in a recent Fish and Wildlife Survey of the upper Palolo Watershed. In a cooperative effort with Federal, State and local agencies an effective comprehensive management and restoration plan will need to be implemented to restore aquatic habitat and biological diversity once present in the canal and upstream tributaries.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

The State Department of Land and Natural Resources, the local sponsor, is fully aware of the cost sharing requirements for a feasibility study and is fully committed to actively participate with the Corps of Engineers. The feasibility cost sharing agreement is anticipated for execution in April 2000. Fiscal Year 2000 funds are being used to complete the reconnaissance phase and continue into the feasibility phase. Feasibility studies to be initiated include environmental, hydraulic and geotechnical engineering studies. Fiscal Year 2001 funds will be used to continue the feasibility phase studies. The total estimated cost of the feasibility phase is $1,600,000, which is to be cost shared at 50 percent by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,700,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	800,000
Feasibility Phase (Non-Federal)	800,000

The feasibility study scheduled is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

2e. Comprehensive Studies: None.

2f. Project Review Studies: None.

3. PRECONSTRUCTION ENGINEERING AND DESIGN - NEW

3a. Navigation: The amount of $508,000 is requested in Fiscal Year 2001 for four new PED projects.

Alaska

Douglas Harbor, AK Alaska District	300,000	0	0	50,000	250,000

Douglas is a small community near Juneau on the northeast side of Douglas Island in southeastern Alaska. Local interests desire expansion of the Douglas Small Boat Harbor, which is on the northeast shoreline of Douglas Island with a harbor entrance from Gastineau Channel. Gastineau channel is the main waterway to the city of Juneau and the Douglas area. The Corps of Engineers constructed Douglas Harbor in 1962. The small boat basin is about 3.5 acres. Both basin and channel are dredged to a depth of 12 feet below mean lower low water. A jetty protects the harbor area from wave action in Gastineau Channel. The harbor has moorage for about 100 small boats. The harbor has a large commercial fleet and a waiting list for berths. Overcrowding of harbor facilities is most common during the commercial fishing season. The harbor can be expanded to accommodate the vessels waiting for moorage, but a wave reduction structure would be needed to protect the entrance channel and new mooring basin from wave action. Commercial fishing vessels have increased in length and draft in the past 10 years, so a deeper entrance channel may also be warranted. Some large vessels are unable to obtain safe moorage in the Douglas/Juneau area and must travel long distances to overwinter, which greatly increases their operating costs. The City of Juneau is the likely sponsor and has listed this project as a high priority.

Fiscal Year 2001 funds will be used to initiate PED activities. PED will ultimately be cost-shared at the rate for the project to be constructed but will be financed through the PED period at 25% Non-Federal. Any adjustments necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction. A summary of the estimated Preconstruction Engineering and Design cost sharing is as follows:

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Total Estimated Preconstruction Engineering and Design Costs	$300,000		Total Estimated Preconstruction Engineering and Design Costs		$300,000
Initial Federal Share	225,000		Ultimate Federal Share		240,000
Initial Non-Federal Share	75,000		Ultimate Non-Federal Share		60,000

The project is not authorized for construction. Preconstruction Engineering and Design completion is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
False Pass Harbor, AK Alaska District	450,000	0	0	250,000	200,000

False Pass is a small community on the east side of Unimak Island at the eastern end of the Aleutian Island chain about 700 air miles southwest of Anchorage. The east shoreline of Unimak Island adjoins Isanotski Strait and Bechevin Bay, which provide passage from the Pacific Ocean to the Bering Sea. Access is by air and water, as no road network exists. The community livelihood comes from the support of commercial fishermen using the passage. The city pier north of the community is available and intended for larger vessel use up to about 300 feet. Smaller boats 25 to 50 feet in length raft together alongside and at the ends of the private piers in groups of up to six or seven during the summer fishery season. The pier ends are adjacent to the fast-moving currents in the passage and have little lateral bracing. Other transient and local boats anchor in a partially protected cove area north of the piers in the summer. Those facilities handle more than 100 seasonal commercial vessels as well as the local fishing fleet of less than 20 boats. Without safe moorage, weather conditions make it impractical to keep a boat in the water year-round. A protected harbor would enable year-round moorage for commercial fishing activities. Several important fisheries within proximity are salmon, pollock, herring, halibut, crab, and cod, which attract commercial fishermen during the summer to minimize their operating costs. Very good crab and pollock fisheries exist in the Bering Sea to the north of Unimak Island and salmon to the south. Overcrowding of existing facilities occurs frequently during the summer season. Exposed pier and cove use is possible only with good weather. Safe moorage between seasons is not possible for crew changes or refuge from storms. Additional berths in a protected harbor would help meet area demand for an estimated 100 to 200 commercial boats without a harbor. A safe harbor facility would induce many of them to locate their boats at False Pass for overall savings in operating cost. A protected harbor can provide space for anticipated commercial fishing use year-round, as well as become a harbor of refuge from storms or other emergencies. Several commercial boats in recent years have been either damaged or sunk within the area because there was no safe refuge from storms. A cost-shared feasibility study was initiated in February 1999 and will be completed in November 2000 within available funds. The Aleutians East Borough is the sponsor for the project and plans to initially provide 25 percent of the Preconstruction Engineering and Design (PED) cost. PED will ultimately be cost-shared at the rate for the project to be constructed. Any adjustments that may be necessary to bring the non-Federal share in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	600,000	Total Estimated Preconstruction Engineering and Design Costs	600,000
Initial Federal Share	450,000	Ultimate Federal Share	480,000
Initial Non-Federal Share	150,000	Ultimate Non-Federal Share	120,000

The project is not authorized for construction. Fiscal Year 2001 funds will be used to initiate PED. Completion of PED is being determined.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Unalaska Harbor, AK Alaska District	450,000	0	0	58,000	392,000

The City of Unalaska overlooks Iliuliuk Bay and Dutch Harbor on Unalaska Island in the Aleutian Chain. It lies 800 air miles from Anchorage and 1,700 miles northwest of Seattle. Unalaska's economy is based on commercial fishing, fish processing, and fleet services such as fuel, repairs and maintenance, trade, and transportation. The community enjoys a strategic position as the center of a rich fishing area, ranking number one in the nation for seafood volume and value, and for transshipment of cargo between Pacific Rim trading partners. The Great Circle shipping route from major west-coast ports to the Pacific Rim passes within 50 miles of Unalaska. Publicly owned marine facilities in the area do not adequately meet moorage needs at Unalaska. The proposed harbor, located in Iliuliuk Bay, would be protected by stub rubblemound and floating breakwaters and could accommodate over 250 boats when fully developed. The estimated project cost is $20 million and the benefit cost ratio is estimated at 1.3. The City of Unalaska is the sponsor for the project. The City of Unalaska plans to initially provide 25 percent of the Preconstruction Engineering and Design (PED) cost. PED will ultimately be cost-shared at the rate for the project to be constructed. Any adjustments that may be necessary to bring the non-Federal share in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$600,000	Total Estimated Preconstruction Engineering and Design Costs	$600,000
Initial Federal Share	450,000	Ultimate Federal Share	480,000
Initial Non-Federal Share	150,000	Ultimate Non-Federal Share	120,000

The project is not authorized for construction. Fiscal Year 2001 funds are being used to initiate PED. Completion of PED is being determined.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Valdez Harbor, AK Alaska District	450,000	0	0	150,000	300,000

Valdez is located at the extreme northeastern end of Valdez Arm in Port Valdez, approximately 115 miles east of Anchorage. The Valdez port area is located near the head of the bay, with the town site occupying the uplands along the north shore. There is currently a lack of adequate moorage space at the small boat harbor. Rafting during the commercial fishing season has been reported up to eight boats deep on a regular basis. The problem is highly seasonal, requiring a large need for transient space primarily during the summer months. The current number of vessel owners waiting for a slip is 156. The waiting time is 5 to 8 years. The Alyeska Pipeline Service Company provides oil spill response support activities for marine areas in and adjacent to Valdez Arm through its SERVS dock. The dock's exposed location is not protected during adverse weather. SERVS vessels are often subject to severe weather, which can cause vessel damage and undesirable berthing conditions at the present facility. The estimated project cost for the project is $13.8 and the benefit/cost ratio is estimated to be 1.4. The city of Valdez has agreed to sponsor the Preconstruction Engineering and Design cost and is aware of the 25-percent study cost-sharing requirement. PED will ultimately be cost-shared at the rate for the project to be constructed. Any adjustments that may be necessary to bring the non-Federal share in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$600,000	Total Estimated Preconstruction Engineering and Design Costs	$600,000
Initial Federal Share	450,000	Ultimate Federal Share	480,000
Initial Non-Federal Share	150,000	Ultimate Non-Federal Share	120,000

The project is not authorized for construction. Fiscal Year 2001 funds are being used to initiate PED. Completion of PED is to be determined.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

3b. Flood Control: None

3c. Shoreline Protection: None.

3d. Multiple Purpose Projects: None.

4. PRECONSTRUCTION ENGINEERING AND DESIGN - CONTINUING

4a. Navigation: The amount of $323,000 is requested in Fiscal Year 2001 for two continuing PED projects.

Alaska

Akutan Harbor, AK Alaska District	450,000	0	0	150,000	300,000

The city of Akutan lies on the north shore of Akutan Bay, a large, well-protected bay opening to the Bering Sea on the eastern side of Akutan Island. The city is about 40 miles east of Unalaska/Dutch Harbor (55 miles by boat). Akutan Island is approximately 590 miles southwest of Kodiak and 790 miles southwest of Anchorage. Protected moorage is needed for the fleet of commercial fishing vessels that use Akutan as a base of operations. Local residents report the most severe winds blow from the southeast/east and southwest directions and along the length of the bay throughout the fall and winter months. The eastern part of the bay can sustain waves of 8 feet or more during particularly severe easterly/southeasterly storms. Waves of 5 to 6 feet are common during major storms in the mid-bay vicinity off the Trident Seafood processing plant. The best and most sheltered location for a dock or small boat harbor facility is west of the Trident plant on the north side of the bay. During storms, vessels anchor in the head of the bay for protection, but still maintain a crew watch and often maintain power to prevent dragging their anchors. Vessels requiring storm protection include 76 crabbers and trawlers, ranging in size from 80 to 210 feet, and 19 smaller vessels and skiffs, ranging in size from 14 to 32 feet. Fish processing is the major industry attracting vessels to Akutan. The estimated project cost is $20 million and the benefit cost ratio is estimated at 1.3. The Aleutians East Borough is the sponsor for the project. The Aleutians East Borough plans to initially provide 25 percent of the Preconstruction Engineering and Design (PED) cost. PED will ultimately be cost-shared at the rate for the project to be constructed. Any adjustments that may be necessary to bring the non-Federal share in line with the project cost sharing will be accomplished in the first year of construction.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Total Estimated Preconstruction Engineering and Design Costs	$600,000		Total Estimated Preconstruction Engineering and Design Costs		$600,000
Initial Federal Share	450,000		Ultimate Federal Share		480,000
Initial Non-Federal Share	150,000		Ultimate Non-Federal Share		120,000

The project is not authorized for construction. Fiscal Year 2001 funds will be used to initiate PED. Completion of PED is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
Hawaii					
Barbers Point Harbor Modification, Oahu, HI Honolulu District	600,000	0	327,000	173,000	100,000

Barbers Point Harbor is located on the Ewa plains along the western coast of the Island of Oahu, Hawaii, and is situated adjacent to the 1,367-acre James Campbell Industrial Park (Oahu's major industrial area) and the 800-acre Kapolei Business Park. The harbor was originally intended to serve as a deepwater relief harbor for the port of Honolulu and to service the shipping requirements of the industries at Campbell Industrial Park, thus eliminating or reducing the need for considerable overland transshipment expense involved in importing and exporting via Honolulu Harbor and the congested Honolulu metropolitan area. However, the rapid development and growth of the Ewa plains region and the establishment of the community of Kapolei as Oahu's second urban center near Barbers Point have placed increased importance and demand on the harbor to service the growing communities, businesses, and industries in the Ewa area. The feasibility study is scheduled for completion in July 2000. The recommended plan, estimated to cost $31.0 million ($23.2 million Federal; $7.8 million non-Federal), is to deepen the entrance and access channels to -45 feet and also deepen the turning basin to -42 feet. The benefit-cost ratio is 1.4 to 1. The local sponsor is the State Department of Transportation and they are willing to meet the cost sharing requirements for Preconstruction Engineering and Design (PED) and subsequent project construction in accordance with project cost sharing. PED will ultimately be cost shared at the rate for the project to be constructed but will be financed through the PED period at 25% non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction. A summary of study cost sharing is as follows:

Total Estimated Preconstruction Engineering and Design Costs	$800,000	Total Estimated Preconstruction Engineering and Design Costs	$800,000
Initial Federal Share	600,000	Ultimate Federal Share	600,000
Initial Non-Federal Share	200,000	Ultimate Non-Federal Share	200,000

Fiscal Year 2000 funds are being used to initiate PED activities to include bathymetric surveys, and foundation investigations and analysis. Fiscal Year 2001 funds will be used to initiate the preparation of construction plans and specifications. PED completion schedule is being determined. The project is not authorized for construction.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 1999 $	Allocation FY 1999 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
4b. Flood Control: None					
4c. Shoreline Protection: None.					
4d. Multiple Purpose Projects: None.					

APPROPRIATION TITLE: Construction, General - Navigation - Channels and Harbors

PROJECT: Chignik Harbor, Alaska (Continuing)

LOCATION: Chignik is located in southwest Alaska on the south shore of the Alaska Peninsula.

DESCRIPTION: The project consists of a 1,120 foot southern rubblemound breakwater and a 940 foot northern breakwater, with a 150 foot wide entrance channel through a gap in the breakwaters. The harbor will serve 9 acres of moorage.

AUTHORIZATION: Water Resource Development Act of 1996

REMAINING BENEFIT-REMAINING COST RATIO: 2.0 to 1.0 at 7-5/8 percent.

TOTAL BENEFIT-COST RATIO: The current benefit to cost ratio is 2.0 to 1.0 at 7-5/8 percent.

INITIAL BENEFIT-COST RATIO: 2.0 to 1.0 at 7-5/8 percent (FY 1998).

BASIS OF BENEFIT-COST RATIO: Feasibility Report of February 1996 at October 1995 price levels.

SUMMARIZED FINANCIAL DATA:

			STATUS (1 January 00)	Percent Complete	Completion Schedule
Estimated Appropriation Requirement (CofE)		$ 6,050,000			
Estimated Appropriation Requirement (U.S. Coast Guard)		8,000	Entire Project	0	Being determined
Estimated Total Appropriation Requirement		6,058,000			
Future Non-Fed Reimbursement		572,000			
Estimated Federal Cost (Ultimate) (CofE)		5,486,000			
Estimated Non-Fed Cost		1,344,000			
Cash Contributions	$ 672,000				
Other	100,000				
Reimbursement	572,000				
Total Estimated Project		$6,830,000			

1257

SUMMARIZED FINANCIAL DATA (Continued)

		ACCUMULATED % OF EST. FED COST
Allocations to 30 September 1999	$ 392,000	
Conference Allowance for FY 2000	4,357,000	
Allocations for FY 2000	177,000	1/
Allocations thru 2000	569,000	9%
Allocations requested for FY 2001	1,312,000	31%
Programmed Balance to Complete after FY 2001	4,169,000	100%
Unprogrammed Balance to Complete after 2001	0	

PHYSICAL DATA	Northern	Southern
Breakwater Length (ft)	940	1,120
Entrance Channel		
Width (ft)	150	
Depth (ft)	-19.5	
Mooring Area		
Total Area MLLW Depth(ft)	-12 to -16.5	
Acres	9.0	

1/ Reflects $620,000 assigned as savings and slippage and a reprogramming of $3,560,000 out of the project due to additional environmental requirements for endangered species.

JUSTIFICATION: The city of Chignik is situated on the south shore of Alaska Peninsula in Southwestern Alaska. It is an active and growing island port whose economy is heavily dependent on commercial fishing. The local fleet presently anchors in the ice free, but inadequately protected harbor or ties up at the exposed city dock. At present boats are subject to overcrowding and hazardous mooring conditions between fishing periods. The anchorage is exposed to all storms from the southeast clockwise to the northwest. The violent southeast and northwest storms often damage and sometimes destroy boats by forcing them ashore or on the exposed rock reefs at low tides. The proposed project would provide a protected harbor, which would produce benefits in the form of reduced boat damage, increased fish harvest, and a harbor of refuge. The average annual navigation benefits attributable to the project are currently estimated at $1,695,400.

1258

FISCAL YEAR 2001: The requested amount of $1,312,000 will be applied as follows:

Complete Breakwaters and Seawalls	1,200,000
Complete Engineering and Design	22,000
Complete Construction Management	90,000
Total	$ 1,312,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, and Replacement Costs
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$ 100,000	
Pay 10 percent of the costs allocated to deep draft navigation during construction.	$ 672,000	
Reimburse an additional 10 percent of the costs of general navigation features allocated to commercial navigation within a period of 30 years following completion of construction is partially reduced by a credit allowed for the value of lands, easements, rights of way, relocations. and dredged or excavated material disposal areas provided for commercial navigation.	$ 572,000	
Total Non-Federal Costs	$1,344,000	

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction and reimburse its share of construction costs over a period not to exceed thirty years.

STATUS OF LOCAL COOPERATION: The City Council of Chignik, Alaska, has agreed to meet all requirements of local cooperation. A Letter of Assurance was transmitted to the Corps of Engineers on 21 February 1998. The Project Cooperation Agreement will be signed in July 2000. The city has submitted a financing plan for their portion of the required funds.

COMPARISON OF FEDERAL COST ESTIMATE: The current Federal (Corps of Engineers) Cost Estimate of $6,050,000 is an increase of $461,000 over the last estimate ($ 5,589,000) presented to Congress in 1999.

Item	Amount
Price Escalation on Construction Features	$ 180,000
Schedule changes and additional environmental requirements	281,000
Total	$461,000

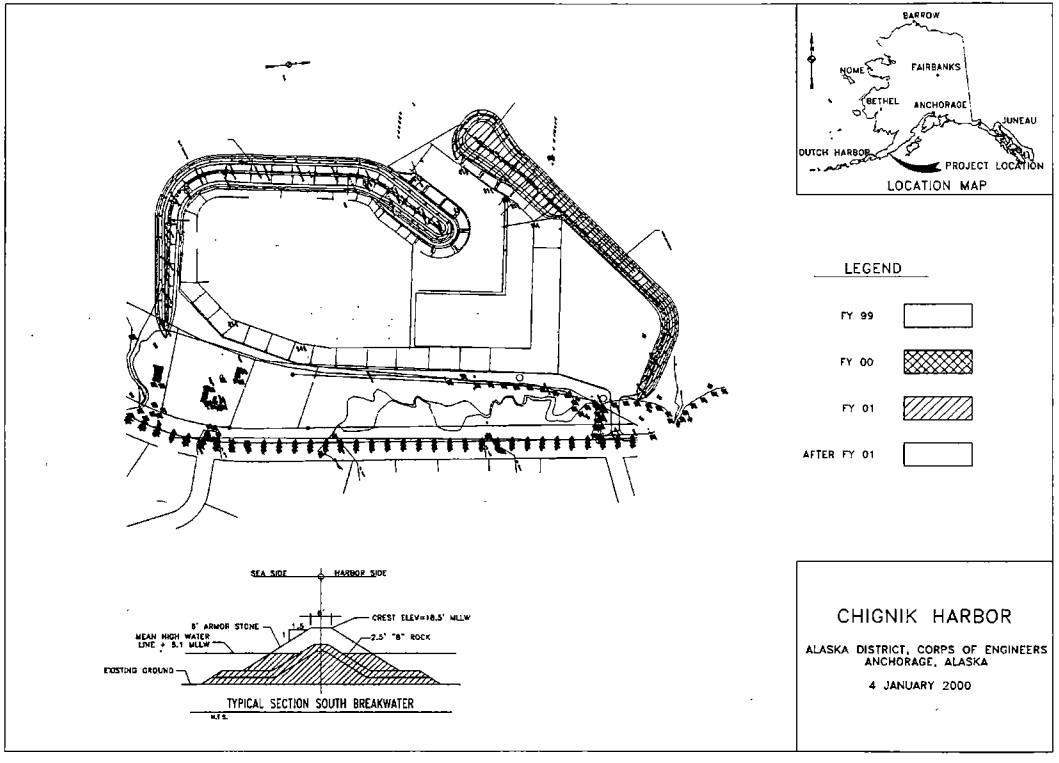
STATUS OF ENVIRONMENTAL IMPACT STATEMENT AND COMPLIANCE WITH CLEAN WATER ACT:

a. The final supplemental environmental impact statement was submitted to EPA in March 1996.

b. The provisions of Section 404 of the Clean Water Act were met with the submission of the EIS including a Section 404 (b)(1) evaluation to Congress in July 1996.

OTHER INFORMATION: Initial planning funds (PED) were received in FY 1996 and construction funds in FY 1998. The scheduled completion date is a slippage from the latest presented to Congress due to the added requirement of coordinating with environmental agencies due to the presence of the Steller's Eider in the area of the harbor. The Steller's Eider has been added to the Endangered Species list.

1260


BARROW
NOME
FAIRBANKS
BETHEL
ANCHORAGE
JUNEAU
DUTCH HARBOR
PROJECT LOCATION
LOCATION MAP
LEGEND
FY 99
FY 00
FY 01
AFTER FY 01
SEA SIDE
HARBOR SIDE
CREST ELEV=18.5' MLLW
8' ARMOR STONE
2.5' "B" ROCK
MEAN HIGH WATER LINE + 8.1 MLLW
EXISTING GROUND
TYPICAL SECTION SOUTH BREAKWATER
CHIGNIK HARBOR
ALASKA DISTRICT, CORPS OF ENGINEERS
ANCHORAGE, ALASKA
4 JANUARY 2000

1261

APPROPRIATION TITLE: Construction, General - Navigation - Channels and Harbors

PROJECT: Kake Harbor, Alaska (Continuing)

LOCATION: Kake is located in southeast Alaska on the northwest shore of Kupreanof Island.

DESCRIPTION: The project consists of a 1,300 foot eastern rubblemound. The harbor would provide protected moorage for the existing 87 vessels as well as an additional 90 permanent mooring slips and 27 additional transient spaces.

AUTHORIZATION: 1968 River and Harbor Act (Public Law 90-483, 90th Congress)

REMAINING BENEFIT-REMAINING COST RATIO: 2.9 to 1.0 at 3-1/4 percent.

TOTAL BENEFIT-COST RATIO: The current benefit to cost ratio is 2.9 to 1.0 at 3-1/4 percent.

INITIAL BENEFIT-COST RATIO: 2.9 to 1.0 at 3-1/4 percent (FY 1997).

BASIS OF BENEFIT-COST RATIO: General Reevaluation Report of April 1995 at January 1995 price levels.

SUMMARIZED FINANCIAL DATA:

Estimated Appropriation Requirement (CofE)		$18,000,000
Estimated Appropriation Requirement (U.S. Coast Guard)		8,000
Estimated Total Appropriation Requirement		18,008,000
Future Non-Fed Reimbursement		2,000,000
Estimated Federal Cost (Ultimate)		16,008,000
Estimated Non-Fed Cost		4,000,000
Cash Contributions	$2,000,000	
Other	0	
Reimbursement	2,000,000	
Total Estimated Project		$20,008,000

STATUS (1 January 00)	Percent Complete	Completion Schedule
Entire Project	60	Being Determined

1262

SUMMARIZED FINANCIAL DATA (Continued)

		ACCUMULATED % OF EST. FED COST
Allocations to 30 September 1999	$10,290,000	
Conference Allowance for FY 2000	2,568,000	
Allocations for FY 2000	2,202,000 1/	
Allocations through 2000	12,492,000	69
Allocation requested for FY 2001	5,508,000	100
Programmed Balance to Complete	0	
Unprogrammed Balance to Complete after 2000	0	

PHYSICAL DATA	Main
Breakwater Length (ft)	1,300
Entrance Channel	
Width (ft)	150
Depth (ft)	-18
Mooring Area	
Total Area MLLW Depth	-18
Acres	16.6

1/ Reflects a reduction of $366,000 assigned as savings and slippage.

JUSTIFICATION: The city of Kake is situated on the northwest shore of Kupreanof Island in Southeastern Alaska. It is an active and growing island port whose economy is heavily dependent on commercial fishing. The local fleet presently anchors in the ice free, but inadequately protected harbor, or ties up at the exposed city dock. At present boats are subject to overcrowding and hazardous mooring conditions between fishing periods. The anchorage is exposed to all storms from the southeast clockwise to the northwest. The violent southeast and northwest storms often damage and sometimes destroy boats by forcing them ashore or on the exposed rock reefs at low tides. The proposed project would provide a protected harbor, which would produce benefits in the form of reduced boat damage, increased fish harvest, and a harbor of refuge. The average annual navigation benefits attributable to the project are currently estimated at $1,463,400.

FISCAL YEAR 2001: The requested amount of $5,508,000 will be applied as follows:

Continue Breakwaters and Seawall	$ 5,247,000
Continue Engineering and Design	20,000
Continue Construction Management	241,000
Total	$ 5,508,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, and Replacement Costs
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$ 0	
Pay 10 percent of the costs allocated to deep draft navigation during construction.	$2,000,000	
Reimburse an additional 10 percent of the costs of general navigation features allocated to commercial navigation within a period of 30 years following completion of construction is partially reduced by a credit allowed for the value of lands, easements, rights of way, relocations, and dredged or excavated material disposal areas provided for commercial navigation.	$2,000,000	
Total Non-Federal Costs	$4,000,000	$ 0

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction and reimburse its share of construction costs over a period not to exceed thirty years.

STATUS OF LOCAL COOPERATION: The City Council of Kake, Alaska, has agreed to meet all requirements of local cooperation and have executed a Project Cooperation Agreement on 26 November 1997.

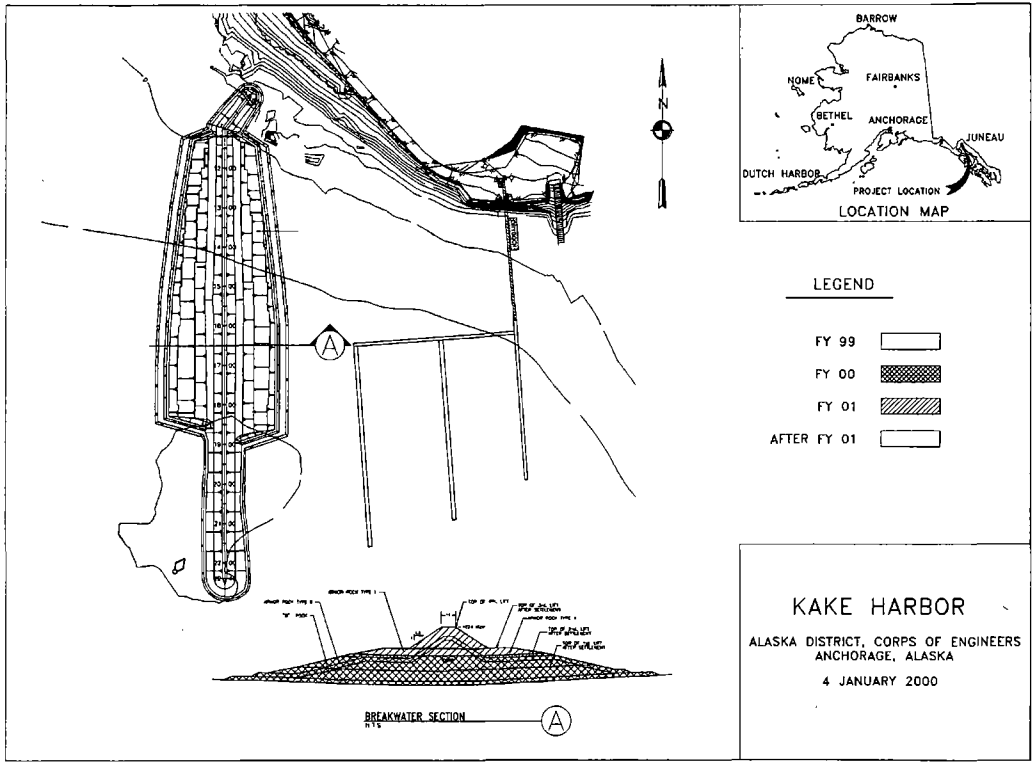
COMPARISON OF FEDERAL COST ESTIMATE: The current Federal Cost Estimate (Corps of Engineers) of $18,000,000 is the same as the last estimate presented to Congress (FY 1999).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT AND COMPLIANCE WITH CLEAN WATER ACT:

a. The final supplemental environmental impact statement was submitted to EPA in March 1981.

b. The provisions of Section 404 of the Clean Water Act were met with the submission of the EIS including a Section 404 (b)(1) evaluation to Congress in July 1981.

OTHER INFORMATION: Initial planning funds were received in FY 1971. Initial construction funds were received in FY 1997.


BARROW
NOME
FAIRBANKS
BETHEL
ANCHORAGE
JUNEAU
DUTCH HARBOR
PROJECT LOCATION
LOCATION MAP
LEGEND
FY 99
FY 00
FY 01
AFTER FY 01
A
BREAKWATER SECTION
A
KAKE HARBOR
ALASKA DISTRICT, CORPS OF ENGINEERS
ANCHORAGE, ALASKA
4 JANUARY 2000

1265

APPROPRIATION TITLE: Construction, General - Navigation - Channels and Harbors

PROJECT: Saint Paul Harbor, Alaska (Continuing)

LOCATION: Saint Paul is the northernmost of the Pribilof Islands, located in the southeastern Bering Sea approximately 800 air miles west southwest of Anchorage.

DESCRIPTION: The project consists of a dredged entrance channel at -32 feet MLLW, a maneuvering basin at -29 feet MLLW, a spending beach on the lee side of the existing detached breakwater, three offshore breakwater reefs parallel to the existing main breakwater, an environmental restoration feature to increase the flow of water into the Salt Lagoon and a small boat harbor with an entrance channel and maneuvering area dredged to a 20-foot depth and a small breakwater. The harbor improvements will accommodate increased boat and ship traffic and reduce damage to facilities and vessels from storm waves overtopping the existing main breakwater.

AUTHORIZATION: Water Resource Development Act of 1996 as modified by Section 303 of the Water Resources Development Act of 1999

REMAINING BENEFIT-REMAINING COST RATIO: 1.7 to 1.0 at 7-1/8 percent.

TOTAL BENEFIT-COST RATIO: The current benefit to cost ratio is 1.7 to 1.0 at 7-1/8 percent.

INITIAL BENEFIT-COST RATIO: 1.7 to 1.0 at 7-3/8 percent (FY 1998).

BASIS OF BENEFIT-COST RATIO: Chief of Engineers Report of 23 December 1996 at October 1996 price levels.

SUMMARIZED FINANCIAL DATA:

Estimated Appropriation Requirement (CofE)		$ 22,925,000
Estimated Appropriation Requirement (U.S. Coast Guard)		0
Estimated Total Appropriation Requirement		22,925,000
Future Non-Fed Reimbursement		2,891,000
Estimated Federal Cost (Ultimate) (CofE)		20,034,000
Estimated Non-Fed Cost		9,477,000
Cash Contributions	$6,531,000	
Other	55,000	
Reimbursement	2,891,000	
Total Estimated Project		$29,511,000

STATUS (1 January 00)	Percent Complete	Completion Schedule
Entire Project	8	Being determined

1266

SUMMARIZED FINANCIAL DATA (Continued)

		ACCUMULATED % OF EST FED COST
Allocations to 30 September 1999	$ 3,351,000	
Conference Allowance for FY 2000	1,000,000	
Allocations for FY 2000	5,467,000 1/	
Allocations thru 2000	8,818,000	38%
Allocations requested for FY 2001	5,616,000	63%
Programmed Balance to Complete after FY 2001	8,491,000	100%
Unprogrammed Balance to Complete after 2001	0	

PHYSICAL DATA	Main	Detached
Breakwater Length (ft)	1,800	970
Entrance Channel		
Width (ft)	150	
Depth (ft)	-32	
Offshore Reefs		
Length (ft)	1,250	
Crest Elevation (ft)	-12	
Maneuvering Basin		
Total Area MLLW Depth	-29	
Acres	11.0	

1/ Reflects $142,000 assigned as savings and slippage and $ 4,609,000 reprogrammed into the project.

JUSTIFICATION: The city of Saint Paul is situated on the southwestern end of Saint Paul Island in the eastern Bering Sea. It is an active and growing island port whose economy is heavily dependent on commercial fishing. Storm waves overtopping and transmitting through the main breakwater create hazardous conditions and damage vessels and facilities in a harbor which serves a fishing fleet 3 times greater than designed. The maneuvering area is inadequate for the increased numbers of vessels which are much larger than the original design vessel and harbor operations have changed significantly since initial construction. The proposed improvements would provide reduction in storm wave damages, increased efficiencies in harbor operations, and increased economies in transporting processed product. The average annual navigation benefits attributable to the project are currently estimated at $2,613,000.

FISCAL YEAR 2001: The requested amount of $5,616,000 will be applied as follows:

Continue Breakwaters and Seawalls	5,051,000
Continue Engineering and Design	65,000
Continue Construction Management	500,000
Total	$5,616,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, and Replacement Costs
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$ 55,000	
Pay 10 percent of the costs allocated to general navigation features during construction.	$ 556,000	
Pay 25 percent of the costs allocated to general navigation features during construction.	$5,975,000	
Reimburse an additional 10 percent of the costs of general navigation features allocated to commercial navigation within a period of 30 years following completion of construction is partially reduced by a credit allowed for the value of lands, easements, rights of way, relocations, and dredged or excavated material disposal areas provided for commercial navigation.	$2,891,000	
Total Non-Federal Costs	$9,477,000	$ 0

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction and reimburse its share of construction costs over a period not to exceed thirty years.

STATUS OF LOCAL COOPERATION: The City Council of St Paul, Alaska, has agreed to meet all requirements of local cooperation. A Letter of Assurance was transmitted to the Corps of Engineers in June 1996. The Project Cooperation Agreement was signed in November 1998. The city has submitted a financing plan for their portion of the required funds. A modification to the Project Cooperation Agreement will be executed in May 2001 to include the small boat harbor.

COMPARISON OF FEDERAL COST ESTIMATE: The current Federal (Corps of Engineers) Cost Estimate of $22,925,000 is an increase of $8,576,000 over the last estimate ($14,349,000) presented to Congress (FY 2000).

Item	Amount
Authorized Modifications (Small boat harbor authorized in WRDA 99)	$5,000,000
Post Contract Award and Other Estimating Adjustments (including contingency adjustments)	$3,576,000
Total	$8,576,000

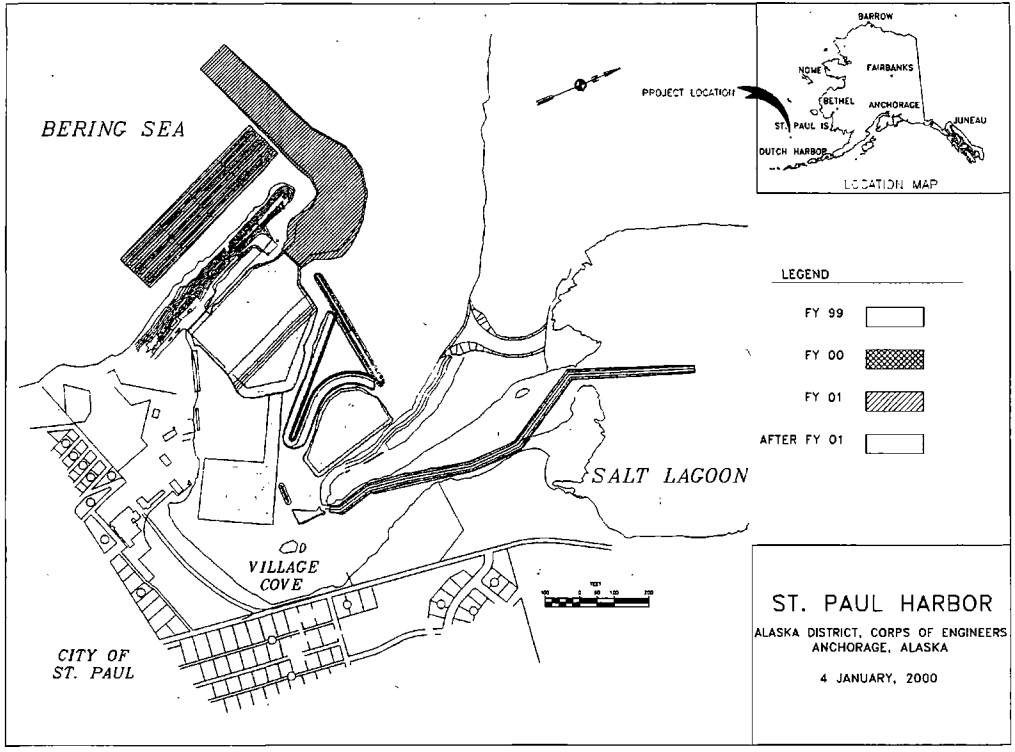
STATUS OF ENVIRONMENTAL IMPACT STATEMENT AND COMPLIANCE WITH CLEAN WATER ACT:

a. The FONSI was signed on 31 July 1996.

b. The provisions of Section 404 of the Clean Water Act were met with the submission of the EA including a Section 404 (b)(1) evaluation to Congress in July 1996.

OTHER INFORMATION: Initial planning funds (PED) were received in FY 1996 and initial construction funds in FY 1998. Local service facilities estimated to cost $8,844,000 are also required for the project. Project modified to include small boat harbor in WRDA 99.

1269


BERING SEA
PROJECT LOCATION
BARROW
NOME
FAIRBANKS
BETHEL
ANCHORAGE
ST. PAUL IS.
JUNEAU
DUTCH HARBOR
LOCATION MAP
LEGEND
FY 99
FY 00
FY 01
AFTER FY 01
SALT LAGOON
VILLAGE COVE
CITY OF ST. PAUL
ST. PAUL HARBOR
ALASKA DISTRICT, CORPS OF ENGINEERS
ANCHORAGE, ALASKA
4 JANUARY, 2000

1270

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Iao Stream Flood Control Project, Maui, Hawaii (Continuing Deficiency Correction)

LOCATION: The project is located in Wailuku, Maui County, Hawaii.

DESCRIPTION: Project consists of deficiency correction by structural modifications to correct erosion problems associated with the federally constructed single purpose Iao Stream Flood Control Project completed in May 1981.

AUTHORIZATION: Section 203 of the Flood Control Act of 1968 (PL 90-483).

REMAINING BENEFIT-REMAINING COST RATIO: 1.3 to 1 at 6-7/8 percent (Deficiency Correction Only).

TOTAL BENEFIT-COST RATIO: 1.2 to 1 at 6-7/8 percent (Deficiency Correction Only).

INITIAL BENEFIT-COST RATIO: 1.4 to 1 at 6-1/8 percent (1977)

BASIS OF BENEFIT-COST RATIO: Benefits are based on a Modifications to Completed Project Report dated March 1995 at October 1994 price levels.

SUMMARIZED FINANCIAL DATA

Original Project		
Actual Federal Cost		$12,285,000
Actual Non-Federal Cost		274,262
Other Costs	$274,262	
Total Original Project Cost		$12,559,262

Remedial Work		
Estimated Federal Cost		$14,807,000
Estimated Non-Federal Cost		4,936,000
Cash Contributions	$4,313,000	
Other Costs	623,000	
Total Estimated Remedial Cost		$19,743,000
Total Estimated Project Cost		$32,302,262

STATUS (1 JAN 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Original Project	100	May 1981
Remedial Work	0	Being determined.

PHYSICAL DATA	
Concrete Channel Lining	7,000 ft.

1971

SUMMARIZED FINANCIAL DATA (Continued)

		ACCUM PCT OF EST FED COST
Allocations to 30 September 1999	$13,120,000 1/	
Conference Allowance for FY 2000	219,000	
Allocation for FY 2000	188,000 2/	
Allocations through FY 2000	13,308,000	49
Allocation Requested for FY 2001	239,000	50
Programmed Balance to Complete after FY 2001	13,545,000	
Unprogrammed Balance to Complete after FY 2001	0	

1/ Reflects $12,285,000 allocated to original project.
2/ Reflects $31,000 reduction assigned as savings and slippage.

JUSTIFICATION: The Iao Stream Flood Control Project was designed to protect the town of Wailuku from destructive floods by channelizing the high velocity floodwaters into the Pacific Ocean. The project was designed for a standard project flood protection with a peak design discharge of 27,500 cfs. The completed project consists of a debris basin located 2.5 miles upstream from the stream mouth, channel improvements extending 3,500 feet downstream from the debris basin, levees along the right bank and floodplain management along the left bank for 6,950 feet of natural stream, and stream realignment with channel improvements for a reach of 1,730 feet which extends to the downstream limit of the project located near the shoreline. Storms occurring in March 1990 which approximated the 10-year flood event (6,000 cfs), caused extensive erosion to the toes of the levee system. Under existing damaged conditions, the occurrence of the design discharge will result in failure of the levee system and extensive flooding. To correct this problem and to eliminate levee failure, protective works are required to prevent damages to adjacent floodplain property and to preserve the integrity of the existing structures. The proposed measure in the Modification to Completed Project Report dated 28 March 1995 consists of replacement of the leveed reaches of the project with a 7,000 ft. concrete channel. In addition, during preparation of the Project Design Memorandum (PDM), a deficiency in the design of the original drop structure was identified which could result in overtopping of a floodwall, flooding of the highly populated right bank floodplain, and damage to the existing drop structure. New alternative recommendations by a Value Engineering Study Team and the Corps Committee on Channel Stabilization are also being evaluated in the PDM to address environmental concerns. Annual benefits for flood damage reduction are $1,450,000.

FISCAL YEAR 2001: The requested amount of $239,000 will be used for Engineering and Design.

1272

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected by Section 103 in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

	Payments During Construction And Reimbursements	Annual Operation Maintenance Repair, Rehabilitation and Replacement Costs
Requirements of Local Cooperation		
Provide lands, easements, rights-of-way, and disposal areas.	$623,000	
Pay 25 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent and bear all costs of operation, maintenance, and replacement of flood control facilities.	4,313,000	$10,000
Total Non-Federal Costs	$4,936,000	$10,000

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

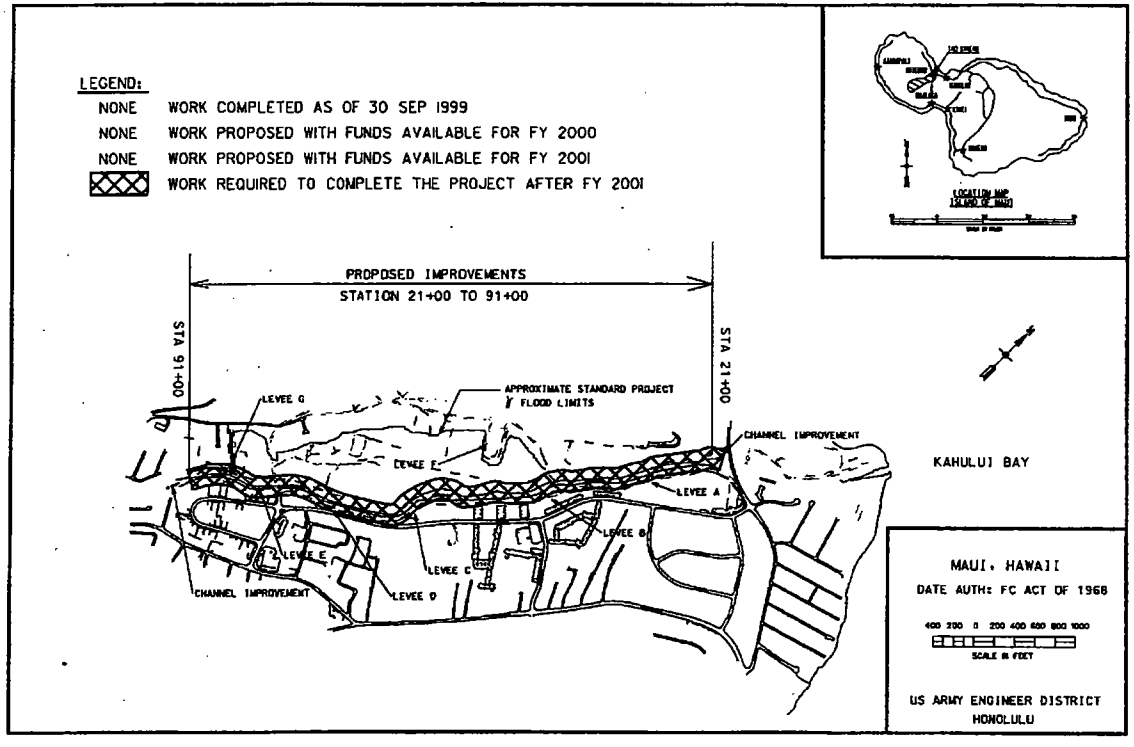
STATUS OF LOCAL COOPERATION: The existing operating project was completed in May 1981 and has been properly maintained by the County of Maui, the local sponsor. The local sponsor supports the project and is willing and capable of furnishing the local cooperation requirements based on a letter dated 14 March 1995 from the Mayor of Maui County.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps of Engineers) cost estimate for deficiency correction of $14,807,000 is an increase of $510,000 from the latest estimate ($14,297,000) presented to Congress (FY 1999). This increase is attributed to price escalation on construction features.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final EIS for the original project was filed with the Council on Environmental Quality in September 1975. An environmental assessment is expected to be sufficient for the various plans of improvement.

OTHER INFORMATION: A Modification to Completed Project Report was approved by HQUSACE on 8 December 1995.

1278


LEGEND:
NONE WORK COMPLETED AS OF 30 SEP 1999
NONE WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2000
NONE WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER FY 2001
PROPOSED IMPROVEMENTS
STATION 21+00 TO 91+00
STA 91+00
STA 21+00
APPROXIMATE STANDARD PROJECT FLOOD LIMITS
LEVEE G
LEVEE F
LEVEE E
LEVEE A
LEVEE B
LEVEE C
LEVEE D
CHANNEL IMPROVEMENT
CHANNEL IMPROVEMENT
KAHULUI BAY
MAUI, HAWAII
DATE AUTH: FC ACT OF 1968
SCALE IN FEET
US ARMY ENGINEER DISTRICT
HONOLULU

APPROPRIATION TITLE: Construction, General - Channels and Harbors (Navigation

PROJECT: Kikiaola Small Boat Harbor, Kauai, Hawaii (Continuing)

LOCATION: Kikiaola Harbor is located on the southwest coast of the island of Kauai, approximately 1 mile southeast of Kekaha and approximately 2 miles west of Waimea.

DESCRIPTION: The recommended plan consists of improvements to an existing State-owned facility initially constructed by the State of Hawaii in 1959. The plan includes removal of 150 feet from an existing outer east stub breakwater, removal and reconstruction of an 85-foot long inner east stub breakwater, modification of 220 feet of the existing west breakwater, modification of 820 feet of the existing east breakwater, dredging a new 700-foot long entrance channel to a depth of 11 feet and varying in width from 105 to 205 feet and a 320-foot long access channel to a depth of 7 feet and varying in width from 70 to 105 feet. The plan of improvements will provide berthing for 45 vessels.

AUTHORIZATION: Section 101 of the Rivers and Harbors Act of 1968 (Public Law 90-483).

REMAINING BENEFIT-REMAINING COST RATIO: 3.9 to 1 at 3-1/4 percent.

INITIAL BENEFIT-COST RATIO: 2.7 TO 1 at 3-1/4 percent.

TOTAL BENEFIT-COST RATIO: 2.9 to 1 at 3-1/4 percent.

BASIS OF BENEFIT-COST RATIO: Benefits are based on a General Reevaluation Report approved in December 1998 at October 1997 price levels.

SUMMARIZED FINANCIAL DATA		STATUS (1 JAN 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Appropriation Requirement (CofE)	$5,039,000	Entire Project	0	Being Determined.
Estimated Appropriation Requirement (USCG)	35,000			
Estimated Total Appropriation Requirement	$5,074,000			
Future Non-Federal Reimbursement	459,000			
Estimated Federal Cost (Ultimate)	$4,615,000			

SUMMARIZED FINANCIAL DATA (Continued)

Estimated Non-Federal Cost		$1,120,000	
Cash Contributions	$ 560,000		
Other Costs	101,000		
Reimbursements	$ 459,000		
Total Estimated Project Cost		$5,735,000	
			ACCUM PCT OF EST FED COST
Allocations to 30 September 1999		$1,204,000	
Conference Allowance for FY 2000		75,000	
Allocation for FY 2000		64,000 1/	
Allocations through FY 2000		1,268,000	25
Allocation Requested for FY 2001		3,437,000	93
Programmed Balance to Complete after FY 2001		334,000	
Unprogrammed Balance to Complete after FY 2001		0	

PHYSICAL DATA

Entrance Channel:
- Length - 700 feet
- Width - 105 to 205 feet
- Depth - 11 feet

Modified Breakwater:
- Length - 1,040 feet

New Breakwater:
- Length - 85 feet

Access Channel:
- Length - 320 feet
- Width - 70 to 105 feet
- Depth - 7 feet

1/ Reflects $11,000 reduction for savings and slippage

JUSTIFICATION: Vessels entering and leaving the existing State owned facility at Kikiaola Harbor continue to experience hazardous navigation conditions. The navigation problems at Kikiaola Harbor are directly attributed to the shallow depths in the entrance channel resulting in steep wave fronts and breaking wave conditions. In the past, numerous boats have sustained damages from the shallow depths and surge within the basin and channel. A recent survey of registered boaters on the island of Kauai revealed that about 35 percent of the respondents sustained damages averaging about $700 per incident to their vessels at Kikiaola Harbor. The conditions at Kikiaola Harbor are also responsible for the present frequency of usage of the harbor. Despite its proximity to productive fishing grounds and its strategic location for commercial passenger boat operators, Kikiaola Harbor is underutilized. The proposed modifications to existing protective structures and dredging of a deeper and wider entrance and access channels will reduce surge and wave actions within the channel and basin. Survey responses show that the proposed plan of improvements will attract commercial fishermen and commercial passenger boat operators and result in increased usage of the harbor. These users will launch an estimated 1,500 additional boat trips a year from the modified harbor. The harbor, when fully developed, will have a berthing area of 0.7 acre with a maximum capacity of 45 vessels and provide a safe transit and haven for all vessels. The average annual navigational benefits attributable to the project are currently estimated at $631,000.

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FISCAL YEAR 2001: The requested amount will be applied as follows:

Breakwater and Harbor Construction	$3,044,000
Engineering and Design	36,000
Construction Management	357,000
Total	$3,437,000

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction And Reimbursements	Annual Operation, Maintenance, and Replacement Costs
Provide lands, easements, rights-of-way, and dredged material disposal areas.	$ 101,000	
Pay 10 percent of the costs allocated to general navigation facilities during construction.	560,000	
Reimburse an additional 10 percent of the costs of general navigation features allocated to commercial navigation within a period of 30 years following completion of construction, as partially reduced by a credit allowed for the value of lands, easements, rights-of-way, relocations, and dredged or excavated material disposal areas provided for commercial navigation.	459,000	
Total Non-Federal Costs	$1,120,000	$18,000

The non-Federal sponsor has agreed to make all required payments concurrently with project construction and reimburse its share of construction costs over a period of 30 years following completion of construction.

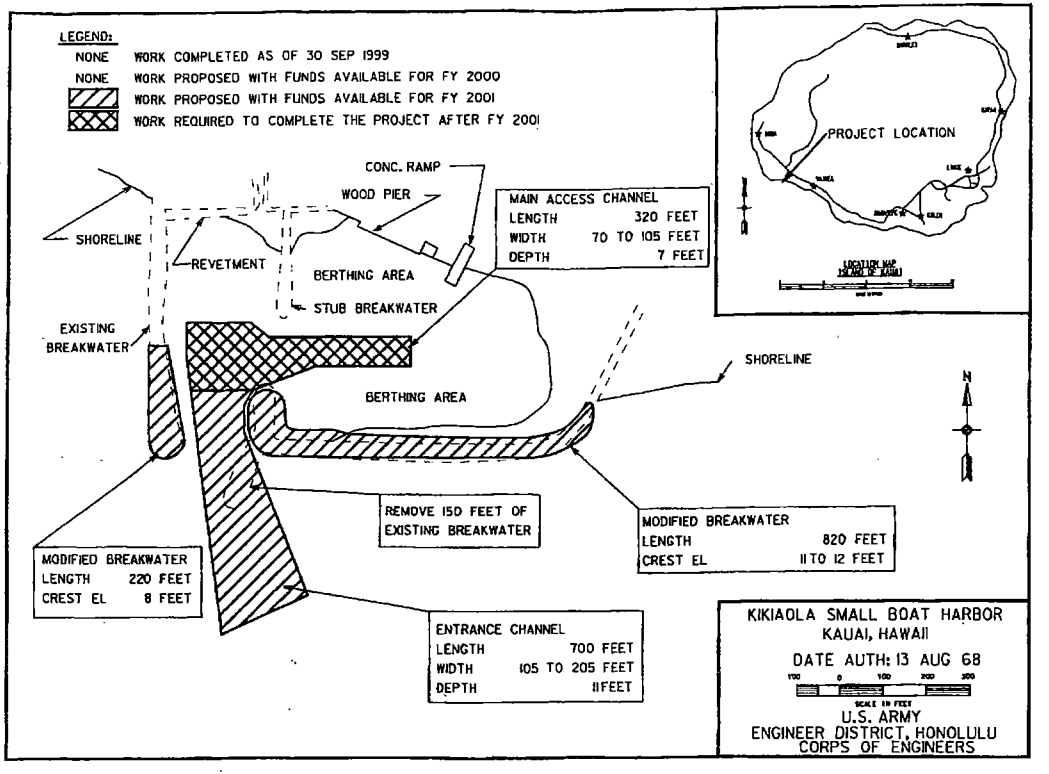
STATUS OF LOCAL COOPERATION: The non-Federal sponsor is the State of Hawaii. In May 1998, the State Department of Land and Natural Resources reaffirmed their willingness to share the total cost of project implementation. The project cooperation agreement is scheduled to be executed in April 2000.

COMPARISON OF FEDERAL COST ESTIMATE: The current Federal (Corps of Engineers) cost estimate of $5,039,000 is an increase of $42,000 from the latest estimate ($4,997,000) presented to Congress (FY 1999) due to price escalation on construction features.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An Environmental Assessment/Finding of No Significant Impact was signed on 3 June 1998.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1994. The General Reevaluation Report was approved by HQUSACE in December 1998.

1278


LEGEND:
NONE WORK COMPLETED AS OF 30 SEP 1999
NONE WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2000
WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER FY 2001
CONC. RAMP
WOOD PIER
SHORELINE
REVETMENT
BERTHING AREA
STUB BREAKWATER
EXISTING BREAKWATER
MAIN ACCESS CHANNEL
LENGTH 320 FEET
WIDTH 70 TO 105 FEET
DEPTH 7 FEET
SHORELINE
BERTHING AREA
REMOVE 150 FEET OF EXISTING BREAKWATER
MODIFIED BREAKWATER
LENGTH 820 FEET
CREST EL 11 TO 12 FEET
MODIFIED BREAKWATER
LENGTH 220 FEET
CREST EL 8 FEET
ENTRANCE CHANNEL
LENGTH 700 FEET
WIDTH 105 TO 205 FEET
DEPTH 11 FEET
PROJECT LOCATION
KIKIAOLA SMALL BOAT HARBOR
KAUAI, HAWAII
DATE AUTH: 13 AUG 68
SCALE IN FEET
U.S. ARMY
ENGINEER DISTRICT, HONOLULU
CORPS OF ENGINEERS

APPROPRIATION TITLE: Construction, General - Channels and Harbors (Navigation)

PROJECT: Maalaea Harbor, Maui, Hawaii (Continuing)

LOCATION: Maalaea Bay is situated on the southwest coast of Maui, approximately 7 miles south of Wailuku, the county seat of Maui, State of Hawaii.

DESCRIPTION: The authorized plan consists of improvements to an existing State-owned facility initially constructed by the State of Hawaii in 1952. The plan includes a 620-foot long extension of the south breakwater, a new 610-foot long, 150- to 180-foot wide, 12- to 15-foot deep entrance channel, a 1.7-acre and 12-foot deep turning basin and a 720-foot long, 80-foot wide and an 8-foot deep access channel. The improvements will allow an increase in berthing capacity from the existing 93 mooring spaces to a maximum capacity of 220 vessels.

AUTHORIZATION: Section 101 of the Rivers and Harbors Act of 1968 (Public Law 90-483) in accordance with provisions contained in House Document No. 353, 90th Congress, 2nd Session, dated July 8, 1968.

REMAINING BENEFIT-REMAINING COST RATIO: 6.2 to 1 at 3-1/4 percent.

TOTAL BENEFIT-COST RATIO: 4.5 to 1 at 3-1/4 percent.

INITIAL BENEFIT-COST RATIO: 5.6 to 1 at 3-1/4 percent (FY 1990). The benefit-cost ratio is based on the project functioning independently.

BASIS OF BENEFIT-COST RATIO: Benefits are based on a reevaluation completed in February 1996 at October 1995 price levels.

SUMMARIZED FINANCIAL DATA		STATUS (1 JAN 2000)	PERCENT COMPLETE	COMPLETION SCHEDULE
Estimated Appropriation Requirement (CofE)	$11,446,000	Entire Project	0	Being Determined
Estimated Appropriation Requirement (USCG)	20,000			
Estimated Total Appropriation Requirement	$11,466,000			
Future Non-Federal Reimbursement	1,262,000			
Estimated Federal Cost (Ultimate)	$10,204,000			

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SUMMARIZED FINANCIAL DATA (Continued)

				PHYSICAL DATA
Estimated Non-Federal Cost		$2,544,000		Entrance Channel:
Cash Contributions	$1,272,000			Length - 610 feet
Other Costs	10,000			Width - 150 to 180 feet
Reimbursements	$1,262,000			Depth - 12 to 15 feet
Total Estimated Project Cost		$12,748,000		Turning Basin:
			ACCUM PCT OF EST FED COST	Area - 1.7 acres
				Depth - 12 feet
Allocations to 30 September 1999		$3,266,000		Breakwater Extension
Conference Allowance for FY 2000		272,000		Length - 620 feet
Allocation for FY 2000		233,000 1/		
Allocations through FY 2000		3,499,000	31	Access Channel:
Allocation Requested for FY 2001		325,000	33	Length - 720 feet
Programmed Balance to Complete after 2001		7,622,000		Width - 80 feet
Unprogrammed Balance to Complete after 2001		0		Depth - 8 feet

1/ Reflects $39,000 reduction assigned as savings and slippage.

JUSTIFICATION: Vessels moored in the existing State-owned facility at Maalaea Harbor have experienced surge and wave action from ocean swells generated by storms occurring in the southern hemisphere. The existing entrance channel is open to southerly swells and storm waves which directly enter the harbor basin causing damages to the vessels moored inside. The surge action renders much of the harbor basin unusable for safe mooring of vessels. The enlargement, deepening and the relocation of the entrance channel and extension of the existing south breakwater would reduce surge and wave action within the basin. These improvements would also increase the usable harbor basin area allowing Maui District boaters currently awaiting slips at Maalaea to safely wet-store their vessels at the harbor and provide safer navigation conditions for vessels using the facility. The harbor, when fully developed, would have a basin area of 13.5 acres with a maximum capacity of approximately 220 boats. Annual benefits for the project are summarized below:

Annual Benefits	Amount
Damage Reduction	$ 326,000
Commercial Fishing	96,000
Commercial Navigation	1,985,000
Total	$2,407,000

FISCAL YEAR 2001: The requested amount of $325,000 will be used for Engineering and Design.

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, and Replacement Costs
Provide lands, easements, rights-of-way, and dredged material disposal areas.	$ 10,000	
Pay 10 percent of the costs allocated to general navigation facilities during construction.	1,272,000	
Reimburse an additional 10 percent of the costs of general navigation features allocated to commercial navigation within a period of 30 years following completion of construction, as partially reduced by a credit allowed for the value of lands, easements, rights-of-way, relocations, and dredged or excavated material disposal areas provided for commercial navigation.	1,262,000	
Total Non-Federal Costs	$2,544,000	$0

The non-Federal sponsor has agreed to make all required payments concurrently with project construction and reimburse its share of construction costs over a period of 30 years following completion of construction.

STATUS OF LOCAL COOPERATION: The non-Federal sponsor is the State of Hawaii. The entire local share of the project first costs was appropriated by the 1989 State of Hawaii Legislature for the Harbors Division Capital Improvements Program (CIP) for the fiscal 1990-1991 biennium. The funds were transferred to the Department of Land and Natural Resources, Division of Boating and Ocean Recreation (DLNR-DBOR) on April 15, 1997 when the designated point of contact for the State was moved to DLNR-DBOR from the Harbors Division.

COMPARISON OF FEDERAL COST ESTIMATE: The current Federal (Corps of Engineers) cost estimate of $11,446,000 is an increase of $117,000 from the last estimate ($11,329,000) presented to Congress (FY 1999). This change is due to the price escalation on the construction features.

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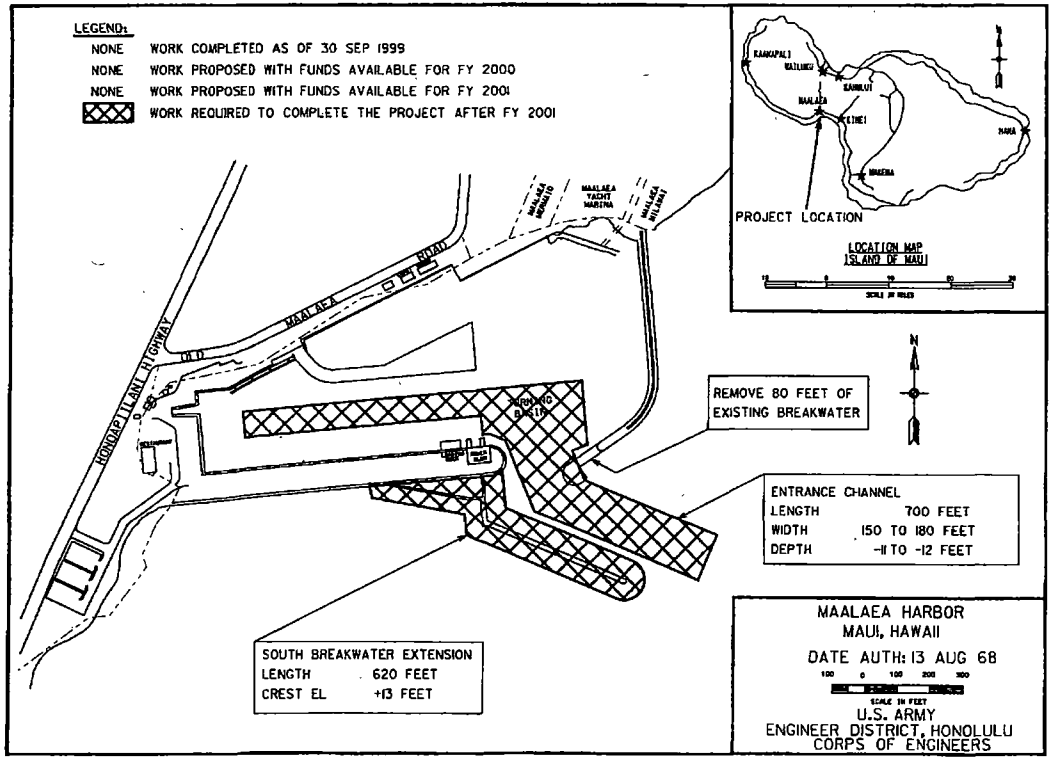
STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final EIS was filed with the EPA on April 28, 1980. A supplement to the EIS was completed in July 1994. The draft second supplement to the EIS was completed and circulated May 1998. Numerous public and agency comments and concerns were received regarding the project's impacts on coral reef and surfing resources. These concerns are currently being addressed and include an independent review of alternatives and physical model studies to evaluate the impacts of alternative project features on surfing sites and navigability.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1979. Funds to initiate construction were appropriated in FY 1990. Construction contract award date is being determined.


LEGEND:
NONE WORK COMPLETED AS OF 30 SEP 1999
NONE WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2000
NONE WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER FY 2001
HONOAPIILANI HIGHWAY
MAALAEA ROAD
MAALAEA YACHT MARINA
MAALAEA HARBOR
REMOVE 80 FEET OF EXISTING BREAKWATER
ENTRANCE CHANNEL
LENGTH 700 FEET
WIDTH 150 TO 180 FEET
DEPTH -11 TO -12 FEET
SOUTH BREAKWATER EXTENSION
LENGTH 620 FEET
CREST EL +13 FEET
PROJECT LOCATION
LOCATION MAP
ISLAND OF MAUI
MAALAEA HARBOR
MAUI, HAWAII
DATE AUTH: 13 AUG 68
U.S. ARMY
ENGINEER DISTRICT, HONOLULU
CORPS OF ENGINEERS

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PACIFIC OCEAN DIVISION
JUSTIFICATION OF ESTIMATE

APPROPRIATION TITLE: Operation and maintenance, General, FY 2001

STATE Project Name	OBLIGATIONS Estimated FY 2000 ($)	Estimated FY 2001 ($)	REASON FOR CHANGE AND MAJOR MAINTENANCE ITEMS
	Total (Operations)	Total (Operations)	1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-)
	(Maintenance)	(Maintenance)	2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000)
1. NAVIGATION			
a. Channels and Harbors. The program request of $7,244,000 provides for operations and maintenance of channels and harbor projects. Annual requirements are for operation and maintenance of project facilities; and labor, supplies and materials. For the State of Alaska, it also provides for annual maintenance dredging of 5 harbors and periodic maintenance of 1 harbor and 1 channel. For the State of Hawaii, it also provides for periodic maintenance of 1 breakwater.			
ALASKA			
Anchorage Harbor	1,794,000	1,777,000	
	(0)	(0)	1. None.
	(1,794,000)	(1,777,000)	2. None.
Dillingham Harbor	401,000	423,000	
	(0)	(0)	1. None.
	(401,000)	(423,000)	2. None.
Homer Harbor	188,000	191,000	
	(0)	(0)	1. None.
	(188,000)	(191,000)	2. None.
Ninilchik Harbor	180,000	186,000	
	(0)	(0)	1. None.
	(180,000)	(186,000)	2. None.
Nome Harbor	460,000	386,000	
	(0)	(0)	1. None.
	(460,000)	(386,000)	2. Continuing contract favorable bid.
Petersburg Harbor	88,000	394,000	
	(0)	(0)	1. None.
	(88,000)	(394,000)	2. Dredging of the harbor.

PACIFIC OCEAN DIVISION
JUSTIFICATION OF ESTIMATE

APPROPRIATION TITLE: Operation and maintenance, General, FY 2001

STATE / Project Name	OBLIGATIONS Estimated FY 2000 ($)	Estimated FY 2001 ($)	REASON FOR CHANGE AND MAJOR MAINTENANCE ITEMS
	Total (Operations) (Maintenance)	Total (Operations) (Maintenance)	1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-) 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000)
1. NAVIGATION (Cont'd)			
Wrangell Narrows	1,024,000 (0) (1,024,0000)	2,438,000 (0) (2,438,000)	1. None 2. Second year of continuing contract for channel Maintenance dredging
HAWAII			
Barbers Point Harbor	118,000 (118,000) (0)	153,000 (153,000) (0)	1. Upgrade displays. 2. None.
Kahului Harbor	0 (0) (0)	1,296,000 (0) (1,296,000)	1. None. 2. Breakwater/revetment repair
TOTAL - NAVIGATION	4,253,000 (118,000) (4,135,000)	7,244,000 (153,000) (7,091,000)	

1286

PACIFIC OCEAN DIVISION
JUSTIFICATION OF ESTIMATE

APPROPRIATION TITLE: Operation and maintenance, General, FY 2001

STATE Project Name	OBLIGATIONS Estimated FY 2000 ($)	Estimated FY 2001 ($)	REASON FOR CHANGE AND MAJOR MAINTENANCE ITEMS
	Total (Operations)	Total (Operations)	1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-)
	(Maintenance)	(Maintenance)	2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000)
2. FLOOD CONTROL			
a. Reservoirs:			

The program request of $1,364,000 provides for the operation and maintenance of one flood control reservoir in Alaska. Annual requirements are for operation and ordinary maintenance of project facilities; labor, supplies, materials, and parts required for daily functions; and periodic maintenance, repairs, and replacements.

ALASKA			
Chena River Lakes	1,552,000	1,364,000	
	(1,273,000)	(1,077,000)	1. Reduced estimates for law enforcement, environmental stewardship, and recreation management.
	(279,000)	(287,000)	2. None.
Total Reservoirs	1,552,000	1,364,000	
	(1,273,000)	(1,077,000)	
	(279,000)	(287,000)	

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APPROPRIATION TITLE: Operation and maintenance, General, FY 2001

STATE Project Name	OBLIGATIONS Estimated FY 2000 ($)	Estimated FY 2001 ($)	REASON FOR CHANGE AND MAJOR MAINTENANCE ITEMS
	Total (Operations) (Maintenance)	Total (Operations) (Maintenance)	1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-) 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000)
2. FLOOD CONTROL (Cont'd)			
b. Channel Improvements, Inspection and Miscellaneous. The program request of $200,000 provides for salaries and the annual inspection of flood control projects, shore protection projects and navigation breakwaters.			
ALASKA			
Inspection of Completed Works	35,000 (35,000) (0)	35,000 (35,000) (0)	1. None. 2. None.
HAWAII			
Inspection of Completed Works	269,000 (269,000) (0)	165,000 (165,000) (0)	1. Additional site visits in FY00. 2. None.
Total Channel Improvements Inspections and Misc.	304,000 (304,000) (0)	200,000 (200,000) (0)	
TOTAL - FLOOD CONTROL	1,856,000 (1,577,000) (279,000)	1,564,000 (1,277,000) (287,000)	
3. MULTIPLE PURPOSE POWER PROJECTS: None.			

1288

APPROPRIATION TITLE: Operation and maintenance, General, FY 2001

STATE Project Name	OBLIGATIONS Estimated FY 2000 ($)	Estimated FY 2001 ($)	REASON FOR CHANGE AND MAJOR MAINTENANCE ITEMS
	Total (Operations) (Maintenance)	Total (Operations) (Maintenance)	1. Reasons for change in Operations from FY 2000 to FY 2001 (10% +/-) 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000)
4. PROTECTION OF NAVIGATION			
The program request of $1,252,000 provides for conducting project condition surveys of harbors where maintenance is not scheduled in the budget year and also to conduct an ocean disposal site study to assess the environmental impact of dredged material disposal.			
ALASKA			
Project Condition Surveys	502,000 (502,000) (0)	512,000 (512,000) (0)	1. None. 2. None.
HAWAII			
Project Condition Surveys	728,000 (728,000) (0)	706,000 (706,000) (0)	1. None. 2. None.
TOTAL - PROTECTION OF NAVIGATION	1,230,000 (1,230,000) (0)	1,218,000 (1,218,000) (0)	
GRAND TOTAL - PACIFIC OCEAN DIVISION			
	7,339,000 (2,925,000) (4,414,000)	10,026,000 (2,648,000) (7,378,000)	

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U.S. ARMY CORPS OF ENGINEERS
CIVIL WORKS PROGRAM

CONGRESSIONAL SUBMISSION
FISCAL YEAR 2001

(1291)

SOUTH ATLANTIC DIVISION

Budgetary information will not be released
Outside the Department of the Army until
7 February 2000

Justification of Estimates for Civil Function Activities
Department of the Army, Fiscal Year 2001
SOUTH ATLANTIC DIVISION

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Justification of Estimates for Civil Function Activities
Department of the Army, Corps of Engineers
Fiscal Year 2001

SUMMARY SOUTH ATLANTIC DIVISION

General Investigations	FY 2000 Allocation	FY 2001 Request	Increase or Decrease
Surveys	$ 4,613,000	$ 7,009,000	$ +2,396,000
Preconstruction Engineering and Design	3,287,000	891,000	-2,396,000
Subtotal General Investigations	(7,900,000)	(7,900,000)	(0)
Construction, General			
Construction	253,753,000	284,070,000	+30,317,000
Major Rehabilitation	24,900,000	20,755,000	-4,145,000
Dam Safety Assurance			
Subtotal Construction, General	(278,653,000)	(304,825,000)	(+26,172,000)
Operation and Maintenance, General			
Project Operation	87,650,000	89,320,000	+1,670,000
Project Maintenance	226,301,000	227,022,000	+721,000
Subtotal Operation and Maintenance	(313,951,000)	(316,342,000)	(+2,391,000)
GRAND TOTAL, SOUTH ATLANTIC DIVISION	$ 600,504,000	$ 629,067,000	$ +28,563,000

1295

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
1. SURVEYS - NEW					
a. Special Studies					
North Carolina					
Currituck Sound Wilmington District	100,000	0	0	100,000	0

The study area is located in Currituck and Dare Counties in the northeastern part of North Carolina. Currituck Sound is a 153 square mile brackish water estuary separated from the Atlantic Ocean by thin barrier islands known as the Outer Banks. The sound has an average depth of 5 feet and maximum depth of approximately 13 feet. The most significant freshwater inputs to Currituck Sound include North Landing River and Northwest River, both originating in the Great Dismal Swamp of North Carolina and Virginia. Back Bay, a 35 square mile estuary located in Virginia, also discharges water into the sound through shallow water channels along the eastern shore. Water level fluctuations in Currituck Sound are a function of prevailing winds from Albemarle Sound; southerly winds force water into Currituck Sound, whereas northerly winds force water out. The cumulative effects of prevailing winds and possible point source inputs of brackish water from Federal canals influence sound salinity. The local interests are concerned about increased salinity levels which have frequently exceeded the threshold for many freshwater fisheries (largemouth bass, black crappie, and bluegill) and have caused a severe decline in these fisheries. In addition, the increased salinity regime has contributed to the loss of extensive submerged aquatic vegetation. The submerged aquatic vegetation provides a food source for various fish stocks, creates an ideal habitat for numerous migrating waterfowl species, and maintains the stability of the sound bottom. Local interests want the current trends reversed or at least stabilized. If this does not occur, Currituck Sound is in danger of losing its environmental and economic viability. The State of North Carolina would be the potential sponsor and understands the cost share requirements on the feasibility study. The Reconnaissance Phase will address these water quality issues and explore environmental protection and restoration alternatives. The study will determine whether or not the water resource problems warrant Federal participation and will include development of a project study plan and a feasibility cost sharing agreement. The reconnaissance phase is scheduled to be completed in December 2001, which is 12 months after initiating the study.

This study is authorized by House Committee on Transportation and Infrastructure Resolution adopted 11 March 1998.

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
2. SURVEYS - CONTINUING					
a. Navigation Studies					
Alabama					
Alabama River below Claiborne Lock & Dam Mobile District	2,617,000	611,000	129,000	200,000	1,677,000

The Alabama-Coosa-Tallapoosa (ACT) Rivers Basin drains an area of 22,800 square miles in Georgia and Alabama. There is an existing authorized 9 foot by 200 foot navigation channel on the Alabama River from its junction with the Mobile River 289 miles to Montgomery, Alabama, including three locks and dams. Waterway users have reported experiencing frequent problems in safely navigating the lower 72 miles of this waterway, downstream of the Claiborne Lock and Dam. The 9-foot navigation channel availability is restricted to approximately 60% of time due to recurring shoaling and streambed degradation following high flow periods. In response to these reported problems, Congress authorized a reconnaissance investigation to determine if a feasibility study of an additional lock and dam located in this reach of the waterway would be in the interest of the Federal government. The reconnaissance investigation found a lack of economic justification for an additional lock and dam on the Alabama River downstream of the Claiborne Lock and Dam. However, data developed for the ACF/ACT Comprehensive Study indicates that the potential for economic justification for other less costly measures in this area is very high, and potential adverse environmental impacts would be minimal. Additionally, the May 1997 Initial Appraisal for Navigation Improvements on the Lower Alabama River concluded that there is a strong potential for at least one economically feasible and environmentally sensitive alternative for improving navigation, and that construction of additional training works would improve navigation while enhancing the riverine environment. Further, it recommended a feasibility study of measures to improve the reliability of the navigation channel in the Alabama River below Claiborne Lock and Dam. Since this is an inland navigation study, no cost sharing will be required for the feasibility study.

Fiscal Year 2000 funds are being used to continue the feasibility phase, including engineering, environmental, and economic investigations.

Funds requested for Fiscal Year 2001 will be used to continue feasibility phase investigations.

The reconnaissance phase was completed in September 1996. The feasibility phase study completion is being determined.

1297

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
Bayou La Batre Mobile District	600,000	84,000	86,000	100,000	330,000

Bayou La Batre is located on the Mississippi Sound about 30 miles southwest of Mobile, Alabama. There is an existing project which provides for an 18-foot by 120-foot channel from the Pascagoula Ship channel through Mississippi Sound to the mouth of Bayou La Batre, a total distance of about 20 miles. It then provides for an 18-foot by 100-foot channel to the Alabama Highway 188 bridge, a distance of about 2.5 miles. Shippers in Bayou La Batre wish to expand business into Mexico and the Caribbean region, and a shorter route to the Gulf of Mexico would enhance such opportunities. The study will determine the feasibility of an alternate, more efficient navigational access from the mouth of the bayou to the Gulf of Mexico, thereby reducing the existing/future transportation costs of import/export commodities, including seafood and textiles. The City of Bayou La Batre is the potential sponsor and understands the requirements for study cost sharing. The Feasibility Cost Sharing Agreement is scheduled to be signed in July 2000.

Fiscal Year 2000 funds are being used to complete the reconnaissance phase at full Federal expense, and if the reconnaissance report is certified to be in accord with policy, to continue into the feasibility phase of the study. Fiscal Year 2001 funds will be used to continue the feasibility phase. The preliminary estimated cost of the feasibility phase is $1,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$ 1,100,0000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	500,000
Feasibility Phase (Non-Federal)	500,000

The reconnaissance phase is scheduled for completion in July 2000. The feasibility phase study completion is being determined.

1298

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
Black Warrior-Tombigbee Waterway Mobile District	15,035,000	310,000	146,000	521,000	14,058,000

The Black Warrior-Tombigbee (BWT) Waterway is part of the inland waterway system and lies within the State of Alabama. The authorized project provides essentially for a channel 9 feet deep and 200 feet wide from the industrial center of Birmingham, Alabama, to the deep water Port of Mobile. A total lift of 255 feet is provided by 6 locks and dams. Raw materials are transported to the Birmingham area and raw materials and finished products are transported to the Port of Mobile for export. Traffic on the BWT, which continues to increase, amounted to 24.7 million tons in 1995. Navigation interests desire a study of navigation problems on the BWT to determine what improvements may be warranted. Problems to be investigated include delays at constrictive bends and bridges and at heavily used locks at Demopolis and Coffeeville. As traffic on the system continues to increase, delays will increase, resulting in greater negative economic impacts to waterway shippers. The feasibility study will be conducted in three phases. The first phase will identify and assess the magnitude and timing of navigation problems and needs. That phase will provide the basis for timing of future improvements. The second phase will formulate and evaluate various alternatives to meet the needs identified in the first phase. The third phase will focus on the engineering and design of those plans recommended in the second phase of the feasibility study, including preparation of an Engineering Appendix. Since this is an inland navigation study, no cost sharing will be required for the feasibility study.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study, including completion of the needs assessment as part of the economic evaluation.

Fiscal Year 2001 funds will be used to continue the feasibility phase, including review of the needs assessment by the Inland Waterway Users Board and the Warrior-Tombigbee Waterway Association, thereby completing phase one, and initiation of engineering and environmental investigations.

The reconnaissance study was completed in December 1998. The feasibility phase study completion is being determined.

1299

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
Dog River Mobile District	1,651,000	618,000	301,000	250,000	482,000

The study area, located in Mobile County, Alabama, is a tidally influenced stream approximately 8 miles in length that discharges into the western side of Mobile Bay, south of the City of Mobile. There is an existing authority for the Corps of Engineers to maintain the Dog River navigation project from Mobile Harbor Ship Channel to 2,600 feet west of the Alabama Highway 163 Bridge. The river has severe siltation west of that point and is not navigable during low tide. There is an urgent need to identify navigation and siltation problems and potential solutions for the portion of the river west of the existing channel. Numerous streams drain into Dog River with varying degrees of sedimentation transfer due to differing land use patterns. The reconnaissance study investigated potential alternatives that would improve navigation and water quality and provide environmental restoration. The feasibility study will include engineering, economic, and environmental investigations to address flood and recreational navigation problems and identify and evaluate potential alternatives to improve these conditions. The City of Mobile is the sponsor and understands the requirements for study cost sharing. The Feasibility Cost Sharing Agreement was signed in May 1999.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The estimated cost of the feasibility phase is $2,762,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study costs sharing is as follows:

Total Estimated Study Cost	$3,032,000
Reconnaissance Phase (Federal)	270,000
Feasibility Phase (Federal)	1,381,000
Feasibility Phase (Non-Federal)	1,381,000

The reconnaissance phase was completed in May 1999. The feasibility phase study completion is being determined.

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
Florida					
Lake Worth Inlet Jacksonville District	600,000	0	86,000	114,000	400,000

Lake Worth Inlet is located in Palm Beach County on the lower east coast of Florida. The existing Federal project includes an entrance channel 400 feet wide and 35 feet deep leading to an interior channel 300 feet wide and 33 feet deep. The turning basin is 1,400 by 1,210 feet and 33 feet deep. A northern extension to the turning basin is maintenance at 25 feet. The study effort will focus on deepening and widening the existing Federal project at Lake Worth Inlet. The inlet and turning basin serve Palm Beach Harbor. The last deepening to the entrance channel and turning basin was completed in 1967. A study by the U.S. Coast Guard in 1997 recommended widening the interior channel to 400 feet. Federal assistance was then requested through a House Resolution dated in 1998. The Port of Palm Beach is the non-Federal sponsor and understands the requirements for study cost sharing. The study was authorized by Resolution adopted March 11, 1998, by the Committee on Transportation and Infrastructure of the United States House of Representatives.

Fiscal Year 2000 funds are being used to initiate the reconnaissance study phase. Fiscal Year 2001 funds will be used to complete reconnaissance phase and initiate feasibility phase. The preliminary estimated cost of the feasibility phase is $1,000,000, which is to be cost shared on a 50-50 percent basis Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	500,000
Feasibility Phase (Non-Federal)	500,000

The reconnaissance phase is scheduled for completion in January 2001. The feasibility phase study completion is being determined.

1301

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
Mile Point Jacksonville District	600,000	0	86,000	114,000	400,000

Mile Point is located on the north bank of the St. Johns River in Duval County. The shoreline in the Mile Point area has experienced severe erosion, including a number of sinkholes, within the last few years. These sinkholes have engulfed hundreds of feet of property. Local interests have documented these occurrences and maintain that Corps of Engineers dredging of the federal navigation channel at Jacksonville Harbor has resulted in this erosion problem. Non-Federal efforts to stabilize the banks have proven to be useless. Regular and continued loss of significant amounts of property in the area warrants investigation of the cause of the shoreline and bank erosion as soon as possible. The sponsor for the study is Jacksonville Harbor Port Authority and understands the requirements for study cost sharing. The reconnaissance study will document the extent of damages, which have occurred, describe possible causes, and provide at least one recommended alternative to address the erosion problems. The study was authorized by Resolution adopted March 24, 1998 by the Committee on Transportation and Infrastructure of the United States House of Representatives.

Fiscal Year 2000 funds are being used to initiate the reconnaissance phase. Fiscal Year 2001 funds will be used to complete reconnaissance phase and initiate feasibility phase. The preliminary estimated cost of the feasibility phase is $1,000,000, which is to be cost shared on a 50-50 percent basis Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	500,000
Feasibility Phase (Non-Federal)	500,000

The expedited reconnaissance phase, to include a draft FCSA, is scheduled for completion in January 2001. The feasibility phase study completion is being determined.

1302

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
Port Everglades Harbor Jacksonville District	932,000	361,000	411,000	160,000	0

Port Everglades Harbor is located on the east coast of Florida about 25 miles north of Miami and 325 miles south of Jacksonville. Port Everglades is the deepest harbor south of Norfolk, Virginia and one of the fastest growing container ports in the U.S. Currently, Port Everglades is the seventh largest container port on the east coast. Harbor pilots are required to restrict usage of the larger more efficient container vessel fleet due to maneuver and turning restraints. The Feasibility Cost Sharing Agreement was executed in April 1997. At completion of the draft feasibility report to determine whether modifications to the existing Federal project are warranted the sponsor, Broward County, requested a new revised study to allow post-Panamax ships to utilize the port. The FCSA is currently being amended and scheduled to be executed in February 2000.

Fiscal Year 2000 PED funds are being reallocated and used to continue the expanded feasibility efforts. The funds requested for Fiscal Year 2001 will be used to complete the feasibility phase of the study. The estimated cost of the expanded feasibility phase is $1,812,000, which is to be cost-shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost is as follows:

Total Estimated Study Cost	$1,838,000
Reconnaissance Phase (Federal)	26,000
Feasibility Phase (Federal)	906,000
Feasibility Phase (Non-Federal)	906,000

The reconnaissance phase was initiated under Section 107 and was completed in March 1997. The feasibility phase study completion is being determined.

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
b. Flood Damage Prevention Studies					
Alabama					
Baldwin County Watersheds Mobile District	750,000	84,000	86,000	200,000	380,000

Baldwin County is located in southwestern Alabama, about 20 miles east of Mobile, Alabama. The principal watersheds in the county are Fish River and Bay Minette Creek. The Fish River Basin drains an area of about 200 square miles and Bay Minette Creek drains an area of about 150 square miles. Recent flooding has caused extensive damages to residential and business areas. Approximately $3,000,000 in damages was reported and 103 structures were forced to be evacuated as a result of Hurricane Danny in July 1997 in the Fish River area alone. There is an urgent need to examine flooding and environmental problems along Fish River. The study will include investigation of alternatives to restore the ecosystem, improve water quality, and reduce erosion and flooding. The Baldwin County Commission is the potential non-Federal sponsor and understands the requirements for cost sharing. The Feasibility Cost Sharing Agreement is scheduled to be signed in February 2000.

Fiscal Year 2000 funds are being used to complete the reconnaissance phase at full Federal expense, and if the reconnaissance report is certified to be in accord with policy, to continue into the feasibility phase of the study. Fiscal Year 2001 funds will be used to continue the feasibility phase. The preliminary estimated cost of the feasibility phase is $1,300,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,400,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	650,000
Feasibility Phase (Non-Federal)	650,000

The reconnaissance phase is scheduled for completion in February 2000. The feasibility phase study completion is being determined.

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
Brewton and East Brewton Mobile District	750,000	84,000	86,000	50,000	530,000

The study area is in Escambia County in the south central part of the state of Alabama. It is a part of the Escambia-Conecuh River Basin. Because of rapid growth in the area, considerable development has occurred. This commercial, industrial, and residential expansion in and adjacent to the flood plains in the Brewton and East Brewton area has resulted in recent widespread flood problems. The March 1998 flood and the September 1998 Hurricane Georges flood resulted in extensive loss of property including water lines, roads and bridges, wastewater systems, residences and automobiles. Recent discussions with Escambia County officials indicate an urgent need to conduct a study of the area, focusing on identifying flood damage problems. The study will include investigations of alternatives to reduce flooding along Burnt Corn and Murder Creeks. The Cities of Brewton and East Brewton, Alabama have indicated their intent to cost share in the feasibility study. The cities are familiar with cost sharing requirements. The Feasibility Cost Sharing Agreement is scheduled to be executed in March 2000.

Fiscal Year 2000 funds are being used to complete the reconnaissance phase at full Federal expense, and if the reconnaissance report is certified to be in accord with policy, to continue into the feasibility phase of the study. Fiscal Year 2001 funds will be used to continue the feasibility study. The preliminary estimated cost of the feasibility phase is $1,300,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,400,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	650,000
Feasibility Phase (Non-Federal)	650,000

The reconnaissance phase is scheduled for completion in March 2000. The feasibility phase study completion is being determined.

1305

APPROPRIATION TITLE: General Investigations, Fiscal Year 2001

South Atlantic Division

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
Lubbub Creek Mobile District	600,000	0	86,000	50,000	464,000

The study area is located along Lubbub Creek near Reform, Alabama in Pickens County in west central Alabama. The Corps was first alerted of extensive flooding problems in 1997. There exists persistent inundation of streets at several residences, along with recent impacts to the wastewater treatment facility discharge in the City of Reform. Large increases in siltation are evident due in part to recent extensive timber clearcutting practices in the once heavily forested terrain. The study will identify potential alternatives to alleviate flood damage in Reform, and to restore the environment and aquatic habitat in the Lubbub Creek Watershed. The City of Reform, Alabama has indicated their intent to cost share in the feasibility study and is familiar with cost sharing requirements. The Feasibility Cost Sharing Agreement is scheduled to be executed in January 2001.

Fiscal Year 2000 funds are being used to fully fund the reconnaissance phase at full Federal expense. If the reconnaissance report is certified to be in accord with policy, Fiscal Year 2001 funds will be used to continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $1,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	500,000
Feasibility Phase (Non-Federal)	500,000

The reconnaissance phase is scheduled for completion in January 2001. The feasibility phase study completion is being determined.

1306

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
Florida					
Biscayne Bay Jacksonville District	3,420,000	1,228,000	344,000	543,000	1,305,000

The project area is located along the southeastern coast of Florida, including most of Biscayne National Park and adjacent lands, which provide fresh surface or groundwater to Biscayne Bay. Biscayne Bay and its unique environment contributes to the economic health of the area due to its relation to tourism, commercial and recreation fishing, and general recreation. This study proposes to develop a modeling system for Biscayne Bay as a first step to investigate the effects of the Federal projects on water circulation, biological communities, and water quality in the bay. Especially of interest are the impacts caused by canals built as part of the Central and Southern Florida (C&SF) project. These canals are believed to have changed the timing, distribution and amount of freshwater reaching the bay, impacting the natural salinity patterns and ecology. Phase 1 studies involve data collection and creation of a hydrodynamic and salinity model of the bay. Phase 2 involves development of a water quality nutrients model and Phase 3 addresses the creation of a biological model, including plant and animal communities. The proposed models would allow resource managers to assess those impacts and determine if further studies of Biscayne Bay are needed. Miami-Dade County is the local sponsor and the Feasibility Cost Sharing Agreement was executed October 1995.

Fiscal Year 2000 funds will be used to complete Phase 1. The funds requested for Fiscal Year 2001 will be used to initiate Phase 2. The estimated cost of the feasibility phase is $5,900,000, which is to be shared 50-50 by Federal and non-Federal interests. Up to half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$6,370,000
Reconnaissance Phase (Federal)	470,000
Feasibility Phase (Federal)	2,950,000
Feasibility Phase (Non-Federal)	2,950,000

The reconnaissance phase was completed September 1995. Phase 1, Hydrodynamic Modeling, will be completed in Fiscal Year2000. Phase 2, Water Quality Nutrients Modeling, and Phase 3, Biological Modeling, completions are being determined.

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
Hillsborough River Basin, Florida Jacksonville District	600,000	0	86,000	114,000	400,000

The Hillsborough River has its headwaters in the Green Swamp and drains approximately 690 square miles. The river flows in a southwesterly direction through Temple Terrace, Sulphur Springs and the center of downtown Tampa into Tampa Bay. The counties within Hillsborough River Basin are Hernando County, Pasco County, and Hillsborough County. According it the U.S. Census Bureau, the population increase from 1985 to 1997 within the river basin was 26 percent. Continued residential development in the Tampa area has led to increasing demands for better flood control as a growing concern over environmental protection and restoration. Development pressures have significantly changed the physical, biological, demographic, and economic conditions in the area. The reconnaissance study will determine the need for comprehensive watershed planning to address flood control, environmental restoration and protection, aquifer storage and retrieval, and other water resource related problems. The Southwest Florida Water Management District (SWFWMD) is the potential non-Federal sponsor and understands the requirements for study cost sharing. The study was authorized by Resolution adopted March 11, 1998, by the Committee on Transportation and Infrastructure of the United States House of Representatives.

Fiscal Year 2000 funds are being used to initiate reconnaissance. Fiscal Year 2001 funds will be used to complete reconnaissance phase and initiate feasibility phase. The preliminary estimated cost of the feasibility phase is $1,000,000, which is to be cost shared on a 50-50 percent basis Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	500,000
Feasibility Phase (Non-Federal)	500,000

The reconnaissance phase is scheduled for completion in January 2001. The feasibility phase study completion is being determined.

1308

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
Withlacoochee River Basin, Florida Jacksonville District	550,000	0	86,000	114,000	350,000

The Withlacoochee River has its headwaters in the Green Swamp and drains approximately 2,000 square miles within a corridor 30 miles wide and 90 miles long. It flows in a northwesterly direction for some 157 miles to the Gulf of Mexico at Yankeetown. The counties within the Withlacoochee River Basin are Citrus County, Hernando County, Lake County, Levy County, Marion County, Pasco County, Polk County, and Sumter County. According the U.S. Census Bureau, the population increase from 1985 to 1997 within the river basin was 39 percent. The headwaters of the basin are largely undeveloped are an asset unique to the region. Downstream of the headwaters region, the river flows through a rapidly growing population area near Inverness, located in central Florida. Continued residential development in this area has led to increasing public demands for better flood control and water supply, as well as growing concern over environmental protection and restoration. Since 1990 public interests in the watershed management has grown rapidly. The reconnaissance study will determine the need for comprehensive watershed planning to address flood control, environmental restoration and protection, aquifer storage and retrieval, and other water resource related problems. The Southwest Florida Water Management District (SWFWMD) is the potential Non-Federal sponsor and understands the requirements for study cost sharing. The study was authorized by Resolution adopted March 11, 1998, by the Committee on Transportation and Infrastructure of the United States House of Representatives.

Fiscal Year 2000 funds are being used to initiate reconnaissance phase. Fiscal Year 2001 funds will be used to complete reconnaissance phase and initiate feasibility phase. The preliminary estimated cost of the feasibility phase is $900,000, which is to be cost shared on a 50-50 percent basis Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,000,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	450,000
Feasibility Phase (Non-Federal)	450,000

The reconnaissance phase is scheduled for completion in January 2001. The feasibility phase study completion is being determined.

1309

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
Georgia					
Allatoona Lake (Etowah River) Mobile District	525,000	0	279,000	90,000	156,000

Allatoona Lake is a federal project located on the Etowah River, a tributary to the Coosa River, 48 miles above Rome, Georgia. The project includes a dam, hydroelectric powerhouse, gated spillway, a flood control reservoir and 31 recreational areas over 37,000 acres. The recent "Clean Lake Study" commissioned by local water authorities and undertaken by the A. L. Burris Institute of Public Service at Kennesaw State University sought to identify environmental problems within the Lake Allatoona/Etowah River area. The study concluded that erosion and sedimentation could contribute unwanted loads into the Etowah River and downstream into Lake Allatoona. The study will be conducted to identify and recommend measures to alleviate shoreline erosion and sedimentation problems, including structural and non-structural solutions, along Lake Allatoona and the Etowah River. The Lake Allatoona Preservation Authority, Bartow County Water and Sewer Department, Cherokee County Water Authority, Cobb County Water System, and Cobb-Marietta Water Authority are potential sponsors and they understand the cost-share requirements of the feasibility phase. The Feasibility Cost Sharing Agreement is scheduled to be signed in May 2000.

Fiscal Year 2000 funds are being used fully fund the reconnaissance phase at full Federal expense and to initiate the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The estimated cost of the feasibility phase is $850,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$950,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	425,000
Feasibility Phase (Non-Federal)	425,000

The reconnaissance phase is scheduled to be completed in May 2000. The feasibility phase study completion is being determined.

1310

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
Augusta Savannah District	1,700,000	136,000	163,000	500,000	901,000

The study area is Richmond County and areas contiguous to it. Richmond County is located in the northeastern part of the state of Georgia and comprises an area of approximately 326 square miles. It is located on the west side of the Savannah River. It is bordered on the east by Aiken and Edgefield Counties, South Carolina, on the northwest by Columbia County, on the west by McDuffie County and on the south by Jefferson and Burke Counties. It is part of the Savannah River Basin that comprises about 11,000 square miles. The economy of the study area is highly diversified, including industry, agriculture, and maritime. It is the trade center for 13 counties in Georgia and 5 counties in South Carolina. The growth of the city of Augusta has been reflected by a corresponding growth in the unincorporated areas of Richmond County. Because of the rapid growth of the unincorporated areas, considerable development has occurred in the flood plains of the streams in the study area. This commercial, industrial, and residential expansion in and adjacent to the flood plains in the Richmond County area has resulted in recent widespread flood problems occurring in many parts of the county. The 12 October 1990 flood resulted in the loss of four lives and thousands of people were left homeless. Damage estimates, including damages to water lines, roads and bridges, wastewater systems, a hospital, the Augusta National Golf Course, residences and automobiles, exceeded $47 million. Discussions with Richmond County officials led to the initiation of a reconnaissance of the county and contiguous areas, focusing on flooding of public property and residential areas. The reconnaissance study conducted in Fiscal Years 1998 and 1999, reviewed the results of previous assessments, developed a preliminary array of alternatives and conducted economic, engineering and environmental analyses to determine which areas warrant further study. The study identified several flood control alternatives that are concentrated in four water basins in Richmond County. These alternatives have been identified with Rae's Creek, Rocky Creek, Phinizy Swamp Basin (and associated drainages), and the Augusta Canal. The Feasibility Cost Sharing Agreement with the local sponsor, Augusta - Richmond County, was executed in December 1999.

Fiscal Year 2000 funds are being used to initiate the feasibility phase of the study. The funds requested for Fiscal Year 2001 would be used to continue the feasibility phase. The estimated cost of the feasibility phase is $3,200,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost:	$3,300,000
Reconnaissance Phase (Federal):	100,000
Feasibility Phase (Federal):	1,600,000
Feasibility Phase (non-Federal):	1,600,000

The reconnaissance phase was completed December 1999. The feasibility study completion date is being determined.

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
North Carolina					
John H. Kerr Dam and Reservoir, VA and NC Wilmington District	1,600,000	0	100,000	200,000	1,300,000

John H. Kerr Dam and Reservoir is located in the Roanoke River Basin which extends into north-central North Carolina and south-central Virginia. The project was completed in 1952 and provides hydropower, flood control, water supply, and recreation. Two downstream non-Federal hydropower reservoirs, Gaston and Roanoke Rapids, operated by the Virginia Electric and Power Company (VEPCO) have minimal active storage for daily hydropower peaking. The Kerr, Gaston and Roanoke Rapids projects operate cooperatively generating power, controlling flooding, and ensuring adequate downstream flows. The lower Roanoke River basin is one of the finest remaining swamp forest ecosystems within the eastern United States. These bottomland hardwood forests, wetlands, uplands, and streams provide a high quality habitat for fish and wildlife, including waterfowl. Federal and State agencies have expressed concern that there is a probable correlation between fish kills and low dissolved oxygen in the lower Roanoke River basin and the operation of Kerr Reservoir. Resource concerns for the Lower Roanoke center on the need for restoration and enhancement of extensive swamp and flood plain forests and fisheries through improvements to the hydrologic regime. The timing of the proposed study is critical. In addition to the immediate need to address any operational impacts of the Kerr Dam and Reservoir on the downstream resources, considerable cost savings could be achieved by initiating the feasibility study in Fiscal Year 01, which would closely coordinate with the hydropower relicensing studies being initiated by VEPCO. The State of North Carolina would be the potential sponsor and understands the cost share requirements on the feasibility study. The reconnaissance study will be used to prepare a Section 905(b) Analysis, a Project Study Plan and a Feasibility Cost Sharing Agreement. The initial appraisal was approved in May 1997.

Fiscal Year 2000 funds are being used to fully fund the reconnaissance phase at full Federal expense. If the reconnaissance report is certified to be in accord with policy, the funds requested for Fiscal Year 2001 will be used to continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $3,000,000 which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study cost	$3,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,500,000
Feasibility Phase (Non-Federal)	1,500,000

The reconnaissance phase is scheduled for completion in December 2000. The feasibility phase study completion is being determined.

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
Neuse River Basin Wilmington District	1,100,000	84,000	16,000	100,000	900,000

The study area is located in the eastern part of North Carolina. The Neuse River basin amounts to about 11 percent of the entire State of North Carolina and consists of all or portions of 16 counties. The basin is roughly oblong in shape, approximately 180 miles long, with a maximum width of about 46 miles. The Neuse River is formed by the confluence of the Eno and Flat Rivers, about 8 miles north of the city of Durham, and has a drainage area of approximately 5,710 square miles. The basin is primarily an agricultural region, but contains many small towns and several cities which are important commercial centers. Considerable flooding occurred during and after Hurricane Fran below Smithfield where the flood plain is broad and flat. The city of Kinston suffered the most flooding damages. Estimated flood damages from Hurricane Fran below Falls Lake amounted to $17,300,000 at September 1996 price levels and October 1993 levels of development. The estimated damages would have been $275,700,000 without Falls Lake in operation. This entire area suffered significant damages as a result of Hurricane Floyd in 1999. The damage estimates are not yet available. There has also been considerable water quality problems due to high levels of nitrogen. This has resulted in severe impacts to fisheries. The Feasibility study will include a comprehensive plan to address measures to improve flood control, water quality, environmental protection and restoration and related purposes. The potential sponsor for the feasibility study is the State of North Carolina.

This study was not funded in Fiscal year 2000. Fiscal Year 1999 carryover funds will be used be to complete the reconnaissance phase of the study. If the reconnaissance report is certified to be in accordance with policy, Fiscal Year 2001 funds will be used to initiate the feasibility phase of the study including collection of baseline data and problem identification. The preliminary estimated cost of the feasibility phase is $2,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,100,00
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

The reconnaissance phase is scheduled for completion in May 2000. The feasibility phase study completion is being determined.

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Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
c. Shoreline Protection Studies					
North Carolina					
Dare County Beaches Wilmington District	2,247,000	2,168,000	29,000	50,000	0

Dare County is located on the northern coast of North Carolina about 40 miles south of the North Carolina-Virginia state line. The study area covers approximately 85 miles of oceanfront beach in Dare County, which includes approximately 53 miles of oceanfront within the Cape Hatteras National Seashore south of Nags Head. Damaging nor'easter storms occur annually, generally in late winter or early spring. Two severe storms attacked the area in the fall of 1992, eroding the beach and dunes and leaving the area more vulnerable to storm attack. Nearly 500 buildings were damaged with 5 being destroyed. Damages in the study area totaled over $4 million. During the 1999 hurricane season, Hurricane Dennis damaged 739 structures, destroyed or severely damaged 66 structures and caused damages totaling over $5.8 million. The results of the reconnaissance study support additional Federal involvement in a feasibility phase study of approximately 20 miles of oceanfront in northern Dare County. The feasibility phase will determine the most effective method of providing improvements. The plan of protection that will be considered is a beachfill consisting of a storm berm and where necessary, repairs to the dune line where it has been damaged by storms. The feasibility cost-sharing agreement was signed in May 1994 with the study sponsor, Dare County.

Fiscal Year 2000 funds are being used to complete the draft feasibility report, complete independent technical review and begin preparation of final report. The funds requested for Fiscal Year 2001 will be used to complete the feasibility phase. The estimated cost of the feasibility phase is $3,522,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$4,008,000
Reconnaissance Phase (Federal)	486,000
Feasibility Phase (Federal)	1,761,000
Feasibility Phase (Non-Federal)	1,761,000

The reconnaissance phase was completed in May 1994. The feasibility study is scheduled for completion February 2002.

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
South Carolina					
Pawleys Island Charleston District	468,000	120,000	129,000	219,000	0

Pawleys Island is a barrier island located approximately 22 miles southwest of Myrtle Beach and 13 miles northeast of Georgetown, South Carolina. Approximately 250 homes are located on this island which is currently experiencing erosion and storm damage problems that threaten homes, roads, and public utilities. Prior storm events have resulted in breaches of the main access road and damages to electric, water, and sewage lines. The southern portion of Pawleys Island is narrow and particularly susceptible to breaching, which could isolate as many as 50 homes from the mainland. This study will assess the viability of developing a protective sand berm to reduce storm damages and evaluate the stability of an existing groin at the north end of the island and evaluate modifications to that structure to supplement the project. The potential non-Federal sponsor is the Town of Pawleys Island. The Feasibility Cost Sharing Agreement is scheduled to be executed in February 2000.

Fiscal Year 2000 funds will be used to initiate the feasibility phase of the study. The funds requested for Fiscal Year 2001 would be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $696,000, which is to be cost shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$816,000
Reconnaissance Phase (Federal)	120,000
Feasibility Phase (Federal)	348,000
Feasibility Phase (Non-Federal)	348,000

The reconnaissance phase is scheduled for completion in February 2000. The feasibility study is scheduled for completion in November 2001.

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
d. Special Studies					
Alabama					
Cahaba River Watershed Mobile District	1,150,000	150,000	0	50,000	950,000

The study area encompasses the Cahaba River Watershed in Jefferson and Shelby Counties in Northern Alabama. The watershed has a total drainage area of 270 square miles. The June 1999 flooding caused damages to businesses and homes in several Jefferson County municipalities, especially Birmingham, Irondale, and Mountain Brook. Mountain Brook had six inches and Irondale had 4.5 inches of rain within 1.5 hours. There is an urgent need to address the flooding associated with storm water runoff, and to identify flood damage reduction needs. The Section 905(b) Analysis concluded that there is adequate justification to proceed to the feasibility phase. Reconnaissance phase efforts are underway to identify willing non-Federal sponsors and to develop a Project Study Plan and Feasibility Cost Sharing Agreement. The feasibility study will include engineering, economic, and environmental investigations to address flooding associated with storm water runoff and to identify flood damage reduction needs. Jefferson County and the affected municipalities are the potential non-Federal sponsors and they understand the requirements for study cost sharing. The Feasibility Cost Sharing Agreement is scheduled to be signed in January 2001.

Fiscal Year 1999 funds were carried into Fiscal Year 2000 and are being used to fully fund the reconnaissance phase at full Federal expense. If the reconnaissance report is certified to be in accord with policy, the funds requested for Fiscal Year 2001 will be used to continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $2,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study costs sharing is as follows:

Total Estimated Study Cost	$2,150,000
Reconnaissance Phase (Federal)	150,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

The reconnaissance phase is scheduled for completion in January 2001. The feasibility phase study completion is being determined.

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
Village Creek, Jefferson County (Birmingham Watershed) Mobile District	1,423,000	531,000	215,000	250,000	427,000

The study area encompasses the watersheds in metropolitan Birmingham, Alabama that are located in the Black Warrior River Basin, including Village Creek and Valley Creek, in Jefferson County in northern Alabama. Due to recent flooding, there is an urgent need to examine the area for flood damage prevention. Floods in October 1995, January 1996, and March 1996 damaged over 1,000 residential and commercial properties in the Village Creek watershed with damages estimated to be about $5,000,000. The Section 905(b) Analysis concluded that there is adequate justification to proceed to feasibility phase. The feasibility study will include engineering, economic, and environmental investigations to identify potential alternatives that would alleviate flood damages. The City of Birmingham is the local sponsor and understands the requirements for study cost-sharing. Feasibility Cost Sharing Agreement was signed in March 1999.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The estimated cost of the feasibility phase is $2,606,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,726,000
Reconnaissance Phase (Federal)	120,000
Feasibility Phase (Federal)	1,303,000
Feasibility Phase (Non-Federal)	1,303,000

The reconnaissance phase was completed in March 1999. The feasibility phase study completion is being determined.

APPROPRIATION TITLE: General Investigations, Fiscal Year 2001 — South Atlantic Division

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
Georgia					
Allatoona Lake (Little River) Mobile District	350,000	0	172,000	40,000	138,000

Allatoona Lake is a federal project located on the Etowah River, a tributary to the Coosa River, 48 miles above Rome, Georgia. The project includes a dam, hydroelectric powerhouse, gated spillway, a flood control reservoir and 31 recreational areas over 37,000 acres. The recent "Clean Lake Study" commissioned by local water authorities and undertaken by the A. L. Burris Institute of Public Service at Kennesaw State University sought to identify environmental problems within Lake Allatoona. The study notes that pollution has affected a tributary of the lake known as the Little River area. The study will be conducted to evaluate environmental problems and recommend environmental restoration measures, including structural and non-structural approaches, for the Little River Watershed, which drains into Lake Allatoona. The Lake Allatoona Preservation Authority, Bartow County Water and Sewer Department, Cherokee County Water Authority, Cobb County Water System, and Cobb-Marietta Water Authority are potential sponsors and they understand the cost-share requirements of the feasibility phase. The Feasibility Cost Sharing Agreement is scheduled to be signed in May 2000.

Fiscal Year 2000 funds are being used to fully fund the reconnaissance phase at full Federal expense and to initiate the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The estimated cost of the feasibility phase is $500,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$600,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	250,000
Feasibility Phase (Non-Federal)	250,000

The reconnaissance phase is scheduled to be completed in May 2000. The feasibility phase study completion is being determined.

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Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
Indian, Sugar, Intrenchment, & Federal Prison Creeks					
Mobile District	1,100,000	0	86,000	50,000	964,000

Indian, Sugar, Intrenchment, and Federal Prison Creeks are located within the metropolitan Atlanta watershed in portions of DeKalb County, Fulton County and the City of Atlanta. Fulton County and DeKalb County, Georgia and the City of Atlanta have passed floodplain regulations, resolutions, or ordinances to restrict development in flood-prone areas; however, the rapid urbanization of the metropolitan Atlanta area prior to passage of these regulations, resolutions, or ordinances resulted in the development of many areas subject to periodic flooding. Both the scarcity of land and attractiveness of streamside areas contributed to encroachment on the floodplain. Local drainage patterns have also been greatly altered by the urbanization of the metropolitan area. At many locations, extensive storm drain systems have been used to substantially alter natural drainage patterns in order to remove water quickly. Rapid urbanization in the metropolitan Atlanta area over the last few decades has resulted in increases in the magnitude and frequency of severe floods; increased streambank erosion; depreciated water quality; a reduction in diversity and abundance of aquatic insects and fish; and destruction of wetlands, riparian buffers, and springs. . The study will be conducted for the purpose of developing a comprehensive watershed plan for parts of metropolitan Atlanta, including Indian, Sugar, Intrenchment, and Federal Prison Creeks. Development of the master plan will be based on a thorough assessment of the changes in stream hydrology, morphology, water quality, and ecology. DeKalb County, Fulton County, and the City of Atlanta are potential sponsors and they understand the cost-share requirements of the feasibility phase. The Feasibility Cost Sharing Agreement is scheduled to be signed in April 2001.

Fiscal Year 2000 funds are being used to fully fund the reconnaissance phase at full Federal expense. If the reconnaissance report is certified to be in accord with policy, the funds requested for Fiscal Year 2001 will be used to continue into the feasibility phase of the study. The estimated cost of the feasibility phase is $2,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

The reconnaissance phase is scheduled to be completed in April 2001. The feasibility phase study completion is being determined.

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
Long Island, Marsh and Johns Creeks Mobile District	1,100,000	0	86,000	50,000	964,000

Long Island, Marsh and Johns Creeks are located within the metropolitan Atlanta watershed principally in Fulton County. Fulton County, Georgia has passed floodplain regulations, resolutions, or ordinances to restrict development in flood-prone areas; however, the rapid urbanization of the metropolitan Atlanta area prior to passage of these regulations, resolutions, or ordinances resulted in the development of many areas subject to periodic flooding. Both the scarcity of land and attractiveness of streamside areas contributed to encroachment on the floodplain. Local drainage patterns have also been greatly altered by the urbanization of the metropolitan area. At many locations, extensive storm drain systems have been used to substantially alter natural drainage patterns in order to remove water quickly. Rapid urbanization in the metropolitan Atlanta area over the last few decades has resulted in increases in the magnitude and frequency of severe floods; increased streambank erosion; depreciated water quality; a reduction in diversity and abundance of aquatic insects and fish; and destruction of wetlands, riparian buffers, and springs. The study will be conducted for the purpose of developing a comprehensive watershed plan for parts of metropolitan Atlanta, including Long Island, Marsh and Johns Creeks. Development of the master plan will be based on a thorough assessment of the changes in stream hydrology, morphology, water quality, and ecology. Fulton County is the potential sponsor and understands the cost-share requirements of the feasibility phase. Feasibility Cost Sharing Agreement is scheduled to be signed in January 2001.

Fiscal Year 2000 funds are being used to fully fund the reconnaissance phase at full Federal expense. If the reconnaissance report is certified to be in accord with policy, funds requested for Fiscal Year 2001 will be used to initiate the feasibility phase of the study. The estimated cost of the feasibility phase is $2,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

The reconnaissance phase is scheduled to be completed in January 2001. The feasibility phase study completion is being determined.

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
Metro Atlanta Watershed Mobile District	2,230,000	1,318,000	413,000	499,000	0

Study is being conducted to develop a comprehensive watershed master plan for parts of metropolitan Atlanta in the Peachtree and Nancy Creeks Watershed. DeKalb County and Fulton County, Georgia and the City of Atlanta have passed floodplain regulations, resolutions, or ordinances to restrict development in flood-prone areas; however, rapid urbanization of metropolitan Atlanta resulted in development of many areas subject to periodic flooding prior to passage of these rules. Change in stream morphology resulted from stream channel widening, increased streambank erosion, elimination of pool/riffle structure, and imbedding of stream sediments. Changes in stream water quality resulted from massive pulse of sediment during construction stages, increased pollutant loads in storm water runoff, and increased trash/debris jams. Development of the master plan will be based on a thorough assessment of changes in stream hydrology, morphology, water quality, habitat, and ecology. There are over 600 residential structures in the 100-year flood plain. Study will identify potential alternatives to alleviate flood damage, water quality, and inter-related storm drainage and sanitary sewer infrastructure problems, and enhance environmental quality. DeKalb County, Fulton County, and the City of Atlanta are the sponsors, and they understand the requirements for study cost sharing. Feasibility Cost Sharing Agreement was signed in July 1998.

Fiscal Year 2000 funds will be used to continue the feasibility phase of the study. The funds requested for Fiscal Year 2001 would be used to complete the feasibility phase of the study. The estimated cost of the feasibility phase is $3,400,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$3,930,000
Reconnaissance Phase (Federal)	530,000
Feasibility Phase (Federal)	1,700,000
Feasibility Phase (Non-Federal)	1,700,000

The reconnaissance phase was completed in July 1998. The feasibility study is scheduled for completion in September 2001.

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
Savannah Harbor Ecosystem Restoration Savannah District	1,690,000	130,000	300,000	450,000	810,000

The Savannah River Basin encompasses an area of 11,000 square miles in Georgia and South Carolina. Major cities in the basin are Savannah and Augusta, Georgia, and Aiken, South Carolina. Recent studies by the Corps of Engineers, the states of Georgia and South Carolina, and Federal and State agencies have highlighted that there are current water resource problems and needs being encountered in the Savannah River Basin that need to be investigated. A critical need to address dissolved oxygen levels in Savannah Harbor was identified by several major stakeholders. Although the focus of this problem is Savannah Harbor, modeling and technical work will extend to Augusta, Georgia to evaluate upstream contributions to point and non-point source loads. Evaluation of dissolved oxygen in Savannah Harbor is a complex issue due to the dynamic nature of the tidal estuary, the complicated hydraulic processes in the harbor, and uncertainties associated with related biological components. The historical seasonal lowering of dissolved oxygen in Savannah Harbor is well documented and illustrates an annual impairment of the estuary's ecosystem. Two endangered species, the shortnose sturgeon and the manatee, are common in the estuary and can be affected by low levels of dissolved oxygen. The channel deepenings, which have occurred this century, have impacted the geography and thus the hydrology of the river channel. Increased channel depths have reduced vertical mixing. Higher salinity levels and lower dissolved oxygen have resulted. Data from sampling during summer low flow periods indicate dissolved oxygen levels below one in the navigation channel. These levels are not supportive of a healthy, productive, aquatic ecosystem. The local sponsor, the City of Savannah, signed the Feasibility Cost Sharing agreement 2 August 1999.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study. The funds requested for Fiscal Year 2001 would be used to continue the feasibility phase. The estimated cost of the feasibility phase is $3,220,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Costs	$3,300,000
Reconnaissance Phase (Federal)	80,000
Feasibility Phase (Federal)	1,610,000
Feasibility Phase (Non-Federal)	1,610,000

The reconnaissance phase was completed in July 1999. The feasibility study completion date is being determined.

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Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
Utoy, Sandy and Proctor Creeks Mobile District	1,100,000	0	86,000	100,000	914,000

Utoy, Sandy and Proctor Creeks are located within the metropolitan Atlanta watershed in middle western portions of Fulton County, and the City of Atlanta. Fulton County, Georgia and the City of Atlanta have passed floodplain regulations, resolutions, or ordinances to restrict development in flood-prone areas; however, the rapid urbanization of the metropolitan Atlanta area prior to passage of these regulations, resolutions, or ordinances resulted in the development of many areas subject to periodic flooding. Both the scarcity of land and attractiveness of streamside areas contributed to encroachment on the floodplain. Local drainage patterns have also been greatly altered by the urbanization of the metropolitan area. At many locations, extensive storm drain systems have been used to substantially alter natural drainage patterns in order to remove water quickly. Rapid urbanization in the metropolitan Atlanta area over the last few decades has resulted in increases in the magnitude and frequency of severe floods; increased streambank erosion; depreciated water quality; a reduction in diversity and abundance of aquatic insects and fish; and destruction of wetlands, riparian buffers, and springs. The study will be conducted for the purpose of developing a comprehensive watershed plan for parts of metropolitan Atlanta, including Utoy, Sandy and Proctor Creeks. Development of the master plan will be based on a thorough assessment of the changes in stream hydrology, morphology, water quality, and ecology. Fulton County and the City of Atlanta are potential sponsors and they understand the cost-share requirements of the feasibility phase. The Feasibility Cost Sharing Agreement is scheduled to be signed in May 2001.

Fiscal Year 2000 funds are being used to fully fund the reconnaissance phase at full Federal expense. If the reconnaissance report is certified to be in accord with policy, funds requested for Fiscal Year 2001 will be used to continue into the feasibility phase of the study. The estimated cost of the feasibility phase is $2,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

The reconnaissance phase is scheduled to be completed in May 2001. The feasibility phase study completion is being determined.

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Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
North Carolina					
Lockwoods Folly River Wilmington District	1,470,000	184,000	172,000	600,000	514,000

Lockwoods Folly River is 50 miles in length and has a drainage area of 180 square miles. It is located in Brunswick County in southeastern North Carolina and originates at a point about 16 miles southwest of Wilmington and flows first westerly, then southwesterly, and empties into the Atlantic Ocean at a point about 15 miles west of the mouth of the Cape Fear River. A decline in the water quality of the Lockwoods Folly River has progressively taken place over the last decade. This has led to the closure of over 70 percent, more than 1,100 acres of the total available shellfishing acreage in the area due to bacterial contamination. A 1989 North Carolina Division of Water Quality report summarized that probable major sources of bacteria in the River were septic tanks and urban stormwater runoff. Locals are very concerned about hydrologic conditions and sedimentation within the lower estuary due to the location of existing federal navigation channels. The feasibility study will include the development of a comprehensive plan to address measures to improve water quality in the watershed. Alternative measures to be considered include wetland restoration, and riparian area restoration. This study and the proposed outputs are in accord with the Administration's Clean Water initiatives. The potential sponsor for the feasibility study is the State of North Carolina. A Feasibility Cost Sharing Agreement (FCSA) is scheduled to be signed in April 2000.

Fiscal Year 2000 funds will be used to initiate the feasibility phase of the study including engineering, economic and environmental studies. Fiscal year 2001 funds will be used to continue the feasibility phase, including watershed, hydrodynamic and water quality modeling and identification of fecal coliform sources. The estimated cost of the feasibility phase is $2,700,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study cost	$2,820,000
Reconnaissance Phase (Federal)	120,000
Feasibility Phase (Federal)	1,350,000
Feasibility Phase (Non-Federal)	1,350,000

The reconnaissance phase is scheduled for completion in April 2000. The feasibility phase study completion is being determined.

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
South Carolina					
Charleston Estuary Charleston District	1,600,000	100,000	0	150,000	1,350,000

The Charleston Estuary includes over 50,000 acres of coastal marshes and the water bodies include the tidal reaches of the Ashley, Cooper, Stono and Wando Rivers and lower Charleston Harbor. Charleston's metro area population is expected to increase by 50 percent in the next 20 years and as urban development expands, non-point source pollutants carried into the estuary will increase, further degrading water quality. Environmental restoration opportunities include wetlands, fish and wildlife habitat restoration, and water quality improvements. The reconnaissance report was completed and approved in February 1999. The report recommended a feasibility analysis of several ecosystem restoration areas including: 1) development of a regional wetlands plan to include mechanisms for conservation easements, and deed restrictions while still addressing future growth scenarios; 2) development of a mechanism to facilitate coordination between state cultural resource preservation agencies and the many local preservation agencies to ensure protection of valuable cultural resource sites that are now being overlooked; 3) development of a regional water quality plan; 4) development of a recreational resource plan for the estuary area; 5) restoration of degraded wetlands through propagation of spartina marsh; 6) provide wildlife habitat through beneficial use of dredged material; and 7) provide increased water quality benefits through a cooperative oyster propagation/seeding program. The potential sponsor for the study is the South Carolina Department of Natural Resources. The Feasibility Cost Sharing Agreement is scheduled to be executed in July 2000.

Fiscal Year 2000 funds will be used to initiate the feasibility phase of the study. The funds requested for Fiscal Year 2001 would be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $3,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$3,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,500,000
Feasibility Phase (Non-Federal)	1,500,000

The reconnaissance phase is scheduled for completion in July 2000. The feasibility phase study completion is being determined.

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
e. Comprehensive Studies					
Georgia					
Savannah River Basin Comprehensive Savannah District	3,020,000	520,000	130,000	400,000	1,970,000

The Savannah River Basin encompasses an area of 11,000 square miles in Georgia and South Carolina. Major cities in the basin are Savannah and Augusta, Georgia, and Aiken, South Carolina. Recent studies by the Corps of Engineers, the states of Georgia and South Carolina, and Federal and state agencies have highlighted that there are current water resource problems and needs being encountered in the Savannah River Basin that need to be investigated. Changes in land use below the J. Strom Thurmond, Hartwell and Richard B. Russell reservoirs has prompted the need to reexamine flood control needs in the basin. A review of the quality of habitat below the reservoirs will be conducted to determine restoration measures needed to address adverse impacts on wetlands, and fish and wildlife resources. Continued rapid growth in the basin is increasing pressures to develop new sources of surface water supply in the upper watershed. Pressures are also being felt in the lower watershed since Georgia and South Carolina are now restricting further use of the Floridian Aquifer. The reconnaissance study is focusing on review of the operation of the major reservoirs in the basin, the need for additional flood control measures, environmental restoration, surface water supply and other allied water resources problems. In addition, the study is reviewing the results of various state and Federal efforts conducted to date to identify problems, needs, and potential alternative plans. Goals and objectives for subsequent planning efforts and planning constraints are being developed in coordination with the states, affected agencies, and local interest groups. The states of Georgia and South Carolina, the local sponsors, expressed support for the study, understand the two-phase planning process, and are willing to participate in 50-50 cost sharing of feasibility phase studies. The Feasibility Cost Sharing Agreement is scheduled to be signed in March 2000.

The study authorization requires that the study be coordinated with EPA and its ongoing Watershed Study of the basin. To date, the Savannah District has been fully cooperative with the EPA effort, participating on eight policy, management, and resource committees. The Policy committee is currently developing a "Watershed Strategy" to implement priority recommendations. One priority recommendation is the conduct of the Savannah River Basin Comprehensive study. A number of the priority recommendations are dependent upon the comprehensive study for their resolution.

Fiscal Year 2000 funds are being used to initiate the feasibility phase of the study. The funds requested for Fiscal Year 2001 would be used to continue the feasibility phase. The preliminary estimated cost of the feasibility phase is $5,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. The PSP cost estimate for feasibility studies is $8,966,000. However, both South Carolina and Georgia have indicated, in negotiations of the FCSA, that they would like a smaller scope closer to the $5,000,000 initial cost estimate. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

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Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
Total Estimated Study Cost	$5,520,000				
Reconnaissance Phase (Federal)	520,000				
Feasibility Phase (Federal)	2,500,000				
Feasibility Phase (Non-Federal)	2,500,000				

The reconnaissance phase is scheduled for completion in March 2000. The feasibility study completion date is being determined.

1327

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
f. Review of Authorized Projects					
South Carolina					
Atlantic Intracoastal Waterway Charleston District	3,100,000	858,000	344,000	581,000	1,317,000

The Atlantic Intracoastal Waterway is a naturally protected navigation route that generally parallels the Atlantic coast between Norfolk, Virginia and the St. John's River in Florida. In South Carolina the project starts near Little River at the North Carolina-South Carolina state line and extends generally south along the coast for a total of 210 miles. The project provides for a waterway 12 feet deep and not less than 90 feet wide and was completed in 1940. This study will investigate existing and future commercial shallow draft navigation needs on a phased approach. The study will review ways to improve safety and navigation efficiency and reduce O&M costs. It will address possible realignment/enlargement of the waterway at specific locations as a result of planned bridges and evaluate the construction of new passing lanes. The initial Phase I feasibility study effort is concentrating on quantifying the magnitude of benefits that could be derived from navigational improvements before undertaking detailed engineering and environmental studies.

Activities to be undertaken in Fiscal Year 2000 include continuation of economic studies which include development of a detailed database of existing and potential waterway traffic and users.

Activities to be undertaken in Fiscal Year 2001 include determination of disposal alternatives, completion of economic studies and initiate design of improvement plans.

The reconnaissance phase was completed in August 1998. The Phase I feasibility study is scheduled for completion in December 2000. The full feasibility phase study completion is being determined.

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Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
3. PRECONSTRUCTION, ENGINEERING AND DESIGN					
a. Watershed/Ecosystem					
South Carolina					
Yadkin-Pee Dee Rivers Watershed Charleston District	1,238,000	0	0	50,000	1,188,000

The Pee Dee River Basin, the second largest basin draining to the South Atlantic Coast, extends northwest from the coast at Georgetown, across the North Carolina state line into western North Carolina, with a small portion into Virginia. The basin drainage area is about 18,000 square miles. The fish and wildlife habitat, in the lower portion of the basin along the Pee Dee River, has been negatively impacted by the change in natural flow regime due to the construction of several hydropower dams in North Carolina. The feasibility study is evaluating an array of alternatives to include reevaluation of the minimum flow requirements of the dams and construction of off-channel reservoir sites to augment the flow in the Pee Dee River. The South Carolina Department of Natural Resources is the local sponsor. They have expressed their interest in the project by execution of the FCSA on March 13, 1998 and they understand the requirements of the PED cost sharing agreement and are willing to have funds available to finance the PED portion of the project.

PED will ultimately be cost shared at the rate of the project to be constructed, but will be financed through the PED period at 25% non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	1,650,000	Total Estimated Preconstruction Engineering and Design Costs	$1,650,000
Initial Federal Share	1,238,000	*Ultimate Federal Share*	1,072,500
Initial Non-Federal Share	412,000	Ultimate Non-Federal Share	577,500

Fiscal Year 2000 funds will be used to continue the feasibility phase. The feasibility study is scheduled to be completed in April 2001. Fiscal Year 2001 funds will be used to complete the feasibility phase and initiate preconstruction, engineering, and design activities. The preconstruction, engineering and design phase completion is being determined.

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
b. Navigation					
Georgia					
Brunswick Harbor Savannah District	2,326,000	1,331,000	945,000	50,000	0

Brunswick Harbor is located on the Georgia coast 70 miles south of Savannah Harbor, Georgia, and 50 miles north of Jacksonville Harbor, Florida. The Feasibility Report was completed in April 1998. The recommended project, estimated to cost $55,318,000 with a Federal cost of $35,957,000 and non-Federal cost of $19,361,000, includes deepening of the entrance channel from 32 to 38 feet, and deepening the inner harbor channels to terminal facilities along East River and Colonels Island from 30 to 36 feet, and creating a new turning basin in Upper East River. The average annual benefits amount to $6.8 million, all for commercial navigation. The benefit-cost ratio is 1.9 to 1 at 6-7/8 percent based on the latest economic update, dated January 1999. The Georgia Ports Authority (GPA) is the project sponsor. The GPA executed the Preconstruction Engineering and Design cost-sharing agreement in September 1998. Preconstruction Engineering and Design (PED) will ultimately be cost shared at the rate for the project to be constructed but will be financed through the Preconstruction Engineering and Design period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$3,102,000	Total Estimated Preconstruction Engineering and Design Costs	$3,102,000
Initial Federal Share	2,326,000	Ultimate Federal Share	2,016,000
Initial Non-Federal Share	776,000	Ultimate Non-Federal Share	1,086,000

In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, non-Federal interests will be required to provide lands, easements, rights of way, and dredged material disposal areas; modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary, for the construction of the project; pay 25 percent of the cost of construction of the portion of the project which has a depth in excess of 20 feet but not in excess of 45 feet; and reimburse an additional 10 percent of the cost of general navigation features allocated to commercial navigation within a period of 30 years following completion of construction, as partially reduced by a credit allowed for the value of lands, easements, rights of way, and relocations.

Fiscal Year 2000 funds are being used to complete the design of the initial construction contract. Fiscal Year 2001 funds will be used for completion of Preconstruction Engineering and Design in December 2000.

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Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
Savannah Harbor Expansion Savannah District	5,965,000	125,000	86,000	100,000	5,654,000

The Savannah Harbor area includes the lower 21.3 miles of the Savannah River, which is the principal boundary between the states of Georgia and South Carolina. The city of Savannah is located about 18 miles from the river mouth. Results of the South Atlantic Cargo Traffic Container Study indicate the current 1.9 million tonnage equivalent units (TEU) through South Atlantic Ports is projected to exceed 13 million TEU by the year 2050; this volume is greater than today's total U. S. containerized trade. With this growth, the capacity of the port of Savannah container cargo facilities is expected to be exceeded by 2005. The Georgia Ports Authority (GPA) is the sponsor and is aware of project cost sharing requirements. GPA conducted the Feasibility Study under the authority of Section 203 of the Water Resources Development Act of 1986 and was responsible for funding all associated Feasibility Study costs. The Feasibility Report was submitted to the Secretary of the Army in August 1998. The recommended project, estimated to cost $229,527,000, with an estimated Federal cost of $144,302,184 and an estimated non-Federal cost of $85,225,101, includes deepening the harbor channel from 42 feet up to 48 feet. The average annual benefits amount to $35.2 million, all for commercial navigation. The benefit-cost ratio is 3.0 to 1 at 7-1/8 percent based on the latest economic analysis dated August 1998. Preconstruction Engineering and Design (PED) will ultimately be cost shared at the rate for the project to be constructed, but will be financed through the PED period at 100 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction. Credit will be given to the local sponsor for the Federal share of the PED cost upon completion of construction.

Total Estimated Preconstruction Engineering and Design Costs	$ 9,488,000
Ultimate Federal Share	5,965,000
Ultimate Non-Federal Share	3,523,000

In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, non-Federal interests will be required to provide lands, easements, rights of way, and dredged material disposal areas; modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary, for the construction of the project; pay 25 percent of the cost of construction of the portion of the project which has a depth in excess of 20 feet but not in excess of 45 feet; pay 50 percent of the cost of construction of the portion of the project which has a depth in excess of 45 feet; and reimburse an additional 10 percent of the cost of general navigation features allocated to commercial navigation within a period of 30 years following completion of construction, as partially reduced by a credit allowed for the value of lands, easements, rights of way, relocations, and dredged material disposal areas provided for commercial navigation.

Fiscal Year 2000 funds are being used to continue federal oversight and participation in a Stakeholders Evaluation Group (SEG). GPA is seeking to develop a consensus, incorporating input from local government, resource agencies, non-governmental organizations (NGO) and the Federal government on the optimum project scope, not exceeding 48 feet deep. Fiscal Year 2001 funds will be used to continue federal oversight and review. Scheduled completion date for the Tier II EIS and GRR is being determined.

1331

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
North Carolina					
Manteo (Shallowbag) Bay Wilmington District	9,600,000	9,250,000	0	250,000	100,000

Manteo (Shallowbag) Bay is located along the outer banks portion of Dare County, NC, between Oregon Inlet, Roanoke Island and Albemarle Sound. Stabilizing Oregon Inlet with dual jetties, increasing channel dimensions from the ocean to Wanchese, and increasing the depth and size of the basin at Wanchese would provide for safer navigating conditions through the inlet and the development of Wanchese Harbor into a major seafood industrial park, a port of supply, and a harbor of refuge. Numerous employment and income opportunities will be generated by the landing, processing, and marketing of marine resources previously landed by foreign fishing fleets. Benefits would accrue to the commercial fishing fleet operators from reduced vessel-operating costs, reduction in vessel delays and damages, increased catches of seafood, and from utilizing a harbor of refuge relatively close to the ocean fishing grounds. The inlet bypass system would restore a portion of the eroded downdrift beach and prevent any further erosion due to the inlet. The authorized project, estimated to cost $96,265,000 with an estimated Federal cost of $86,582,000 and an estimated non-Federal cost of $9,683,000, consist of stabilizing Oregon Inlet with a dual rubble-mound jetty system, including means for sand transfer to the downdrift beach; a channel 20'x400' through the ocean bar at Oregon Inlet; and a channel 14'x120' from the gorge in Oregon Inlet to and through Roanoke Sound to and including a 15-acre basin of the same depth at Wanchese. The average annual benefits amount to $7,237,000, for commercial and recreational navigation. The benefit to cost ratio is 1.6 to 1 based on the latest economic analysis dated March 1998. The local sponsor is the State of North Carolina.

The project is authorized for construction by the River and Harbor Act of 1970 with the following cost sharing requirements: non-Federal sponsor must provide lands, easements, rights-of-way and relocations, presently estimated at $69,000; pay 10 percent of the cost of construction of the general navigation portion which has depth not in excess of 20 feet, presently estimated at $9,614,000; pay an additional 10 percent cash contribution based on the cost of general navigation features of the project over a period not to exceed 30 years, presently estimated at $9,545,000 with credits for lands, easements, rights-of-way and relocations.

Fiscal Year 2001 funds will be used to continue preconstruction, engineering and design. The preconstruction, engineering and design phase completion is being determined.

1332

Study/Project	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
c. Flood Control					
Puerto Rico					
Rio Guanajibo, PR Jacksonville District	1,875,000	1,091,000	343,000	441,000	0

The Rio Guanajibo basin is located in the southwest corner of the island of Puerto Rico and includes portions of the municipalities of Mayaguez, Hormigueros, Cabo Rojo, San German, Sabana Grande, and Maricao. It contains approximately 133 square miles of coastal plain and mountainous terrain. Heavy rainfall combined with the very steep slopes of the upper basin can produce high discharges in a relative short time. There have been 12 major floods this century, the most severe of which occurred on September 16, 1975 during Hurricane Eloise. Even with early warning, 34 people died and 29 more were reported missing and presumed dead. Damages were in excess of $125,000,000 and over 10,000 people were forced from their homes. The recommended plan consists of the construction of 3.2 miles of levees, 0.6 mile of concrete floodwall, 0.9 miles of channel improvements, the replacement of 1 bridge, and environmental mitigation consisting of the acquisition of 27.6 acres to be graded and planted with mangroves. The estimated project construction cost is $32,400,000, with an estimated Federal cost of $21,200,000 and an estimated non-Federal cost of $11,200,000. The average annual benefits amount to $5,858,300. The benefit-cost ratio is 2.8 to 1.0 based upon the latest economic analysis dated March 1999. The Feasibility Report was completed in September 1994 and a Limited Reevaluation Report was completed in March 1999. The local sponsor, the Puerto Rico Department of Natural Resources and Environmental Resources executed a Preconstruction, Engineering and Design Agreement with the Corps in June 1997. PED will ultimately be cost shared at the rate for the project to be constructed but will be financed through the PED period at 25% non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$2,500,000	Total Estimated Preconstruction Engineering and Design Costs	$2,500,000
Initial Federal Share	1,875,000	Ultimate Federal Share	2,100,000
Initial Non-Federal Share	625,000	Ultimate Non-Federal Share	400,000

In accordance with the cost-sharing and financing concepts reflected in the Water Resources Development Act of 1986 and 1996, local interests are required to provide all lands, easements, and rights-of-way, including suitable borrow and spoil disposal areas, modify or relocate buildings, utilities, roads, and other facilities presently estimated at $7,165,000; pay 15.99 percent of the total cost allocated to flood control measures (to bring the total non-Federal share of flood control costs to 35 percent) during construction presently estimated at $4,035,000; and bear all costs of operation, maintenance, and replacement of flood control and recreational facilities presently estimated at $80,000 annually.

The PED Agreement was executed in June 1997. Fiscal Year 2001 funds will be used to continue PED, which is scheduled for completion in September 2001.

1333

APPROPRIATION TITLE: Construction General - Deficiency Correction

PROJECT: Oates Creek Flood Control, Georgia (New)

LOCATION: Oates Creek originates in the city of Augusta, Georgia and is located entirely within Richmond County, Georgia. The creek is a tributary to Butler Creek that flows into the Savannah River just downstream of the New Savannah Bluff Lock and Dam Navigation Project about 13 miles south of Augusta and 203 river miles above the mouth of the Savannah River.

DESCRIPTION: The recommended project includes remedial work on the upper and lower earthen channels of the project. The upper channel work (about 1,650 feet) includes regrading the channel, construction of a drop structure in the moderately steep gradient to prevent the headcutting from continuing upstream, and riprapping half of the sideslope of the channel. The lower channel work (about 3,860 feet) includes regrading the design channel configuration by excavating sediment, removing damaged erosion control matting, and placement of a 12-foot-wide concrete pilot channel to contain normal flows. All work is programmed.

AUTHORIZATION: Water Resources Development Act of 1986.

REMAINING BENEFIT-REMAINING COST RATIO: 1.13 to 1 at 6 7/8 percent.

TOTAL BENEFIT-COST RATIO: 1.13 to 1 at 6 7/8 percent.

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available Deficiency Evaluation Reconnaissance Report dated May 1999 at July 1998 price levels.

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SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Original Project				Entire Project	0	To be determined
Actual Federal Cost		$ 9,536,000				
Actual Non-Federal Cost		3,027,000				
Cash Contributions	665,000					
Other Costs	2,362,000					
Total Original Project Cost		$12,563,000				
Remedial Work or Project Modification						
Estimated Federal Cost		$ 1,672,000				
Estimated Non-Federal Cost		558,000				
Cash Contributions	558,000					
Other Costs	0					
Total Estimated Remedial or Modification Cost		$ 2,230,000				
Total Estimated Project Cost		$14,793,000				
Allocations to 30 September 1999		0				
Conference Allowance for FY 2000		0				
Allocation for FY 2000		0				
Allocations through FY 2000		0				
Allocation Requested for FY 2001		332,000				
Programmed Balance to Complete after FY 2001		1,340,000				
Unprogrammed Balance to Complete after FY 2001		0				

PHYSICAL DATA

Upper Earthen Channel:
For a distance of 1,650 feet regrade the channel, construct a drop structure to prevent the headcutting from continuing upstream, and riprap half of the channel sideslope.

Lower Earthen Channel:
For a distance of 3,860 feet regrade the design channel grade, remove damaged channel matting, placement of a 12-foot-wide concrete pilot channel, and placement of Geonet fabric on channel bottom to encourage drainage.

1335

JUSTIFICATION: The Corps of Engineers, with the city of Augusta, Georgia as local sponsor, completed construction of the Oates Creek Flood Control Project at a cost of $12,563,000 in 1992. WRDA (1986), authorized the Oates Creek project that included channel widening, concrete lining of two channel reaches, grass lining of two channel reaches, several road and bridge modifications, a small levee, and utility relocations. Just 7 years later, the project is not meeting the design flood protection. Sediment buildup in the earth channel portion of the project is decreasing some portions of the channel capacity from a 10 percent exceedance probability (10-year event) protection to only a 50 percent exceedance probability (2-year event) protection. It is not physically possible to safely nor efficiently possible to remove the sediment buildup to maintain design flow. The project is designed to provide protection to about 350 homes and 70 industries in the area.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate Construction	$100,000
Planning, Engineering, and Design	225,000
Construction Management	7,000
Total	$332,000

NON-FEDERAL COST: In accordance with the cost-sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights of way, relocations, and borrow and excavated or dredged material disposal areas.	0	

1336

Provide a cash contribution equal to 5 percent of flood control construction costs. Pay a minimum of 25 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, as determined under Section 103(m) of the Water Resources Development Act of 1986 and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	$558,000	$35,000
Total non-Federal Costs	$558,000	$35,000

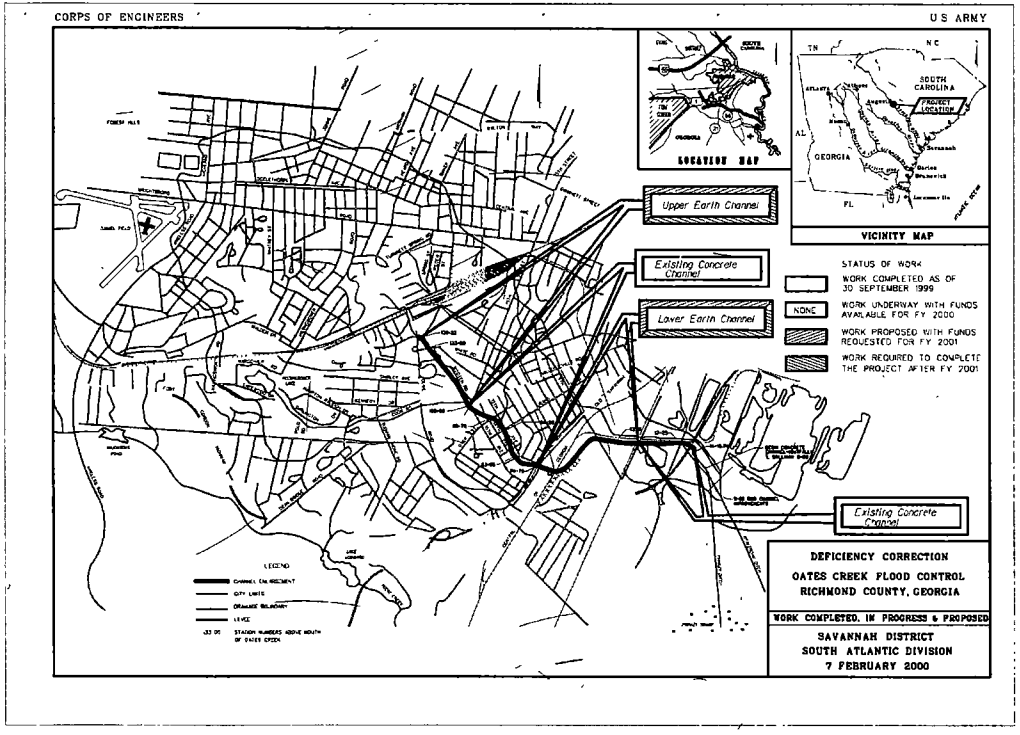
STATUS OF LOCAL COOPERATION: Augusta/Richmond County, Georgia is the local sponsor and has provided a letter of intent dated 18 May 1998 to cost share in the project. O&M expenses will be provided by the county's general fund. The Project Cooperation Agreement is scheduled to be executed in March 2001.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal Cost estimate of $1,672,000 is the initial estimate presented to Congress.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The May 1999 Correction Deficiency Evaluation Reconnaissance Report concluded the existing environmental assessment for the original project construction adequately addresses all proposed work and further documentation is not needed.

OTHER INFORMATION: Funds for preparing the Reconnaissance Report were from Inspection of Completed Works program.

1337


CORPS OF ENGINEERS
U S ARMY
LOCATION MAP
VICINITY MAP
Upper Earth Channel
Existing Concrete Channel
Lower Earth Channel
Existing Concrete Channel
STATUS OF WORK
WORK COMPLETED AS OF 30 SEPTEMBER 1999
NONE
WORK UNDERWAY WITH FUNDS AVAILABLE FOR FY 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER FY 2001
LEGEND
DEFICIENCY CORRECTION
OATES CREEK FLOOD CONTROL
RICHMOND COUNTY, GEORGIA
WORK COMPLETED, IN PROGRESS & PROPOSED
SAVANNAH DISTRICT
SOUTH ATLANTIC DIVISION
7 FEBRUARY 2000

1338

APPROPRIATION TITLE: Construction, General - Local Protection Projects (Flood Control)

PROJECT: Rio Grande de Loiza, Puerto Rico (New)

LOCATION: The Rio Grande de Loiza basin, located in the eastern central part of Puerto Rico, is the island's largest basin. It comprises the coastal plain of Carolina and the metropolitan area of Caguas in the interior valley. The project area consists of 530 square kilometers draining into Lake Loiza. It includes the city of Caguas and the town of Gurabo where over 4,100 families and numerous public buildings and commercial facilities are affected by flooding.

DESCRIPTION: The authorized project would provide channels, levees, and floodwalls for flood protection for the highly urbanized areas of the city of Caguas and the town of Gurabo. It consists of 1.8 kilometers of gabion-lined channel, 1.9 kilometers of concrete channels, and a debris basin for Rio Caguitas; 1.3 kilometers of concrete channels, 1.0 kilometers of earth channel, 0.6 kilometers of gabion-lined channel, 1.0 kilometer of levees, and a debris basin for Rio Bairoa; 2.8 kilometers of levees and floodwalls for Rio Grande de Loiza; and 0.7 kilometers of pilot channel and 1.8 kilometers of levees for Rio Gurabo. It also provides for recreation bikeway/pedestrian trails at Rio Grande de Loiza and Rio Gurabo levees. The average level of protection at Rio Caguitas and Rio Bairoa is estimated at 70 years and 220 years, respectively. The average level of protection for the remaining reaches is estimated at 100 years.

AUTHORIZATION: Water Resources Development Act of 1992, Section 101 (19).

REMAINING BENEFIT - REMAINING COST RATIO: 1.9 to 1 at 6-7/8 percent.

TOTAL BENEFIT - COST RATIO: 1.9 to 1 at 6-7/8 percent.

BASIS OF BENEFIT - COST RATIO: Benefits are from the Economic Analyses performed for the April 1995 Limited Reevaluation Report, updated at October 1999 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$ 150,700,000		Channels and Canals	0	To Be Determined
Estimated Non-Federal Cost		52,800,000		Levees and Floodwalls	0	To Be Determined
Cash Contributions	$ 10,593,000			Floodway Control and Diversion	0	To Be Determined
Other Costs	42,207,000			Recreation	0	To Be Determined
Total Estimated Project Cost		$ 203,500,000		Entire Project	0	To be determined

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SUMMARIZED FINANCIAL DATA (Continued)

Allocations to 30 September 1999	$ 2,713,000	
Conference Allowance for FY 2000	0	
Allocation for FY 2000	0	
Allocations through FY 2000	2,713,000	2
Allocation Requested for FY 2001	743,000	2
Programmed Balance To Complete After FY 2001	147,244,000	
Unprogrammed Balance to Complete After FY 2001	0	

PHYSICAL DATA

Relocations - Bridges (Replacement)	12
Levees & Floodwalls - Kilometers	5.6
Channels - Kilometers	7.3
Debris Basins	2

JUSTIFICATION: Flooding is a major problem in this area threatening the life, property and economic development of the residents of the city of Caguas and the town of Gurabo, Puerto Rico. The Upper Rio Grande de Loiza basin drains an area of 530 square kilometers into the Loiza Lake. Heavy rainfall combines with very steep slopes to produce high discharges in a relatively short period of time. Flooding in the detailed study area affects over 4,100 families, and numerous public building and commercial facilities. Expected annual flood damages for existing conditions is estimated at $18.6 million.

Average annual benefits are as follows:

Annual Benefits	Amount
Inundation Reduction	$ 21,247,000
Location	1,060,000
Redevelopment	909,000
Advance Bridge Replacement	273,000
Flood Insurance Cost	150,000
Recreation	210,000
Total	$ 23,849,000

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FISCAL YEAR 2001: The requested amount will be applied as follows:

Planning, Engineering, and Design	$ 743,000
Total	$ 743,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Flood Control Act of 1970 and the Water Resources Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, and rights-of-way.	$ 21,398,000	
Modify or relocate buildings, utilities, roads, bridges, and other facilities, where necessary in the construction of the project.	20,809,000	
Pay 6.32 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent and bear all costs of operations, maintenance, and replacement of flood control facilities.	10,219,000	
Pay on-half of the separable costs allocated to recreation and bear all costs of operation, maintenance, and replacement of recreation facilities.	374,000	
Total Non-Federal Cost	$ 52,800,000	$ 80,000

STATUS OF LOCAL COOPERATION: The Commonwealth of Puerto Rico Department of Natural and Environmental Resources is the local sponsor. The Project Cooperation Agreement (PCA) for the project is scheduled for execution in April 2001. The PCA cannot be executed until Construction Funds have been appropriated.

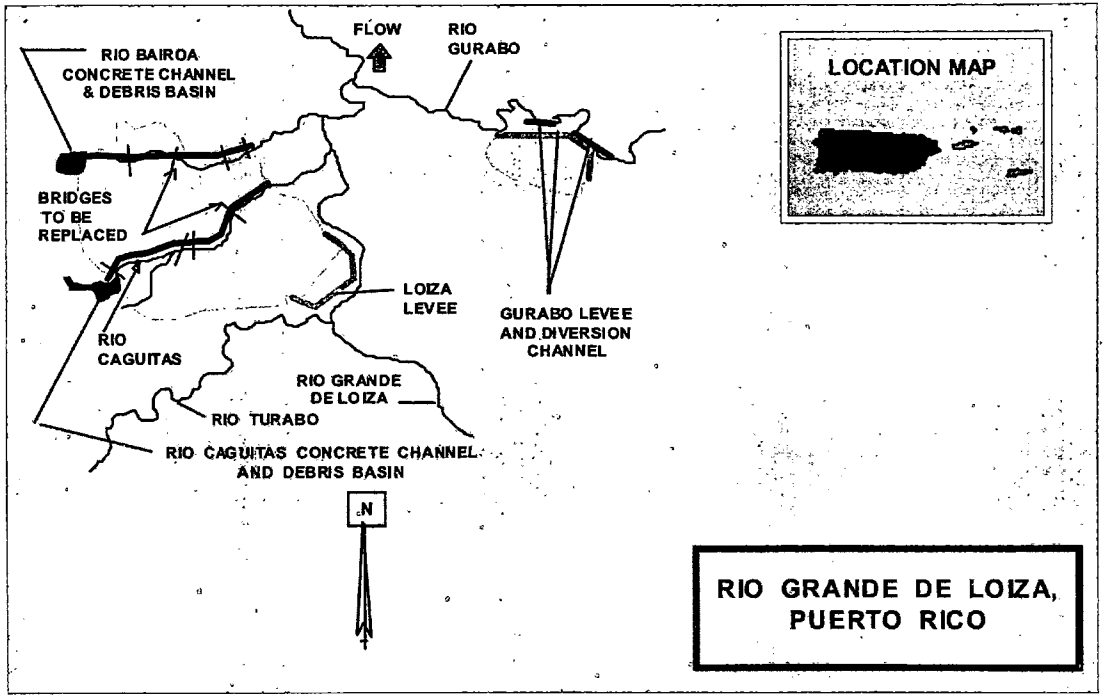
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps) cost estimate of $150,700,000 is an increase of $12,400,000 presented to Congress (FY1999). This change is reflects a construction start delay and includes the following:

Item	Amount
Price Escalation on construction features	$ 10,490,000
Escalation of costs for Planning, Engineering and Design and Supervision and Administration	1,910,000
Total	$ 12,400,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final EIS was filed in October 1991. No significant fish and wildlife habitats were identified, no specific mitigation measures were recommended as part of the flood control plan. A Water Quality Certificate (WQC) covering the entire project was issued by the Puerto Rico Environmental Quality Board on March 15, 1993.

OTHER INFORMATION: Funds to initiate preconstruction, engineering and design were appropriated in October 1992.

1342



Division: South Atlantic

District: Jacksonville

Rio Grande de Loiza, PR

APPROPRIATION TITLE: Construction, General - Local Protection Projects (Flood Control)

PROJECT: Rio Nigua at Salinas, Puerto Rico (New Start)

LOCATION: The Rio Nigua at Salinas is located in south-central region of Puerto Rico, approximately 33 kilometers east of the city of Ponce. It comprises the municipalities of Salinas, Guayama, and Cayey.

DESCRIPTION: Rio Nigua is formed by the Rio Majada with a drainage area of 22.2 square miles and Rio Lapa with a catchment of 12.1 square miles that join at a point approximately five miles upstream of the town of Salinas. Approximately 400 acres of land are flooded by the 100-year flood in the Salinas area of which 250 acres are urbanized. Some 550 housing units, many commercial buildings, and a public hospital are within the floodable area. The most significant flooding occurred in January 1992, resulting from the movement of a tropical depression over the island. This flood resulted in the loss of two lives, damages amounting to more than $2 million, and destruction of dozens of houses in the vicinity of Salinas.

AUTHORIZATION: Pending, Water Resources Development Act 2000.

REMAINING BENEFIT - REMAINING COST RATIO: 2.8 at 6-7/8.

TOTAL BENEFIT - COST RATIO: 2.8 at 6-7/8.

BASIS OF BENEFIT - COST RATIO: Benefits are from the economic analyses performed for the September 1996 Final Feasibility Report, dated August 1996 at October 1998 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$ 8,900,000		Relocations	35	Sep 2002
Estimated Non-Federal Cost		6,900,000		Channels and Canals	0	Sep 2005
Cash Contributions	$ 1,007,000			Levees and Floodwalls	0	Sep 2005
Other Costs	5,893,000					
Total Estimated Project Cost		$ 15,800,000		Entire Project	0	To be determined

1344

SUMMARIZED FINANCIAL DATA (Continued)

Allocations to 30 September 1999	$ 625,000	
Conference Allowance for FY 2000	463,000	
Allocation for FY 2000	463,000	1/
Allocations through FY 2000	1,088,000	12
Allocation Requested for FY 2001	198,000	14
Programmed Balance to Complete after FY 2001	7,614,000	
Unprogrammed Balance to Complete after FY 2001	0	

1/ Reflects $65,000 reduction assigned as savings and slippage and $65,000 reprogrammed to the project.

PHYSICAL DATA

Relocations - Bridges (Replacement)	PR Hwy 1
Levees - Miles (Salinas/Playa)	2960 Meters
Levees - Miles (El Coco)	3980 Meters

JUSTIFICATION: The Rio Nigua basin is subject to relatively high intensity precipitation of short duration, which combined with the steep upper slopes of the river, produces a very short time of concentration. Severe flooding in the basin is generally associated with the passage of hurricanes, tropical storms, tropical depressions, tropical waves, and stationary fronts through or near the island. The town of Salinas, located in the lower valley, and the Coco community, located within the mid valley, have experienced frequent serious flooding. Flooding problems in these urbanized areas are most related to overflows from Rio Nigua. Some 3,022 families in the area would be affected by the 100-year flood event. In addition, 250 commercial structures; dozens of public buildings; roads, power, water, sewer and communications utilities, and hundreds of industrial and commercial establishments will experience considerable flooding. Hurricane Georges damaged an estimated 3,246 houses, 600 urbanized acres, and 321 commercial facilities. Average annual benefits are as follows:

Annual Benefits	Amount
Inundation Reduction	$ 2,811,100
Agricultural	113,300
Employment	49,500
Flood Insurance	8,200
Advance Bridge Replacement	64,700
Total	$ 3,046,800

FISCAL YEAR 2001: The requested amount will be applied as follows:

Planning, Engineering, and Design	$ 198,000
Total	$ 198,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the authorizing legislation, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, and rights-of-way and dredged material disposal areas.	$ 2,943,000	
Modify or relocate buildings, utilities, roads, bridges, (except railroad bridges), and other facilities, where necessary in the construction of the project.	2,950,000	
Pay one-half of the separable costs allocated to recreation and bear all costs of operation, maintenance, and replacement of recreation facilities.	0	
Pay 8.00 percent of the first costs allocated to flood control, and bear all cost of operation, maintenance, and replacement of flood control structures.	1,007,000	
Total Non-Federal Costs	$ 6,900,000	$ 66,000

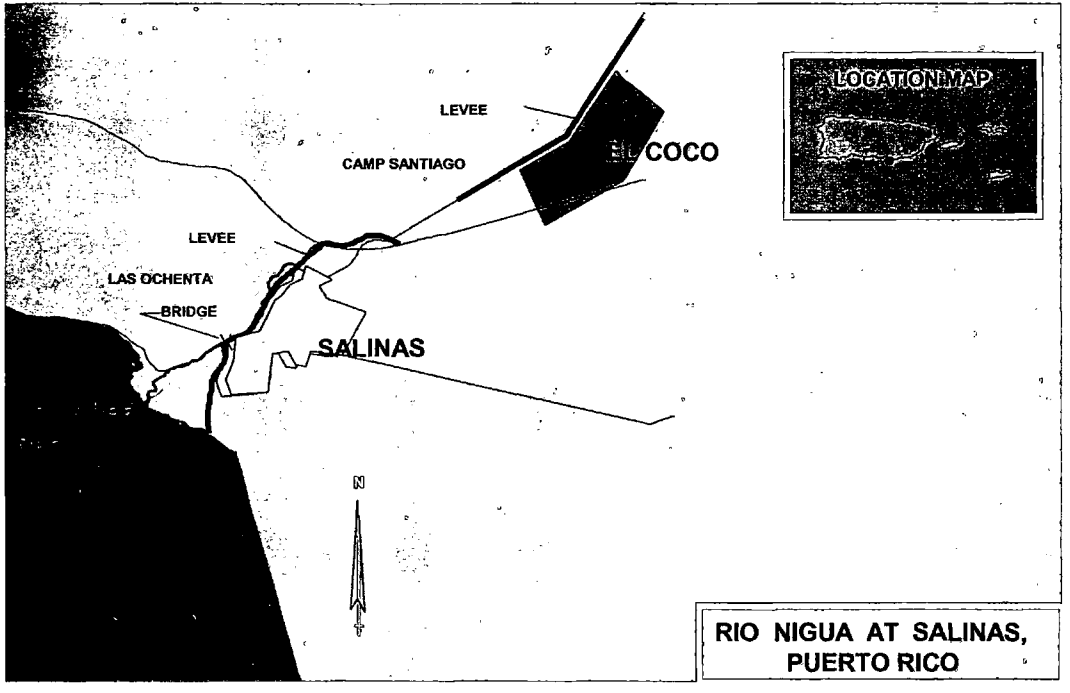
The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The Commonwealth of Puerto Rico Department of Natural and Environmental Resources is the local sponsor.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps of Engineers) cost estimate of $8,900,000 remains constant with the latest estimate of $8,900,000 submitted to Congress (Fiscal Year 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement for the project was filed in September 1996. The FONSI was signed in September 1996.

OTHER INFORMATION: Funds to initiate planning, engineering, and design were appropriated in Fiscal Year 1997. PED is scheduled for completion in September 2000. The PCA is scheduled for execution November 2000.


LOCATION MAP
LEVEE
CAMP SANTIAGO
EL COCO
LEVEE
LAS OCHENTA
BRIDGE
SALINAS
N
RIO NIGUA AT SALINAS,
PUERTO RICO

1348

APPROPRIATION TITLE: Construction, General – Environmental Restoration

PROJECT: Hillsboro and Okeechobee Aquifer, Florida (New Start)

LOCATION: The Okeechobee Aquifer Storage and Recovery (ASR) sites are adjacent to Lake Okeechobee. The Hillsboro ASR Pilot Project is located in the Lower East Coast area adjacent to the Site 1 Water Preserve Area and the Hillsboro Canal.

DESCRIPTION: The pilot projects will provide information on the hydrogeological and geotechnical characteristics of the upper Floridian Aquifer System within the regions, provide the ability of the upper Floridian Aquifer System to store injected water for future recovery, and determine water quality treatment requirements.

AUTHORIZATION: Water Resources Development Acts of 1999 (Section 101a) (Item 16)

REMAINING BENEFIT - REMAINING COST RATIO: Not applicable

TOTAL BENEFIT - COST RATIO: Not applicable

INITIAL BENEFIT - COST RATIO: Not applicable

BASIS OF BENEFIT - COST RATIO: Not applicable

SUMMARIZED FINANCIAL DATA		ACCUM. PCT. OF EST. FED COST	STATUS (1Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost	$13,500,000		Pumping Plants	0	To be determined
Estimated Non-Federal Cost	13,500,000				
Cash Contibutions					
Other Costs					
			Entire Project	0	To be determined
Total Estimated Project Cost	$27,000,000				

1349

Division: South Atlantic

District: Jacksonville

Hillsboro and Okeechobee Aquifer, FL

SUMMARIZED FINANCIAL DATA (Continued)

Allocations to 30 September 1999	$ 000	
Conference Allowance for FY 2000	000	
Allocation for FY 2000	000	
Allocations through FY 2000	000	0
Allocation Requested for FY 2001	4,562,000	0
Programmed Balance to Complete After FY 2001	8,938,000	
Unprogrammed Balance to Complete After FY 2001	0	

PHYSICAL DATA

Pumping Plants	5

JUSTIFICATION: The ASR Pilot projects are multi-purpose and provide benefits to environmental, urban and agricultural users. The pilot projects are necessary to identify the most suitable sites and optimum configurations for the aquifer storage and recovery wells in the vicinity of Lake Okeechobee and the Hillsboro Canals. Additionally, the pilot projects will determine the specific water quality characteristics of water to be injected, the specific water quality characteristics and the amount of water recovered from the aquifer, the water quality characteristics of the receiving aquifer, and any water quality treatment requirements.

FISCAL YEAR 2001: The requested amount of $4,562,000 will be applied as follows:

Planning, Engineering, and Design	662,000
Construction	3,500,000
Operational Management	400,000
Total	$ 4,562,000

1350

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the authorizing legislation, the non-Federal sponsor must comply with the requirements listed below.

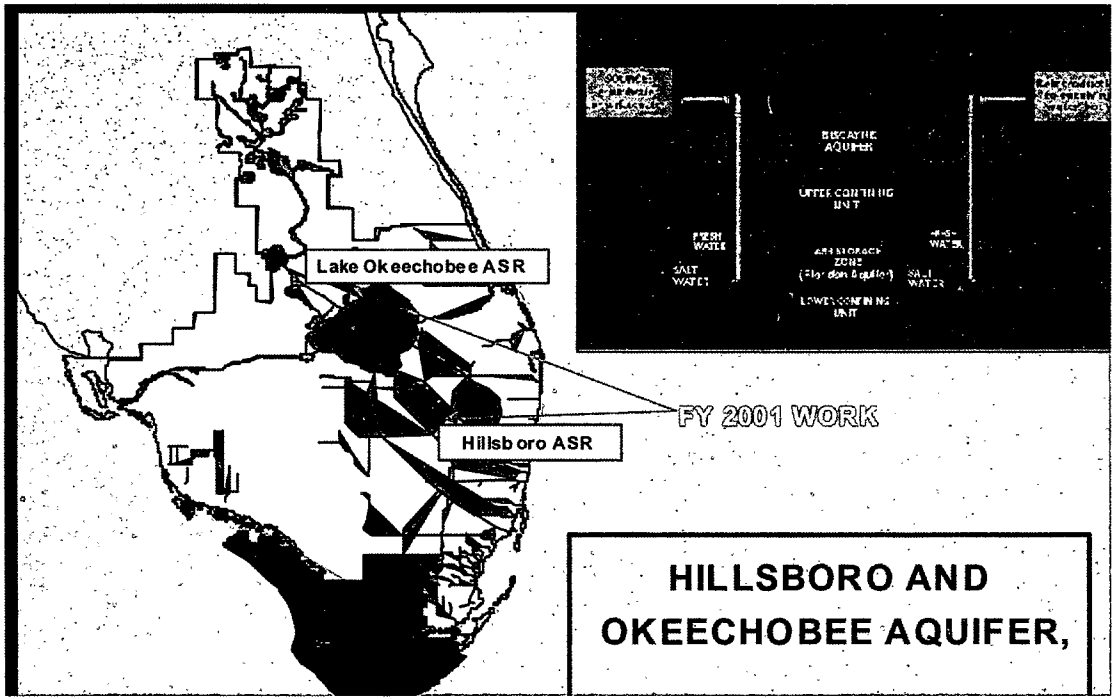
Requirements of Local Cooperation	Payments During Construction, and Reimbursements	Annual Operation, Maintenance, Repair Rehabilitation, and Replacement Costs
Provide; with credit toward the non-Federal 50 percent share of project costs; all lands, easements, rights of way, and excavated or dredged material disposal areas.	$ 0	
Modify or relocate; with credit toward the non-Federal 50 percent share of project costs; utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	0	
Pay 50 percent of the costs allocated to environmental restoration, and pay all costs of operation, maintenance, repair, rehabilitation, and replacement.	13,500,000	
Pay 100 percent of the locally-preferred features, and pay all costs of operation, maintenance, and replacement of flood control facilities.	0	
Total Non-Federal Costs	$13,500,000	

STATUS OF LOCAL COOPERATION: Design Agreement will be initiated based on enactment of WRDA 1999.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps) cost estimate is $27,000,000 and is the initial submission to Congress.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: Environmental Compliance Documents will be initiated during future project development.

OTHER INFORMATION: These pilot projects are recommended as part of the Central and Southern Florida Project Comprehensive Review which was submitted to Congress 01 July1999.


Lake Okeechobee ASR
Hillsboro ASR
FY 2001 WORK
HILLSBORO AND
OKEECHOBEE AQUIFER,

1352

APPROPRIATION TITLE: Construction, General - Channels and Harbors (Navigation)

PROJECT: Black Warrior and Tombigbee Rivers, Vicinity of Jackson, Alabama (Continuing)

LOCATION: The project is located on the Tombigbee River in Clarke County in southwest Alabama in the city of Jackson, Alabama, approximately 90 miles north of Mobile, Alabama.

DESCRIPTION: The plan is to construct a spur canal approximately 9 feet deep, 300 feet wide, and 1000 feet long. All work is programmed.

AUTHORIZATION: Energy and Water Development Appropriations Act of 1987.

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable.

TOTAL BENEFIT-COST-RATIO: Not applicable.

INITIAL BENEFIT-COST RATIO: Not applicable

BASIS OF BENEFIT-COST RATIO: Not applicable.

SUMMARIZED FINANCIAL DATA

Estimated Total Appropriation Requirement		$18,950,000
Future Non-Federal Reimbursement		1,271,000
Estimated Federal Cost (Ultimate)		17,679,000
Estimated Non-Federal Cost		4,621,000
Cash Contributions	$2,106,000	
Other Costs	1,244,00	
Reimbursements	1,271,000	
Total Estimated Project Cost		$ 22,300,000

		ACCUM. PCT. OF EST. FED. COST
Allocation to 30 September 1999	$2,831,000	
Conference Allowance for FY 2000	3,000,000	
Allocation for FY 2000	573,000 1/	
Allocation through FY 2000	3,404,000	18
Allocation Requested for FY 2001	2,000,000	29
Programmed Balance to Complete after FY 2001	13,546,000	100
Unprogrammed Balance to Complete after FY 2001	0	

1/ Reflects $427,000 reduction assigned as savings and slippage and $2,000,000 reprogrammed from the project.

1353

SUMMARIZED FINANCIAL DATA (Continued)

STATUS: (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Construction not started	0	Being determined

PHYSICAL DATA: Construct channel 300 feet wide by 1,000 feet long by 9 feet deep.

JUSTIFICATION: There are no public port facilities to serve Jackson, Alabama on the Black Warrior-Tombigbee waterway between Mobile, 90 miles to the south and Demopolis, 127 miles to the north. The port facility would produce transportation savings to commodities currently moving in the Jackson area.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate Construction of Port and Bank Stabilization	$1,470,000
Planning, Engineering and Design	$ 300,000
Construction Management	$ 230,000
Total	$2,000,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resource Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, and Replacement Costs
Provide lands, easements, rights-of-way, and borrow and excavated or dredged material disposal areas.	$ 835,000	0
Pay 10 percent of the costs allocated to general navigation facilities during construction.	2,106,000	0
Pay 100 percent of the cost allocated to Berthing Area dredging (without credit)	409,000	0

1354

NON-FEDERAL COST: (Continued)

	Payments During Construction and Reimbursements	Annual Operation, Maintenance, and Replacement Costs
Reimburse an additional 10 percent of the costs of general navigation features allocated to commercial navigation within a period of 30 years following completion of construction, as partially reduced by a credit allowed for the value of lands, easements, rights-of-way, relocations, and dredged or excavated material disposal areas provided for commercial navigation.	$1,271,000	0
Total Non-Federal Cost	$4,621,000	0

STATUS OF LOCAL COOPERATION: Voters of Clarke County, Alabama, approved a State Constitutional Amendment in the general election on 4 November 1986 which allowed the city of Jackson, Alabama, to appoint a Port Authority. The Jackson Port Authority will be the local sponsor. A Project Cooperation Agreement is scheduled to be signed in October 2000.

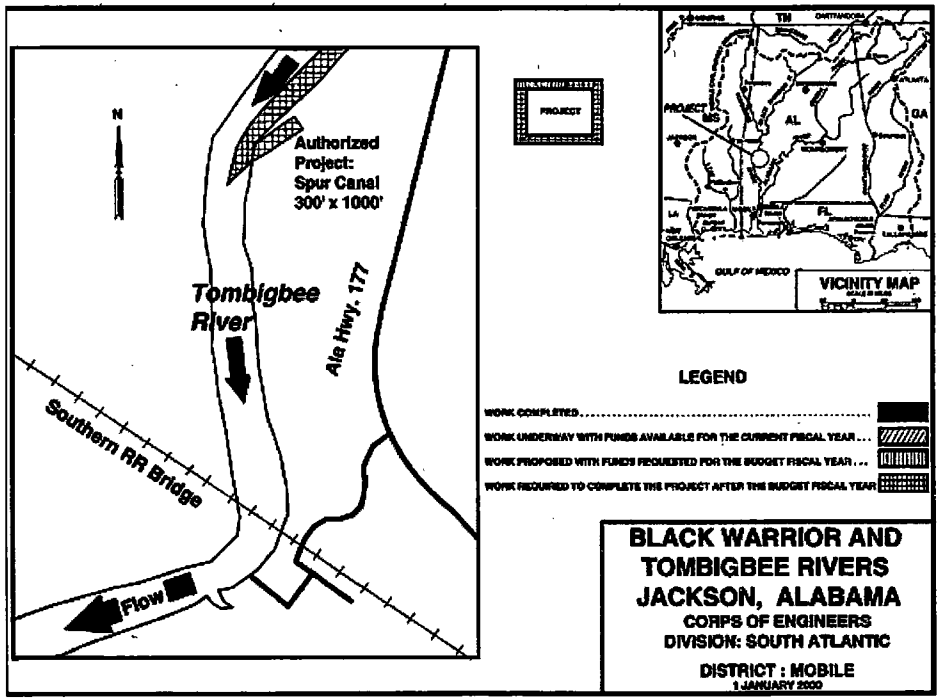
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps) cost estimate of $18,950,000 is an increase of $2,748,000 from the latest estimate ($16,102,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Additional Functions Added under General Authority	+$ 2,748,000
Total	+$ 2,748,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Final Environmental Impact Statement was filed with the Environmental Protection Agency in November 1999.

OTHER INFORMATION: Funds to initiate construction were appropriated in FY 1987. There are $3,049,000 of Fish and Wildlife Mitigation lands and associated facilities scheduled to be provided for the project.

1355


N
Authorized
Project:
Spur Canal
300' x 1000'
Tombigbee
River
Ala Hwy. 177
Southern RR Bridge
Flow
PROJECT
TN
MS
AL
GA
LA
FL
GULF OF MEXICO
VICINITY MAP
LEGEND
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR
BLACK WARRIOR AND
TOMBIGBEE RIVERS
JACKSON, ALABAMA
CORPS OF ENGINEERS
DIVISION: SOUTH ATLANTIC
DISTRICT : MOBILE
1 JANUARY 2000

APPROPRIATION: Construction, General - Channels and Harbors (Navigation)

PROJECT: Mobile Harbor Deepening, Alabama (Navigation), (Continuing)

LOCATION: The project is located in southwest Alabama and extends from the Gulf of Mexico through Mobile Bay to the mouth of Mobile River at the City of Mobile, Alabama, a distance of approximately 39.0 miles. Mobile Harbor is located in Mobile County, AL, approximately 150 miles east of New Orleans, LA, and 60 miles west of Pensacola, FL.

DESCRIPTION: The existing project also known as Phase I improvements completed in May 1990 provides for a 47 by 600 foot entrance channel for a distance of 6.1 miles, and a bay channel 45 by 400 feet from the mouth of the bay north for a distance of 31.2 miles to the McDuffie Coal terminal.

Phase I - Channel Extension, will extend the 45-foot by 400-foot navigation channel approximately 1300 linear feet to the north of its present position.

Authorized channel improvements known as Phase II (Remainder) provide for future development to deepen and widen entrance channel over the bar to 57 feet by 700 feet about 7.4 miles long, deepen and widen bay channel to 55 feet by 550 feet about 27.0 miles long, deepen and widen an additional 3.6 miles of bay channel to 55 feet by 650 feet and provide 55 foot deep anchorage area and turning basin in vicinity of Little Sand Island.

AUTHORIZATION: Supplemental Appropriations Act of 1985 and the Water Resources Development Act of 1986.

REMAINING BENEFIT-REMAINING COST RATIO: Non-applicable for Phase I because project construction is complete; 5.5 to 1 at 7 3/8 percent for Phase I extension; 2.0 to 1 at 7 1/8 percent for Remainder.

TOTAL BENEFIT-COST RATIO: 2.8 to 1 at 8 1/8 percent for Phase I; 5.5 to 1 at 7 3/8 percent for Phase I Extension; 2.0 to 1 at 7 1/8 percent for Remainder.

INITIAL BENEFIT-COST RATIO: 2.8 to 1 at 8 1/8 percent for Phase I (FY 1985); 5.5 to 1 at 7 3/8 percent for Phase I Extension (FY 1999); 2.0 to 1 at 7 1/8 percent for Remainder (FY 2000).

BASIS OF BENEFIT-COST RATIO:

Phase I - Benefits are from the General Design Memorandum dated August 1984 at October 1984 price levels.

Phase I (Extension) - Benefits are from the Limited Reevaluation Report prepared in May 1997 at October 1997 price levels.

Phase II (Remainder) - Benefits are from the General Design Memorandum dated August 1984 at October 1984 price levels.

SUMMARIZED FINANCIAL DATA

Estimated Appropriation Requirement (COE)		$ 331,021,000
Estimated Appropriation Requirement (USCG)		$ 4,333,000
Estimated Total Appropriation Requirement		$ 335,354,000
Future Non-Federal Reimbursement		$ 59,233,000
Estimated Federal Cost (Ultimate) (COE)		$ 276,121,000
Estimated Non-Federal Cost		$ 329,879,000
Cash Contributions	$261,311,000	
Other Costs	$ 9,335,000	
Reimbursements	$ 59,233,000	
Phase I	$ 3,772,000	
Phase I (Extension)	$ 78,000	
Phase II (Remainder)	$ 55,383,000	
Total Estimated Project Cost		$ 606,000,000

	ACCUM.	PCT. OF EST. FED. COST
Allocations to 30 September 1999	$29,364,000	
Conference Allowance of FY 2000	700,000	
Allocation for FY 2000	600,000 1/	
Allocation through FY 2000	29,964,000	9
Allocation Requested for FY 2001	499,000	9
Programmed Balance to Complete after FY 2001	300,558,000	100
Unprogrammed Balance to Complete after FY 2001		0

1/ Reflects $100,000 reduction assigned as savings and slippage.

STATUS: (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Phase I - Deepening	100	Sep 1994
Phase I Extension (1300')	0	Sep 2000
Remainder - Balance	0	Being determined
Entire Project	9	Being determined

PHYSICAL DATA:

Phase I (Complete) – Deepen entrance channel to 47 by 600 feet and deepen bay channel to 45 by 400 feet for a total distance of 37.3 miles.

Phase I (Extension) - extend 45 foot channel approximately 1,300 linear feet to the north of present location.

Phase II (Remainder) - deepen entrance channel from 47 by 600 to 57 by 700 feet and deepen bay channel from 45 by 400 to 55 by 550 feet.

JUSTIFICATION:

Phase I (Extension) - Officials of the Alabama State Docks requested that the 45-foot deep channel section be extended northward of McDuffie Island to accommodate ships of 900 feet in length, with beams of 140 feet, which require a 45-foot channel depth. This request reflects a desire to import iron ore and other dry, bulk materials such as limestone and coal to McDuffie Island and to industries located above McDuffie Island. In FY 1994, 45,000,000 tons of cargo passed through the port. Of this number over 14,000,000 tons were comprised of coal and lignite. Cost savings of $0.44 per ton will be realized with the completion of the channel extension. Average annual benefits to the navigation project are $578,800.

Phase II (Remainder) - Mobile Harbor is a leading harbor on the Gulf Coast, particularly with regard to coal shipments. Waterborne commerce for 1986 was a record 51 million tons. Presently, coal shipments average 14 million tons per year. Channel deepening and navigational improvement features are required to provide a safe and efficient harbor for the large coal vessels calling at the Port of Mobile. The capacity of the McDuffie Coal Handling Terminal is 25 million tons annually. U.S. Department of Energy's "Energy Information Administration's Coal Transport Model" suggest growth in coal shipments through the Port of Mobile over the next 20 years, from 14 to 19 million tons annually. Vessels that can economically utilize the existing Federal 45-foot channel have a carrying capacity of about 45,000 to 50,000 deadweight tons. With a 55-foot channel, vessels with carrying capacities of 145,000 to 150,000 deadweight tons can be economically utilized. This increase in carrying capacity results in a corresponding increase in economies of scale and savings in transportation costs. Transportation savings on coal exported to Europe of $5 to $6 per ton would be realized by using the larger vessels. Coal shipped to Japan in the larger vessels would realize a savings of about $16 per ton. Iron ore imported from Canada and Brazil could also be shipped more economically at savings of about $3 and $5.25 per ton, respectively. The average annual benefits are $133,484,000.

FISCAL YEAR 2001: The requested amount will be applied as follows.

Planning, Engineering & Design Phase II (Remainder)	$499,000
Total	$499,000

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NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the Non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual, Operation, Maintenance, and Replacement Costs
PHASE I		
Pay 25 percent of the costs allocated to general navigation facilities during construction	$9,430,000	0
Reimbursement of an additional 10 percent of the costs of general navigation features allocated to commercial navigation within a period of 30 years following completion of construction.	3,772,000	0
PHASE I (EXTENSION)		
Pay 25 percent of the costs allocated to general navigation facilities during construction.	195,000	0
Reimbursement of an additional 10 percent of the costs of general navigation features allocated to commercial navigation within a period of 30 years following completion of construction.	78,000	0

1360

	Payments During Construction and Reimbursements	Annual, Operation, Maintenance, and Replacement Costs
PHASE II (REMAINDER)		
Pay 25 percent of the costs allocated to general navigation facilities to a depth of 45 feet below mean low water.	25,229,000	0
Pay 50 percent of the costs allocated to general navigation facilities to a depth greater than 45 feet below mean low water.	226,457,000	0
Pay 50 percent of costs of incremental maintenance greater than 45 feet below mean low water.	0	1,300,000
Pay 100 percent of the costs allocated to berthing areas and mooring facilities (without credit).	9,335,000	0
Reimbursement of an additional 10 percent of the costs of general navigation features allocated to commercial navigation within a period of 30 years following completion of construction.	55,383,000	0
Total Non-Federal Costs	$329,879,000	$1,300,000

STATUS OF LOCAL COOPERATION: The Project Cooperation Agreement (PCA) for the Phase I Extension was executed on October 1, 1999. By letter dated May 29, 1998, the non-Federal sponsor, the Alabama State Docks, expressed their desire to proceed with implementation of the remainder of the authorized project. The sponsor understands the cost sharing requirements as identified in Water Resource Development Act of 1986.

COMPARISON OF FEDERAL COST ESTIMATE: The current Federal (COE) cost estimate of $ 331,021,000 at October 1999 price levels reflects an increase of $25,453,000 from the last estimate of $ 305,568,000 presented to Congress in FY 2000. This change includes the following items:

Item	Amount
Price Escalation on Construction features	+$25,453,000
Total	+$25,453,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: In accordance with the requirements of the National Environmental Policy Act (NEPA), the Final Environmental Impact Statement (FEIS), Mobile Harbor Channel Improvements, Mobile County, Alabama was filed with the Environmental Protection Agency(EPA)on May 22, 1981. The proposed action evaluated in this FEIS included the deepening of the main navigation channel to a depth of 55 feet at a width of 550 feet. The FEIS also documented the impacts associated with the disposal of about 141.2 million cubic yards of new work dredged material and all future maintenance material for the economic life of the project. A supplement to the FEIS, Final Environmental Impact Statement, Mobile Harbor, Alabama, Channel Improvements, Offshore Dredged Material Disposal was filed with the EPA on December 13, 1985. The Record of Decision (ROD) to designate two offshore disposal sites, Mobile-north and Mobile-south, for dredged material disposal was signed by the Division Engineer, South Atlantic Division, on May 13, 1986. This supplement to the FEIS evaluated the specific impacts of designation of two areas within the Gulf of Mexico for the purpose of receiving dredged material of suitable quality from the Mobile Harbor project and other navigation projects within the Mobile Harbor area. The FEIS, Supplement to the FEIS, and ROD were fully coordinated with the public and State and Federal agencies. The commenting agencies concurred with the recommended alternative as described in the FEIS and Supplement.

OTHER INFORMATION: Funds to initiate Preconstruction, Engineering and Design were appropriated in Fiscal Year 1982 and funds to initiate construction were appropriated in Fiscal Year 1985.

1362

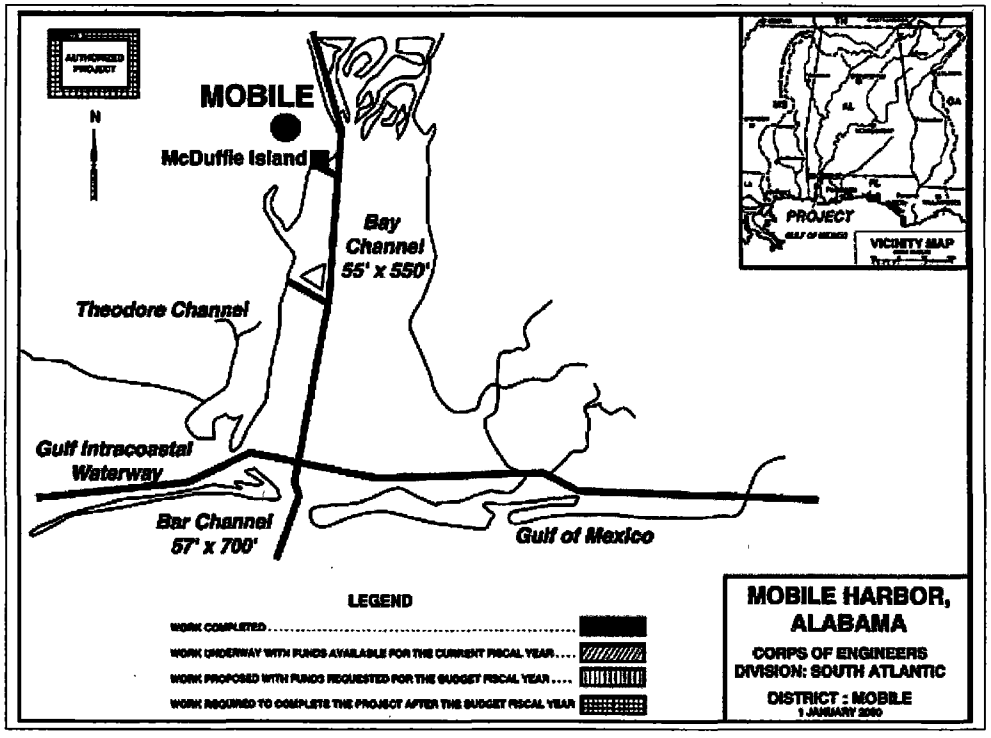
Summarized Financial Data for PHASE II (REMAINDER)

Estimated Appropriation Requirements (COE)		$302,146,000
Estimated Appropriation Requirements (USCG)		4,333,000
Estimated Total Appropriation Requirements		306,479,000
Future Non-Federal Reimbursement		55,383,000
Estimated Federal Cost (Ultimate)(COE)		246,763,000
Estimated Non-Federal Cost:		316,404,000
Cash Contributions	$251,686,000	
Other Costs	9,335,000	
Reimbursements	55,383,000	
Total Estimated Project Cost		$567,500,000

Remaining Benefit-Remaining Cost Ratio: 2.0 to 1 at 7 1/8 percent.

Total Benefit-Cost Ratio: 2.0 to 1 at 7 1/8 percent.

1363


AUTHORIZED PROJECT
N
MOBILE
McDuffie Island
Bay Channel 55' x 550'
Theodore Channel
Gulf Intracoastal Waterway
Bar Channel 57' x 700'
Gulf of Mexico
PROJECT
VICINITY MAP
LEGEND
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR
MOBILE HARBOR, ALABAMA
CORPS OF ENGINEERS
DIVISION: SOUTH ATLANTIC
DISTRICT : MOBILE
1 JANUARY 2000

APPROPRIATION TITLE: Construction, General - Navigation

PROJECT: Canaveral Harbor, Florida (Resumption)

LOCATION: Canaveral Harbor is located in Brevard County on the shore of Cape Canaveral in an area known as Canaveral Bight.

DESCRIPTION: The project provides for a 44-foot entrance channel, 35-foot turning basin, 12-foot barge channel, 400 foot lock, a sand bypassing system, and south jetty extension of 500 feet.

AUTHORIZATION: The present project is in Senate Document No. 140, 87th Congress, 2nd Session and was authorized by the Rivers and Harbor Act of 23 October 1962 (Public Law 87-874).

REMAINING BENEFIT-REMAINING COST RATIO: 1.7 to 1 at 6 7/8 percent.

TOTAL BENEFIT-COST RATIO: 1.7 to 1 at 2 7/8 percent.

INITIAL BENEFIT-COST RATIO: 1.7 to 1 at 2 7/8 percent (FY1964)

BASIS OF BENEFIT-COST RATIO: Benefits are included in the Canaveral Harbor, Florida General Reevaluation Report completed in December 1992 at November 1992 price level.

SUMMARIZED FINANCIAL DATA			ACCUM. PCT OF EST FED COST
Estimated Federal Cost		$ 133,750,000	
Estimated Non-Federal Cost		4,950,000	
Cash Contributions	$ 398,000		
Other Costs	4,552,000		
Total Estimated Project Cost		$ 138,700,000	
Allocations to September 1999		33,527,000	
Conference Allowance for FY 2000		2,750,000	
Allocation for FY 2000		2,358,000 1/	
Allocation through FY 2000		35,885,000	27
Allocation Requested for FY 2001		847,000	28
Programmed Balance to Complete After FY 2001		97,018,000	
Unprogrammed Balance to Complete After FY 2001		0	

1/ Reflects $392,000 reduction assigned as savings and slippage.

STATUS (1 January 2000)	PCT COMPL	PHYSICAL COMPLETION SCHEDULE
Locks	100	Mar 1966
Channels & Canals		
Barge Canal	100	Aug 1965
Harbor Ext. Mi 1.2 To Mi 1.5	100	Sep 1974
Harbor Ext. Mi 1.5 to Mi 2.3 incl Mitigation	100	Jun 1992
Breakwaters and Seawalls		
Jetty Extension	66	Sep 2000
Beach Replenishment		
Sand Transfer System	13	To be determined
Entire Project	28	To be determined

Division: South Atlantic District: Jacksonville Canaveral Harbor, FL

7 February 2000

PHYSICAL DATA

Entrance Channel	44-foot Depth
Turning Basin	35-foot Depth
Barge Channel	12-foot Depth
Lock	400-foot Length
Jetty Extension	500 Feet
Sand Transfer System	

JUSTIFICATION: Development and operation of the Rocket-Launching Facility on Cape Kennedy and the development of Patrick Air Force Base, 10 miles south of Canaveral Harbor, and tracking stations on islands offshore have resulted in a population increase in the tributary area from 162,000 in 1940 to about 570,000 in 1980. During the 1960's, there was a major expansion of the Rocket-Launching Facility on Cape Kennedy to accommodate the space program. Commerce for the harbor was 2,175,000 tons in 1987.

The mitigation project completed the western harbor extension. The sand transfer system would reduce the required maintenance dredging of the Canaveral Harbor navigation project by approximately 106,000 cubic yards on an annual basis. In addition, material placed on the beach by the sand transfer system will prevent the loss of 136,000 square feet over a length of 2.8 miles due to erosion. Average annual benefits are:

Annual Benefits	Amount
Reduction of Maintenance	$ 600,000
Storm Damage Prevention	819,000
Loss of Land	535,000
Total Average Annual Benefits	$ 1,954,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Lands	$ 49,000
Complete South Jetty Extension	344,000
Planning, Engineering, and Design	454,000
Total	$ 847,000

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NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide 1.4 percent of the costs allocated to deepening of the West Turning Basin.	$ 398,000	0
Provide lands, easements, rights of way, and dredged material disposal areas.	4,552,000	0
Total Non-Federal First Cost	$ 4,950,000	0

STATUS OF LOCAL COOPERATION: The local sponsor is the Canaveral Port Authority. A Project Cooperation Agreement was executed in March 1994.

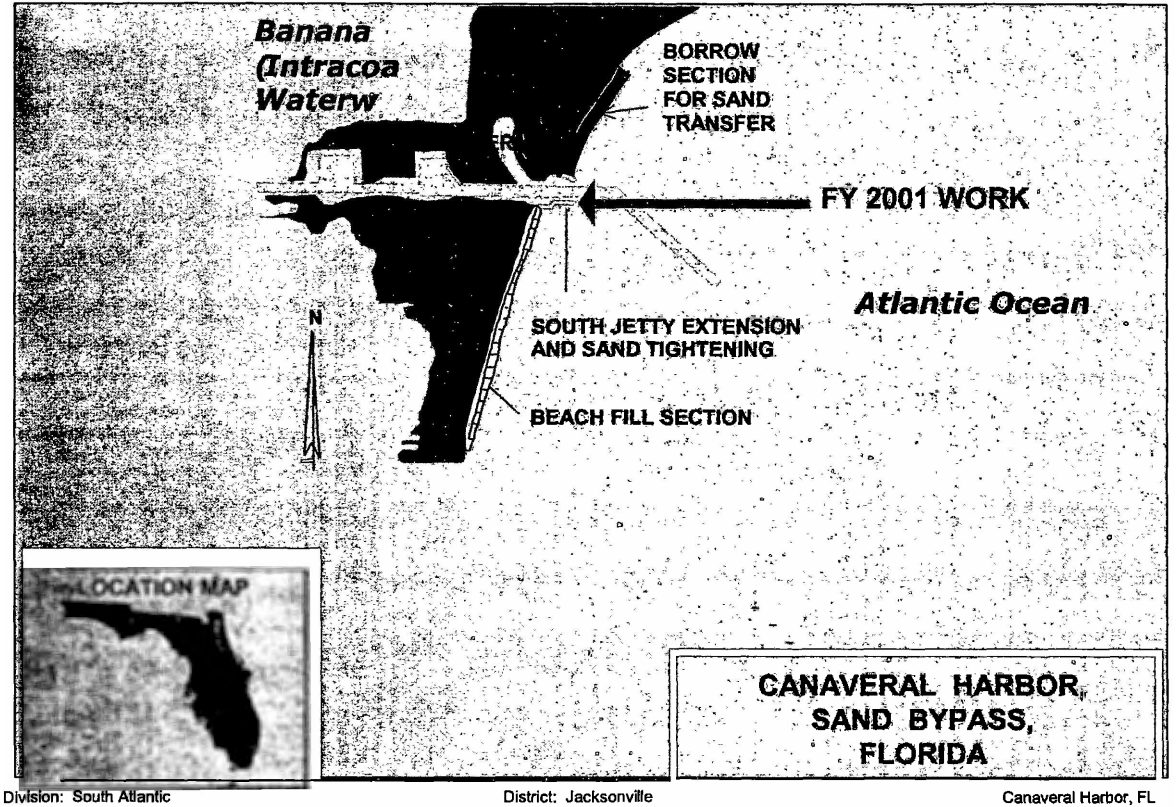
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $133,750,000 is an increase of $9,280,000 from the latest estimate ($124,470,000) presented to Congress (FY 1999). This change includes the following:

Item	Amount
Price Escalation on Construction Features	$ 9,280,000
Total	$ 9,280,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An Environmental Assessment with a Finding of No Significant Impact was completed in May 1993.

OTHER INFORMATION: Funds to initiate construction were appropriated in FY 1964. Schedule was established by a Congressional add in FY 1994 Appropriation Bill. The jetty extension and initial sand bypassing were completed in FY 1995. However, strong storms in the area have caused significant damage to the jetty head. Additional funds were received to repair the jetty, and to pursue a temporary sand tightening of the north jetty. Temporary sand tightening of north jetty was completed in fiscal year 1998. A permanent solution to the north jetty will be investigated. Sand bypassing will be accomplished periodically.

1367


Banana
(Intracoa
Waterw
BORROW
SECTION
FOR SAND
TRANSFER
FY 2001 WORK
Atlantic Ocean
N
SOUTH JETTY EXTENSION
AND SAND TIGHTENING
BEACH FILL SECTION
LOCATION MAP
CANAVERAL HARBOR,
SAND BYPASS,
FLORIDA

APPROPRIATION TITLE: Construction, General - Channels and Harbors (Navigation)

PROJECT: Manatee Harbor, Florida (Continuing)

LOCATION: Manatee Harbor is located in Manatee County on the east side of Tampa Bay 10 miles from the Gulf of Mexico. The channel extends from the main ship channel approximately 3 miles to Port manatee.

DESCRIPTION: The project provides maintenance of the existing 40-foot deep channel and turning basin and provides for construction of a widener at the northwest end of the channel and enlargement of the turning Basin area.

AUTHORIZATION: The Water Resources Development Act of 1986 and the Water Resources Development Act of 1990.

REMAINING BENEFIT-REMAINING COST RATIO: 2.6 to 1 at 6 7/8 percent.

TOTAL BENEFIT-COST RATIO: 2.9 to 1 at 8 7/8 percent.

INITIAL BENEFIT-COST RATIO: 1.5 to 1 at 8 7/8 percent (FY 1988)

BASIS OF BENEFIT-COST RATIO: Benefits are included in the Manatee Harbor, Florida Limited Re-evaluation Report completed in March 1993 (revised January 1994) at December 1994 price level.

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS: (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost (CoE)		$ 25,185,000				
Estimated Federal Cost (USCG)		15,000				
Estimated Non-Federal Cost		12,300,000		Channels & Canals		
Cash Contribution	$ 9,194,000			Main Channels &		
Other	3,106,000			Turning Basin		
Total Estimated Project Cost		$ 37,500,000		Phase I	100	Dec 1996
				Phase II	10	Dec 2001
Allocations to 30 September 1999		6,069,000				
Conference Allowance for FY 2000		4,700,000		Entire Project	26	To be determined
Allocations for FY 2000		545,000	1/			
Allocations through FY 2000		6,614,000	26			
Allocations Requested for FY 2001		10,828,000	72			
Scheduled Balance to Complete After FY 2001		7,743,000				
Unscheduled Balance to Complete After FY 2001		0				

1/ FY 2000 allocation reflects $669,000 assigned as savings and slippage and $3,486,000 reprogrammed from the project.

Division: South Atlantic | District: Jacksonville | Manatee Harbor, FL

PHYSICAL DATA

Provide for maintenance of the existing 40-foot deep draft navigation channel and turning basin extending from the Tampa Bay Channel to Port Manatee. Initial construction of a widener at the northwest end of Manatee Harbor Channel and deepening of 6.6 acres to provide a larger turning basin. An 11.5 acre emergent island will be created as mitigation for the deepening.

JUSTIFICATION: In less than 9 years, Port Manatee became the major Non-Federal port in Florida. The Port is now and is expected to remain as a bulk commodity port which services deep draft vessels. The manatee Port Authority continues to develop facilities in an on-going effort to attract waterborne interests. Shoaling in the channel has restricted vessel loadings resulting in increased transportation costs. The existing wideners and turning basin are not adequate for safe navigation. The project improvements would remedy those problems and help expand the economic base of the surrounding area. Estimated average annual benefits are as follows:

Annual Benefits	Amount
Deep Draft Navigation	$ 7,654,000
TOTAL	$ 7,654,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate Turning Basin Dredging	$ 6,974,000
Complete Disposal Area Dikes	3,414,000
Planning, Engineering, & Design	(130,000)
Construction Management	570,000
TOTAL	$10,828,000

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NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, and rights of way, and dredged material disposal Areas before WRDA of 1996.	$ 3,106,000	
Pay 25 percent of the costs allocated to deep draft navigation and dredged Material disposal areas during construction.	8,355,000	
Reimburse and additional 10 percent of the costs of general navigation features Allocated to commercial navigation within a period of 30 years following completion Of construction as reduced by a credit allowed for the value of lands, easements, Rights of way, relocations, and dredged or excavated material disposal areas Provided for commercial navigation before WRDA of 1996.	0	
Pay 100% of the costs associated with dredging berthing areas and mitigation Provisions.	839,000	
Total Non-Federal Cost	$ 12,300,000	

STATUS OF LOCAL COOPERATION: The Port Manatee Authority strongly supports this project. A Project Cooperation Agreement was executed in March 1995. An Amendment to this is scheduled to be executed in October 2000.

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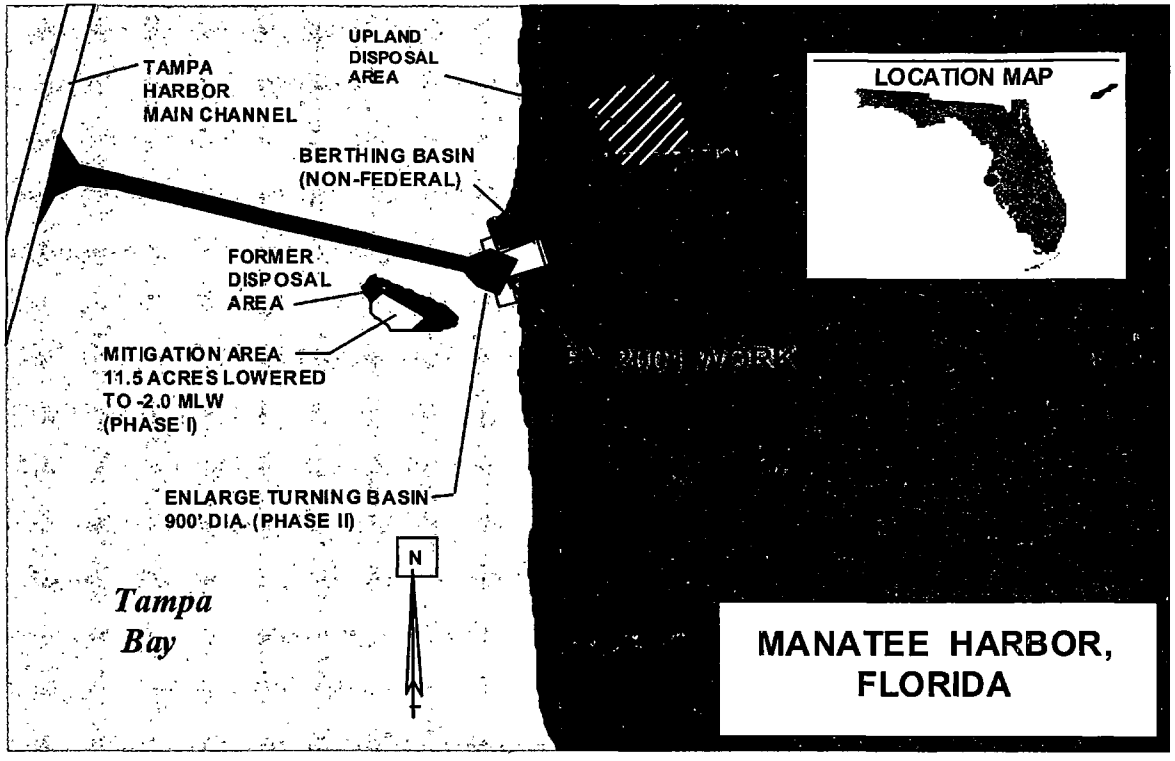
COMPARISON OF FEDERAL COST ESTIMATE: The current Federal (Corps of Engineers) cost estimate of $25,185,000 is an increase of $5,300,000 from the latest cost estimate of $19,885,000 submitted to Congress (FY 2000). This change includes the following:

Item	Amount
Price Escalation on Construction Features	$ 504,000
Schedule Changes	473,000
Cost Sharing Change mandated by WRDA 1996	4,323,000
Total	$ 5,300,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Environmental Assessment and the Finding of No Significant Impact (FONSI) were signed on April 3, 1992.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1982 and funds to initiate construction were appropriated in FY 1988. A PAC was approved in November 1990 and an LRR was approved in July 1994. A GRR is scheduled for completion in March 2000. The current scheduled completion date for the programmed work is December 2001. The dredging is being completed in two phases. Phase I was completed in December 1996 and the second phase currently scheduled for completion in December 2001.

1372



Division: South Atlantic

District: Jacksonville

Manatee Harbor, FL

7 February 2000

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APPROPRIATION TITLE: Construction, General - Channels and Harbors (Navigation)

PROJECT: Miami Harbor Channel, Florida (Continuing)

LOCATION: Miami Harbor is located in Biscayne Bay, a shallow salt water sound on the Atlantic Coast near the southern end of the Florida Peninsula.

DESCRIPTION: The project provides for construction and maintenance of a 44 feet deep entrance channel, 42 feet deep interior channels, and a turning basin with a depth of 42 feet and a diameter of 1,600 feet located at the Dodge-Lummus Island intersection.

AUTHORIZATION: Water Resources Development Act of 1990.

REMAINING BENEFIT-REMAINING COST RATIO: 1.5 to 1 at 6 7/8 percent.

TOTAL BENEFIT-COST RATIO: 1.5 to 1 at 8 7/8 percent.

INITIAL BENEFIT-COST RATIO: 1.5 to 1 at 8 7/8 percent (FY 1992)

SUMMARIZED FINANCIAL DATA			ACCUM. PCT. OF EST. FED. COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Appropriation Requirement (CoE)		$ 49,059,000				
Estimated Appropriation Requirement (USCG)		141,000		Channels		
Estimated Total Appropriation Requirement		49,200,000		Phase I	100	Aug 1994
Estimated Non-Federal Cost		37,700,000		Phase II	5	Dec 2001
Cash Contributions	$ 26,480,000					
Other Costs	11,220,000			Entire Project	52	To be determined
Total Estimated Project Cost		$ 86,900,000				
Allocations to 30 September 1999		20,046,000		PHYSICAL DATA		
Conference Allowance for FY 2000		12,864,000				
Allocation for FY 2000		574,000 1/		Dredging 5,950 cubic yards		
Allocations through FY 2000		20,620,000	42			
Allocation Requested for FY 2001		6,591,000	56			
Programmed Balance to complete after FY 2001		21,848,000				
Unprogrammed Balance to Complete after FY 2001		0				

1/ Reflects $2,136,000 reduction assigned as savings and slippage and $12,290,000 reprogrammed from the project.

JUSTIFICATION: The port is the largest cruise ship terminal in the world as well as a major commercial harbor in Florida. Over 2.5 million passengers and 2.4 million tons of cargo passed through the harbor in 1986. Additionally, expansion of the port facilities has been occurring over the past several years. The June 1989 Feasibility Report identified problems with inadequate channel depths for deep draft navigation, an inadequate turning basin for vessels calling at Lummus/Dodge Island, and inadequate channel widths in the bar cut turn and in Government cut. Average annual benefits are as follows:

Annual Benefits	Amount
Navigation	
General Commercial	$ 9,184,000
Total	$ 9,184,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Funds will be used to reimburse sponsor	$ 6,591,000
Total	$ 6,591,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction And Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights of way, and dredged material Disposal areas.	$ 61,000	
Modify or relocate utilities, roads, bridges, and other facilities, where Necessary for the construction of the project.	2,603,000	
Pay 35 percent of the costs or 100% of the unapproved costs allocated To deep draft navigation during construction.	32,487,000	
Pay 100% of the costs associated with dredging berthing areas.	2,549,000	
Total Non-Federal Cost	$ 37,700,000	

STATUS OF LOCAL COOPERATION: The local sponsor is the Miami Port Authority. The Port Authority awarded the Phase II contract in September 1994. An agreement for reimbursement under Section 204(e) of the Water Resources Development Act of 1986 was executed on 1 November 1991.

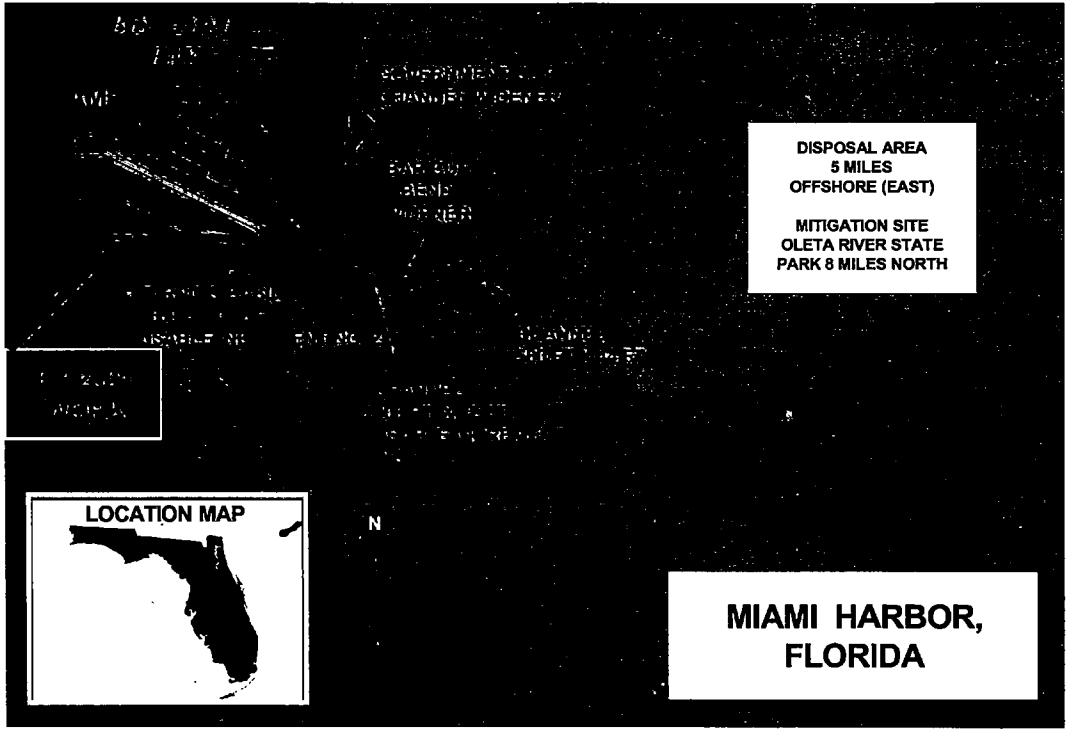
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps) cost estimate of $49,059,000 is an increase of $1,493,000 from the latest estimate of $47,566,000 presented to Congress (FY 2000). This change includes the following:

Item	Amount
Escalation	$ 1,486,000
Schedule Change	7,000
Total	$ 1,493,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Final Environmental Impact Statement and Section 404(b)(1) report were filed with EPA on 22 September 1991.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1989. Funds to initiate construction were appropriated in FY 1992. Phase I of the project was completed in August 1994. The scheduled completion date was revised to December 2001, because the project experience delays due to contractor's inability to perform the work.

1376



Division: South Atlantic | District: Jacksonville | Miami Harbor Channel, FL

7 February 2000

APPROPRIATION TITLE: Construction, General - Channels and Harbors (Navigation)

PROJECT: Palm Valley Bridge, Florida (Continuing)

LOCATION: Palm Valley Bridge is located over the Intracoastal Waterway on State Road 210 in St. Johns County, Florida.

DESCRIPTION: The project provides for the replacement of the existing Palm Valley Bridge with a new high level bridge that is fixed for navigation. Additional roadway construction will be required because of the new bridge alignment. The old bridge will be removed and the intracoastal waterway in the vicinity of the old bridge will be dredged to its authorized dimensions.

AUTHORIZATION: Water Resources Development Act of 1996.

REMAINING BENEFIT-REMAINING COST RATIO: 1.6 to 1 at 6 7/8 percent.

TOTAL BENEFIT-COST RATIO: 1.4 to 1 at 7 3/8 percent.

INITIAL BENEFIT-COST RATIO: 1.5 to 1 at 7 3/8 percent (FY 1999)

BASIS OF BENEFIT-COST RATIO: Benefits are from the March 1994 Feasibility Report at October 1994 price levels.

SUMMARIZED FINANCIAL DATA		ACCUM. PCT. OF EST. FED COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost	$ 18,700,000		Entire Project	16	To be determined
Estimated Non-Federal Cost	7,200,000				
Total Estimated Project Cost	$ 25,900,000		PHYSICAL DATA		
Allocations to 30 September 1999	2,067,000		Construction high level fixed bridge for navigation		
Conference Allowance for FY 2000	6,000,000				
Allocation for FY 2000	3,772,000 1/				
Allocation through FY 2000	5,839,000	31			
Allocation requested for FY 2001	4,000,000	53			
Programmed Balance to Complete after FY 2001	8,861,000				
Unprogrammed Balance to Complete after FY 2001	0				

1/ Reflects a reduction of $854,000 assigned as savings and slippage and $1,374,000 reprogrammed from the project.

JUSTIFICATION: The Palm Valley Bridge is a Federal bascule bridge over the Intracoastal Waterway on State Road 210 in St. johns County, Florida, and was constructed as a part of a land-cut for the Intracoastal Waterway. The bridge is maintained at Federal expense, and serves vehicular traffic using a two-lane paved secondary road that is a major hurricane evacuation route. The county is concerned that the structural constraints of the bridge, compounded by growth projections, makes this structure inadequate for current and projected usage. This bridge is situated in an area that could experience a major disaster due to storms and hurricane conditions. The risk and uncertainty of an outdated bridge that cannot handle current or future traffic demands poses a grave threat to public health and welfare. Average annual benefits are as follows:

Annual Benefits	Amount
Transportation	$ 866,000
Total	$ 866,000

FISCAL YEAR 2001: The requested amount will be used as follows:

Continue Bridge Construction	$ 3,450,000
Planning, Engineering, and Design	50,000
Construction Management	500,000
Total	$ 4,000,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1996, the non-Federal sponsor must comply with the requirements listed below:

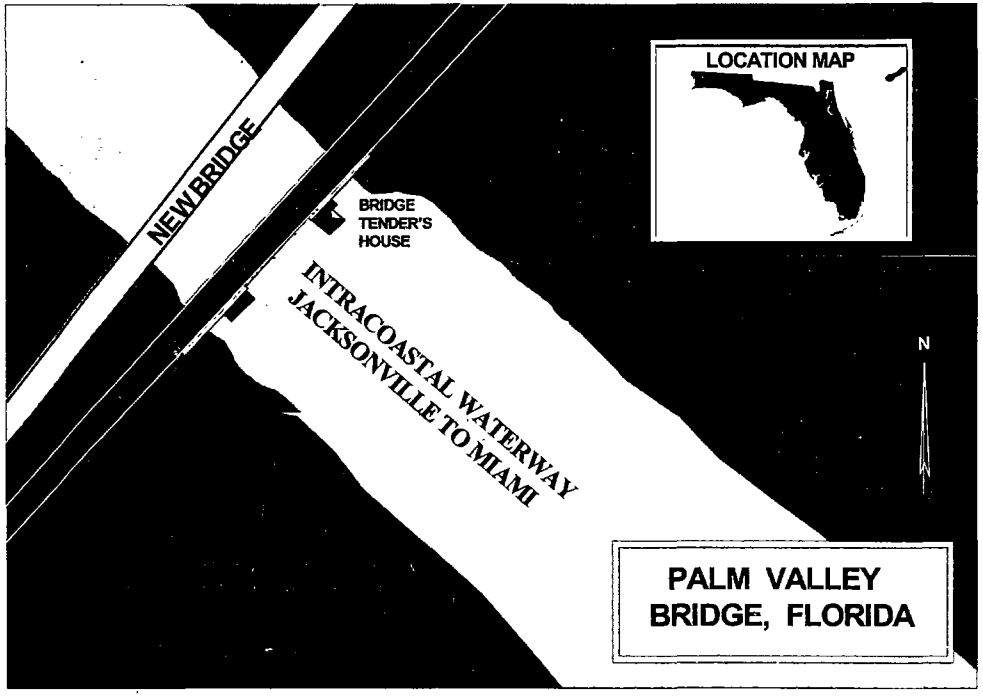
Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Pay all costs allocated to construction of additional two-lanes for bridge.	$ 7,200,000	$ 75,000
Total Non-Federal Costs	$ 7,200,000	$ 75,000

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $18,700,000 has not changed from the latest estimate ($18,700,000) presented to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Finding of No Significant Impact (FONSI) was signed march 14,1994, and the Environmental Assessment has been coordinated with all necessary federal, state, and local agencies.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1994. Funds to initiate construction were appropriated in FY 1999. Construction is scheduled for completion in September 2002. Project sponsor has agreed to fund an additional two-lanes, making the bridge a four-lane bridge. This is being considered a project betterment.

1380


LOCATION MAP
NEW BRIDGE
BRIDGE TENDER'S HOUSE
INTRACOASTAL WATERWAY
JACKSONVILLE TO MIAMI
N
PALM VALLEY
BRIDGE, FLORIDA

APPROPRIATION: Construction, General - Channels and Harbors (Navigation)

PROJECT: Panama City Harbor, Florida (Continuing)

LOCATION: Panama City Harbor project is located in the northwest Florida panhandle on St. Andrew Bay, at Panama City, in Bay County, Florida, about 105 miles east of Pensacola, Florida.

DESCRIPTION: The proposed plan of improvement consists of deepening the Approach Channel to 42 feet in the gulf and to 40 feet across Lands End and into the bay to intersect with a 7-mile channel 38 feet deep and 300 feet wide from Dyers Point to Bay Harbor. The plan also includes turning basins at Dyers Point and Bay Harbor of 55 acres and 42 acres, respectively, also to a depth of 38 feet, and a 177-acre anchoring and loading basin for LASH-type intermodal carriers, 40 feet deep, near the inner end of the main entrance channel.

Phase I, which is a separable element of the project, consists of deepening the existing Gulf Channel from 34 feet to 38 feet; deepening the Inner Bay Channel from 32 feet to 36 feet; and constructing a new 36 feet deep branch channel from the Inner Bay Channel to Dyers Point with a turning basin area of 55 acres along the existing southern bulkhead at Dyers Point. The total length of the proposed project channel is about 8.3 miles. In addition, to provide the design dimensions of the navigation channel throughout the 2-year maintenance cycle, two sediment trap basins will be constructed inside the Gulf Approach Channel. Phase I is programmed work.

The remaining portion of the project is unprogrammed.

AUTHORIZATION: Section 201 of the Flood Control Act of 1965.

REMAINING BENEFIT-REMAINING COST RATIO: 1.6 to 1 at 7 1/8 percent for Phase I.

TOTAL BENEFIT-COST RATIO: 1.04 to 1 at 7 1/8 percent for Phase I.

INITIAL BENEFIT-COST RATIO: 1.04 to 1 at 7 1/8 percent for Phase I (FY 2000).

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluation, which is contained in the General Reevaluation Report (GRR) approved in August 1995 at October 1994 price levels.

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OF EST
SUMMARIZED FINANCIAL DATA

					ACCUM PCT FED COST
Estimated Appropriation Requirements (COE)		$ 25,449,000		Allocation to 30 September 1999	$ 2,407,000
Programmed Construction		$ 6,758,000		Conference Allowance for FY 2000	250,000
Unprogrammed Construction		18,691,000		Allocation For FY 2000	214,000 1/
Estimated Appropriation Requirement (U.S.C.G)			221,000	Allocation Through FY 2000	2,621,000 10
Programmed Construction		96,000		Allocation Requested for FY 2001	706,000 13
Unprogrammed Construction		125,000		Programmed Balance to Complete after FY 2001	3,431,000 27
Estimated Total Appropriation Requirement			25,670,000	Unprogrammed Balance to Complete after FY 2001	18,691,000 100
Programmed Construction		6,854,000			
Unprogrammed Construction		18,816,000			
Future Non-Federal Reimbursement slippage.			2,753,000		
Programmed Construction		583,000			
Unprogrammed Construction		2,170,000			
Estimated Federal Cost (Ultimate)(COE)			22,696,000		
Programmed Construction		6,175,000			
Unprogrammed Construction		16,521,000			
Estimated Non-Federal Cost					
Programmed Construction		3,360,000	12,083,000		
Cash Contributions	2,253,000				
Other Costs	524,000				
Reimbursements	583,000				
Unprogrammed Construction		8,723,000			
Cash Contributions	6,231,000				
Other	322,000				
Reimbursement	2,170,000				
Total Estimated Programmed Construction Cost		9,631,000			
Total Estimated Unprogrammed Construction Cost		25,369,000			
Total Estimated Project Cost		$35,000,000			

1/ Reflects $36,000 reduction assigned as savings and

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SUMMARIZED FINANCIAL DATA (Continued)

STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Phase I Construction (Not started)	0	Being determined
Remainder	0	Unscheduled
Entire Project	0	Unscheduled

PHYSICAL DATA

CHANNELS: Deepen the Gulf Approach Channel from 34 feet to 38 feet at existing width of 450 feet. Deepen the Inner Bay Channel from 32 feet to 36 feet at existing width of 300 feet. Extend Inner Bay Channel at 38 feet deep and 300 feet wide to Dyers Point Terminal, and construct a new turning basin area of about 55 acres to a depth of 36 feet. Construct two new sediment trap basins. The deep draft ship channel will be 8.3 miles in length.

JUSTIFICATION: Panama City Harbor is located on the Gulf Coast at Panama City, Florida in Bay County. Between 1982 and 1992 total commerce increased from 1.6 million tons to 2.7 millions tons. Major commodities include coal, petroleum products, iron and steel, pulp and paper, and other wood products.

The primary beneficiary of a deeper channel is expected to be Plant Smith, a coal fired steam powered electric generating plant owned by Gulf Power Company which is located near Panama City. This plant currently burns about 1,000,000 tons of coal annually. Due to the recent passage of the Clean Air Act, Plant Smith must reduce sulfur emissions by the year 2000. It is anticipated that this will be accomplished by importing about 884,500 tons worth of low sulfur coal from Venezuela and Columbia, South America each year. These imports will occur in dry bulk carriers drafting approximately 34 feet. The remaining 115,500 tons of coal used at the plant will be higher in sulfur and will be barged in from domestic sources. Other commodities such as pulp and paper, iron and steel, and other wood products are also expected to utilize the deepened channel at Panama City. Vessel operators are expected to continue the current practice of maintaining 4 feet of underkeel clearance in the entrance channel and 2 feet of underkeel clearance in the harbor channel.

Average annual commercial navigation benefits are expected to amount to $937,600.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Planning, Engineering and Design	$ 706,000
Total	$ 706,000

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NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the Non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Separable Element Phase I		
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$ 318,000	$ 0
Pay 25% of the costs allocated to general navigation facilities during construction.	2,253,000	0
Reimburse an additional 10 percent of the costs of general navigation features allocated to commercial navigation within a period of 30 years following completion of construction, as partially reduced by a credit allowed for the value of lands, easements, rights-of-way, relocations, and dredged or excavated material disposal areas provided for commercial navigation.	583,000	0
Pay 100 percent of the cost allocated to berthing area dredging (without credit).	$ 206,000	0

1385

	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Remainder		
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$ 243,000	$ 0
Pay 25% of the costs allocated to general navigation facilities during construction.	6,231,000	0
Reimburse an additional 10 percent of the costs of general navigation features allocated to commercial navigation within a period of 30 years following completion of construction, as partially reduced by a credit allowed for the value of lands, easements, rights-of-way, relocations, and dredged or excavated material disposal areas provided for commercial navigation.	2,170,000	0
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	79,000	0
Total Non-Federal Cost	$12,083,000	0

The Non-Federal sponsor has also agreed to make all required payments concurrentiy with project construction and reimburse its share of construction costs within a period of 30 years following completion of construction.

STATUS OF LOCAL COOPERATION:

The Non-Federal sponsor is the Panama City Port Authority at Panama City, Florida. The Panama City Port Authority provided a Letter of Intent on 14 June 1989 to sponsor construction. The Project Cooperation Agreement is scheduled to be signed in Jan 2002. The sponsor will provide berthing areas valued at $206,000 and lands and damages valued at $318,000 for Phase I.

On 29 May 1997, Florida Seaports Transportation Economic Development Council approved the Panama City Harbor Deep Draft Navigation Project which was submitted for funding. These trust funds will aid the non-Federal sponsor in meeting their share of the project in FY 1999.

COMPARISON OF FEDERAL COST ESTIMATE: The current Federal (Corps) cost estimate of $25,449,000 is the initial estimate presented to Congress.

1386

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: In accordance with the requirements of the National Environmental Policy Act, a Draft Environmental Impact Statement (DEIS) for the entire Panama City Harbor navigation project was filed with the President's Council on Environmental Quality December 10, 1975. The DEIS was coordinated with all applicable Federal, state and local agencies and the interested public. In addition an Environmental Assessment (EA) and Finding Of No Significant Impact (FONSI) was prepared to address any potential impacts associated with the nearshore littoral zone placement area. The EA and FONSI were signed January 27, 1994.

An EA and FONSI addressing potential impacts associated with the proposed channel improvements was prepared and coordinated. The EA and FONSI addressed impacts associated with the construction of a 38-foot deep, 450-foot wide Gulf Approach Channel, which narrows to a 300-foot width about halfway through the inlet throat, and a 36-foot deep channel within the St. Andrew Bay to Dyers Point Terminal and the placement of approximately 1.3 million cubic yards of dredged material from the channel located in St. Andrew Bay.

The EA also addressed impacts associated with the construction of two sediment basins and maintenance dredging and placement activities for the Gulf Approach Channel, inner channel and sediment basins. This included the proposed placement of material from these channels on a designated section of the St. Andrews State Park Beach and/or the nearshore littoral zone and/or the Gator Lake Placement area. The EA addressed impacts associated with the construction of a 1000-foot wide turning basin at Dyers Point Terminal and the deepening of the Dyers Point Terminal Channel. Material dredged from the channel would be placed in deeper waters of the channel utilizing either a hydraulic cutterhead dredge with submerged pipeline discharge or water injection dredging. The EA and FONSI were signed May 18, 1995.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1990. Funds to initiate construction will be appropriated in Fiscal Year 2000.

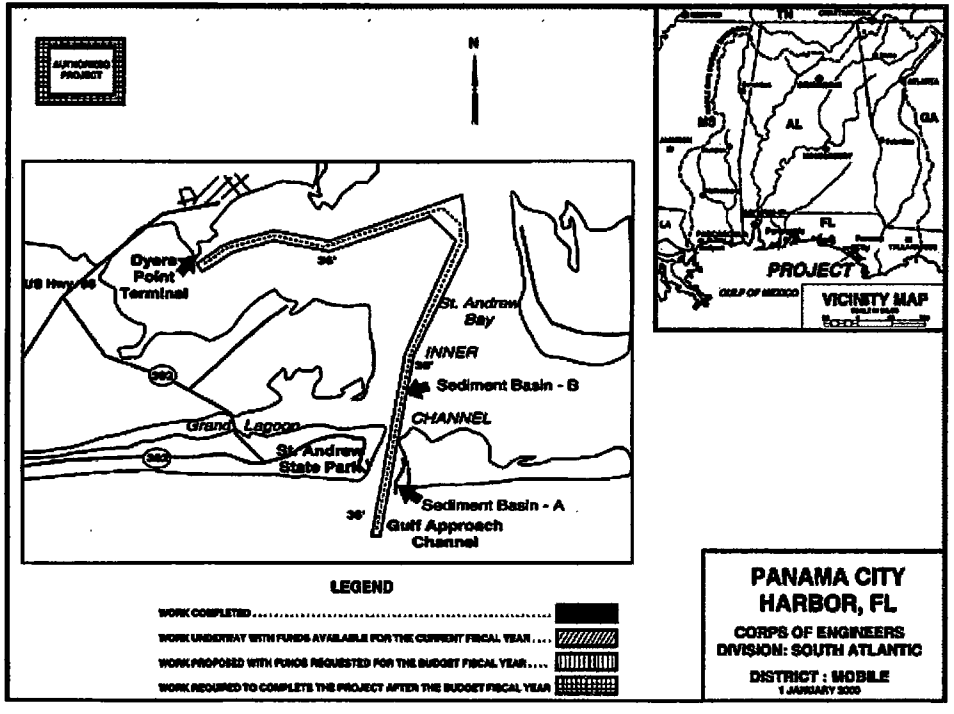
SUMMARIZED FINANCIAL DATA FOR PHASE I:

Estimated Appropriation Requirements (COE)		$6,758,000
Estimated Appropriation Requirements (U.S.C.G.)		96,000
Estimated Total Appropriation Requirements		6,854,000
Future Non-Federal Reimbursement		583,000
Estimated Federal Cost (Ultimate)(COE)		6,175,000
Estimated Non-Federal Cost		3,360,000
Cash Contributions	$2,253,000	
Other Costs	524,000	
Reimbursements	583,000	
Total Estimated Project Cost		$9,631,000

REMAINING BENEFIT-REMAINING COST RATIO: 1.6 to 1 at 7 1/8 percent.

TOTAL BENEFIT-COST RATIO: 1.04 to 1 at 7 1/8 percent.

1987


AUTHORIZED PROJECT
N
Dyers Point Terminal
US Hwy 98
36'
St. Andrew Bay
INNER
Sediment Basin - B
CHANNEL
Grand Lagoon
St Andrew State Park
Sediment Basin - A
36'
Gulf Approach Channel
LEGEND
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR
TN
MS
AL
GA
FL
LA
PROJECT
GULF OF MEXICO
VICINITY MAP
PANAMA CITY HARBOR, FL
CORPS OF ENGINEERS
DIVISION: SOUTH ATLANTIC
DISTRICT : MOBILE
1 JANUARY 2000

1388

APPROPRIATION TITLE: Construction, General - Channels and Harbors (Navigation)

PROJECT: Lower Savannah River Basin, Georgia and South Carolina (Continuing)

LOCATION: The Lower Savannah River Basin Environmental Restoration project area is located on the Savannah River between river mile 40.9 and river mile 42.0, approximately 20 river miles above the city of Savannah, Georgia. The project area itself is located within Effingham County, Georgia and Jasper County, South Carolina. A portion of the project is within the Federal Savannah National Wildlife Refuge.

DESCRIPTION: The project includes construction of a partial diversion structure at the entrance to navigation cut #3 and cutoff bend #3 (river mile 40.9), improvements to the channel to the mouth of Bear Creek to restore flows, and restoration of the mouth of Mill Creek (river mile 42.0). A 5-year monitoring program following completion of construction will evaluate the effectiveness of the project.

AUTHORIZATION: Water Resources Development Act of 1996.

REMAINING BENEFIT-REMAINING COST RATIO: N/A

TOTAL BENEFIT-COST RATIO: N/A

INITIAL BENEFIT-COST RATIO: Benefits are non-monetary and a benefit-cost ratio was not developed.

BASIS OF BENEFIT-COST RATIO: N/A

SUMMARIZED FINANCIAL DATA		ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$ 3,167,000	Entire Project	16	Being determined
Estimated Non-Federal Cost		1,055,000			
Cash Contributions	$ 1,027,000		PHYSICAL DATA		
LERR&D	28,000				
Total Estimated Project Cost		$ 4,222,000	Diversion Structure: Constructed of riprap approximately 1/3 the width of the river.		

1389

SUMMARIZED FINANCIAL DATA (Continued)

Allocations to 30 September 1999	$ 499,000		Improvements to Mouth of Bear Creek: Reorient
Conference Allowance for FY 2000	200,000		the mouth so it faces upstream; construct
Allocation for FY 2000	172,000	1/	narrow approach channel; plug cutoff bend
Allocations through FY 2000	671,000	21	#3.
Allocation Requested for FY 2001	$ 1,500,000	68	Restoration of Mill Creek: Relocate and
Programmed Balance to Complete after FY 2001	$ 996,000		realign the mouth toward the river flow;
Unprogrammed Balance to Complete after FY 2001	$ 0		sediment removal at the mouth.

1/ Reflects $28,000 reduction assigned as savings and slippage.

JUSTIFICATION: The River and Harbor Act of 1950 authorized a 9-foot Federal navigation project extending from Augusta, Georgia to the upper limit of Savannah Harbor in Savannah, Georgia. As a method to improve navigation on the river, cuts were installed in the 1960's and 1970's. These cuts straightened and shortened the river course and as a result channeled flow away from the original watercourse. Depletion of natural river flows through the cutoff bends has resulted in rapid siltation and loss of flow to creeks originating at the bends and their surrounding wetland areas. The project will restore the natural flow regime in creeks and wetland areas while simultaneously restoring the environment and wildlife habitat to their pre-navigation conditions. Without environmental restoration, aquatic habitat will diminish and forested wetlands which require periodic inundation will be irreversibly degraded. Environmental benefits, which would accrue from the project, consist of fish habitat and bottomland hardwoods. In addition, improvements to the environment will directly benefit at least nine species of plants and animals found on the Federal list of threatened and endangered species, including the shortnose sturgeon, peregrine falcon, bald eagle, and wood stork. Benefits are non-monetary.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Complete Real Estate Acquisition	$ 6,000
Planning, Engineering, and Design	80,000
Initiate Construction	1,284,000
Construction Management	130,000
Total	$1,500,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

1990

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$ 28,000	N/A
Pay an additional amount as necessary to bring the total non-Federal share of environmental restoration costs to 25 percent.	$1,027,000	N/A
Total non-Federal Costs:	$1,055,000	N/A

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The city of Savannah, Georgia is the non-Federal project sponsor. The Project Cooperation Agreement is scheduled for execution in March 2001. The City has successfully participated in several cost shared projects with the Federal government. During recent bond issuance planning, the financial needs for the project were taken into account. The city continues to maintain an AA bond rating.

COMPARISON OF FEDERAL COST ESTIMATE: The current Federal cost estimate of $3,167,000 is an increase of $587,000 from the latest estimate ($2,580,000) presented to Congress (FY 1998). This change includes the following items.

Item	Amount
Price Escalation on Construction Features	$ 270,000
Design Changes	$ 317,000
Total	$ 587,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An Environmental Assessment (EA) was prepared for the project and a Finding of No Significant Impact was signed on March 22, 1996.

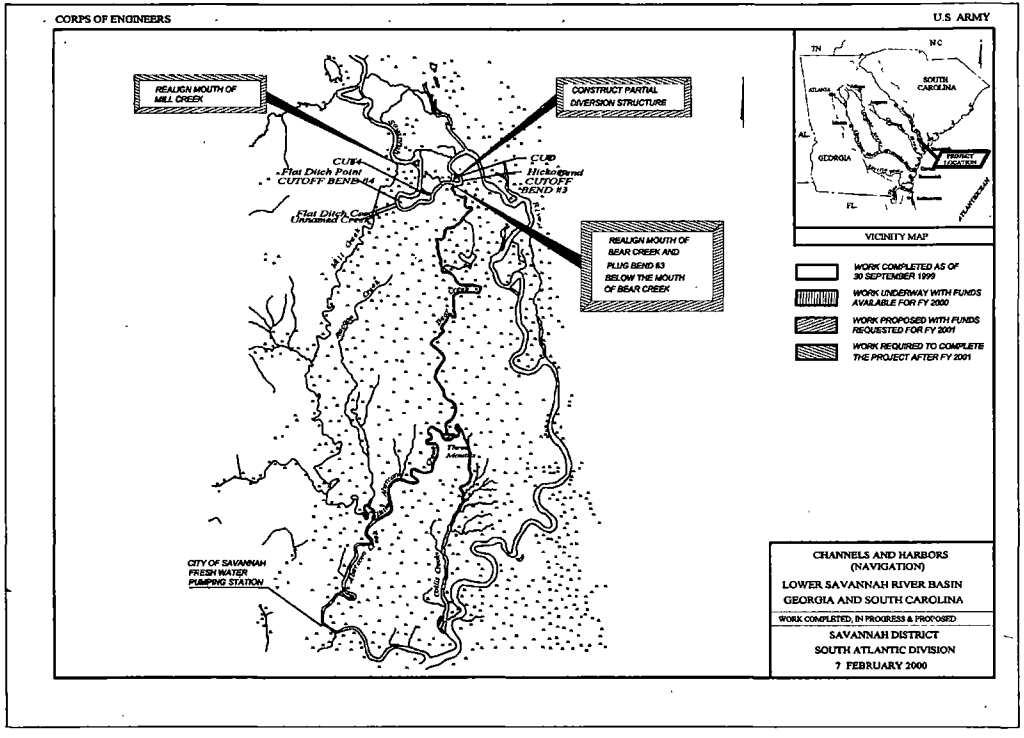
1391

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1996.

There are no associated operation and maintenance costs for the project. All project features are designed to not require maintenance over the 50-year project life.

Provisions are included for monitoring the results of the project for a period of five years beginning one year prior to construction. Within the project area, the U. S. Geological Survey will assess stream flow and water quality at various locations, and the U. S. Fish and Wildlife Service will make periodic field observations of the conditions of the creeks and forested wetlands.

1392


CORPS OF ENGINEERS
U.S ARMY
REALIGN MOUTH OF MILL CREEK
CONSTRUCT PARTIAL DIVERSION STRUCTURE
CUT#4 Flat Ditch Point CUTOFF BEND #4
CUT Hickory Head CUTOFF BEND #3
Flat Ditch Cove Unnamed Creek
REALIGN MOUTH OF BEAR CREEK AND PLUG BEND #3 BELOW THE MOUTH OF BEAR CREEK
CITY OF SAVANNAH FRESH WATER PUMPING STATION
TN
NC
SOUTH CAROLINA
GEORGIA
AL
FL
PROJECT LOCATION
ATLANTIC OCEAN
VICINITY MAP
WORK COMPLETED AS OF 30 SEPTEMBER 1999
WORK UNDERWAY WITH FUNDS AVAILABLE FOR FY 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER FY 2001
CHANNELS AND HARBORS (NAVIGATION)
LOWER SAVANNAH RIVER BASIN
GEORGIA AND SOUTH CAROLINA
WORK COMPLETED, IN PROGRESS & PROPOSED
SAVANNAH DISTRICT
SOUTH ATLANTIC DIVISION
7 FEBRUARY 2000

1993

APPROPRIATION: Construction, General - Channels and Harbors (Navigation)

PROJECT: Pascagoula Harbor, Mississippi (Continuing)

LOCATION: Pascagoula Harbor project is located on the Gulf Coast, at Pascagoula, in Jackson County, Mississippi, about 100 miles east of New Orleans, Louisiana, and 32 miles west of the entrance to Mobile Harbor, Alabama. The deep draft ship channel runs southward from Pascagoula through Mississippi Sound into deep water in the Gulf of Mexico.

DESCRIPTION:

PHASE I (COMPLETED): Constructed a new turning basin at the present project depth of 38 feet deep at the mouth of Bayou Casotte, widening the Gulf approach channel 450 feet and the Horn Island Pass Channel to 600 feet, and relocating the Horn Island Pass 300 feet to the west.

PHASE II: The proposed plan of improvement is to widen the Bayou Casotte Channel from the junction with the Lower Pascagoula Channel to the mouth of Bayou Casotte to 350 feet; deepen the Bar Channel from its origin in the Gulf, the 44 foot contour (MLLW), to the transition at the north end of Horn Island Pass to 44 feet deep, the nominal 42-foot project depth with 2 feet of additional depth as an allowance for wave action; deepen the Lower Pascagoula and Bayou Casotte Channels to 42 feet; deepen the turning basin located at the mouth of the Bayou Casotte Harbor and the 1,200-foot project extension north of the turning basin to 42 feet; and deepen the two impoundments along the east side of Horn Island Pass and the Bar Channel to 44 feet. Construct a 168 acre dredged material disposal facility.

An additional phase of the authorized project will be constructed as related to priority of needs and the non-federal sponsor's willingness and capability to participate. The additional phase of work is currently unprogrammed.

1994

AUTHORIZATION: Water Resources Development Act of 1986.

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable for Phase I because construction is complete; 1.00 to 1 at 7 5/8 percent for Phase II.

TOTAL BENEFIT-COST RATIO: 1.08 to 1 at 8 ½ percent for Phase I; 1.00 to 1 at 7 5/8 percent for Phase II.

INITIAL BENEFIT-COST RATIO: 1.08 to 1 at 8 ½ (FY 1994) for Phase I; 1.2 to 1 at 7 5/8 percent (FY 1998) for Phase II.

BASIS OF BENEFIT-COST RATIO: Benefits for Phase I are from the General Design Memorandum approved in June 1992 at October 1991 price levels. Benefits for Phase II are from the Limited Reevaluation Report prepared in April 1997 at October 1997 price levels.

SUMMARIZED FINANCIAL DATA

					ACCUM PCT OF EST FED. COST
Estimated Appropriation Requirements (COE)		$47,101,000	Allocation to 30 September 1999	$23,038,000	
Programmed Construction	39,044,000		Conference Allowance for FY 2000	7,792,000	
Unprogrammed Construction	8,057,000		Allocation for FY 2000	3,682,000 1/	
Estimated Appropriation Requirement (U.S.C.G)	735,000		Allocation Through FY 2000	26,720,000	57
Programmed Construction	688,000		Allocation Requested for FY 2001	6,663,000	71
Unprogrammed Construction	47,000		Programmed Balance to Complete after FY 2001	5,661,000	83
Estimated Total Appropriation Requirement	47,836,000		Unprogrammed Balance to Complete after FY 2001	8,057,000	100
Programmed Construction	39,732,000				
Unprogrammed Construction	8,104,000				
Future Non-Federal Reimbursement		2,415,000			
Programmed Construction	1,341,000				
Unprogrammed Construction	1,074,000				
Estimated Federal Cost (Ultimate)(COE)		44,686,000			
Programmed Construction	37,703,000				
Unprogrammed Construction	6,983,000				
Estimated Non-Federal Cost		23,220,000			
Programmed Construction	19,461,000				
Cash Contributions 13,014,000					
Other Costs 5,106,000					
Reimbursements 1,341,000					
Unprogrammed Construction	3,759,000				
Cash Contributions 2,685,000					
Other Costs 0					
Reimbursements 1,074,000					

1/ Reflects $1,110,000 reduction as savings and slippage and $3,000,000 reprogrammed from the project.

	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION
Construction			
Phase I		100	Sep 1996
Phase II		0	Being determined
Remainder		0	Unscheduled
Entire Project		0	Unscheduled

Total Estimated Programmed Construction Cost	57,852,000
Total Estimated Unprogrammed Construction Cost	10,789,000
Total Estimated Cost	68,641,000

1895

JUSTIFICATION:

Pascagoula Harbor is located on the Gulf Coast at Pascagoula, Mississippi, in Jackson County. This deep-draft ship channel has a total length of 17.5 miles from the Pascagoula Inner Harbor to deep water in the Gulf of Mexico. The port is essential to the economy of the state and to Jackson County, the state's most industrialized county. The Pascagoula River channel serves Ingalls Shipbuilding, a grain elevator, the Navy Homeport and numerous lumber and breakbulk shippers. The Bayou Casotte Channel serves the Chevron refinery, the nation's seventh largest crude oil refinery. The channel also serves Mississippi Phosphates, Halter Marine, and numerous breakbulk shippers from port facilities in the inner harbor. The Phase II evaluation includes deepening the entrance channel and Horn Island Pass including associated impoundment basins to 44 feet, deepening the Lower Pascagoula Channel to 42 feet,deepening and widening the Bayou Casotte Channel to 42 feet and 350 feet, respectively, terminating approximately 1,200 feet north of the southern turning basin which will also be deepened to 42 feet. Recommended project modifications would allow crude oil and petroleum coke vessels to load to deeper drafts realizing economies of scale. In addition, Halter Marine and Ham Marine, whose facilities to be constructed at Bayou Casotte Harbor are dependent upon channel widening, will be able to service/build larger oil drilling rigs which are increasingly becoming industry standard. Benefits attributed to channel deepening and widening total $2,571,998 annually. Crude oil imports benefiting from channel widening will total 13,839,874 short tons annually, while petroleum coke exports will total 1,317,650 short tons annually. With a 350-foot wide Bayou Casotte Channel, the number of drill rigs serviced/built annually will range from 18 in the year 2000 to 23 by the year 2050.

Maintenance dredging of those segments of the federal project within Mississippi Sound is performed by pipeline or mechanical dredge. The disposal area at Greenwood Island has been determined to be unsuitable for continued use and a new site is currently being developed at the former Tenneco Site on the eastern shore of Bayou Casotte. This new site will replace all the functions of the Greenwood Island site. Material dredged from the mouth of Pascagoula River and Bayou Casotte southward is placed in open water disposal areas west of the channels. Provisions have also been made for placing this material in the Pascagoula Ocean Dredged Material Disposal Site (ODMDS) in the Gulf of Mexico on an as needed basis. Maintenance dredging in the Horn Island Pass is performed on an as needed basis with maintenance material being placed in adjacent Disposal Area 10, the littoral zone disposal area, and in the ODMDS. The average annual benefits for the Phase II project are $2,570,273 all for commercial navigation.

1396

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Dredging Contract	$ 6,528,000
Planning, Engineering and Design, Dredging	50,000
Construction Management, Dredging	85,000
Total	$6,663,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
PHASE I:		
Pay 25% of the cost allocated to general navigation facilities during construction.	$ 3,352,000	$0
Reimburse an additional 10% of the costs allocated to general navigation facilities within a period of 30 years following competion of construction.	1,341,000	0
Phase II:		
Modify or relocate pipeline facility where necessary for the construction of the project.	3,957,000	0
Pay 25% of the costs allocated to general navigation facilities during construction.	9,662,000	0
Pay 100% of the cost allocated to berthing area dredging (without credit).	530,000	0
Provide lands easements, rights of way, for dredged material disposal facility.	619,000	0
Reimburse an additional 10 % of the costs of general navigation features allocated to commercial navigation within a period of 30 years following completion of construction, as entirely reduced by a credit allowed for the value of relocations provided for commercial navigation.	0	0

1997

Requirements of Local Cooperation:	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Remainder:		
Pay 25% of the cost allocated to general navigation facilities during construction.	2,685,000	0
Reimburse an additional 10% of the costs of general navigation features allocated to commercial navigation within a period of 30 years following completion of construction, partially reduced by a credit allowed for the value of relocations provided for commercial navigation.	1,074,000	0
Total Non-Federal Costs Phase II	$ 23,220,000	0

The non-Federal sponsor has agreed to make all required payments concurrently with project construction and reimburse its share of construction costs within a period of 30 years following completion of construction.

STATUS OF LOCAL COOPERATION: The local sponsor for Phase II is the Jackson County Port Authority (JCPA) at Pascagoula, Mississippi. The Project Cooperation Agreement (PCA) for dredging was signed in April 1999. The Mississippi State Legislature passed House Bill 1681 to issue general obligation bonds for improvements at the Port of Pascagoula to be used towards the Non-Federal share of the project.

COMPARISON OF FEDERAL COST ESTIMATE: The current Federal (Corps) cost estimate of $47,101,000 is an increase of $8,060,000 from the latest estimate of ($39,041,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	+$ 414,000
Post Contract Award and Other Estimating Adjustments	+ 7,646,000
Total	+$8,060,000

1398

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: In accordance with the requirements of the National Environmental Policy Act (NEPA) the Final Environmental Impact Statement (FEIS) for Pascagoula Harbor, Mississippi Navigation Improvements was filed with the Council on Environmental Quality on July 12, 1985. The State of Mississippi, Office of the Governor concurred with the FEIS by letter dated August 20, 1985. The Record of Decision (ROD) for commercial navigation improvements, Pascagoula Harbor, was signed by the U.S. Army Corps of Engineers, Director of Civil Works, July 24, 1992.

The FEIS addressed impacts associated with proposed channel improvements consisting of dredging approximately 14 million cubic yards of material for new work activities including deepening and widening the entrance channel to 44 feet by 550 feet from the Gulf of Mexico to the southern end of Horn Island Pass, then continuing the 44-foot depth through Horn Island Pass at a width of 600 feet with reconfiguration of the impoundment basin on Horn Island Pass to provide a 56-foot deep by 1500-foot long section within the channel limits. Within the Mississippi Sound and into the Pascagoula River, the channel would be deepened to 42 feet at the existing width of 350 feet. The channel into Bayou Casotte would be widened to 350 feet and deepened to 42 feet. Also included was a new 1,150-foot diameter turning basin just inside the mouth of Bayou Casotte.

New work material from the Pascagoula River inner harbor would be deposited in the Environmental Protection Agency (EPA) designated ocean dredged material disposal site (ODMDS) located approximately 3 miles south of Horn Island. New work material from the mouth of the Pascagoula River to the north end of Horn Island Pass and all of the Bayou Casotte channel material would also be disposed in the ODMDS. New work and maintenance material dredged from the entrance channel, including Horn Island Pass, would be disposed in a near-shore area between the -15 and -30 foot depth contours south of Horn Island and in the ODMDS.

The FEIS stipulated that maintenance material from the Pascagoula River channel would be placed in existing Triple Barrel disposal site and the expanded disposal area on Singing River Island. Maintenance material from Bayou Casotte would be placed in the Greenwood Island upland disposal site. Maintenance material from all channel segments within Mississippi Sound would be placed in previously used open water placement sites in Mississippi Sound.

Since completion of the FEIS, the disposal area at Singing River Island has been utilized for the development of Naval Station Pascagoula. Future use of this area has been determined to best be associated with the expansion of the Naval Station or other military related uses. Placement of material from the channel segment that previously was deposited on Singing River Island is currently scheduled for the ocean dredged material disposal site until the dredged material management plan is revised. Greenwood Island was determined to be unsuitable for the continued placement of dredged material due to site contamination issues. This site has been replaced by the Bayou Casotte Dredged Material Placement Site on the former TENNECO site located directly across the channel from Greenwood Island. The dredged material management plan has been modified to accommodated this change.

The FEIS addressed impacts for the designation and use of the ODMDS and the transportation and placement of approximately 1 million cubic yards of maintenance material to be dredged by the U.S. Navy from the Upper Pascagoula segment of the Pascagoula Harbor navigation project (prior to channel improvements) and the approximately 12 million cubic yards of new work to be dredged from the construction of authorized improvements for the project.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design for the total project were appropriated in FY 1987. A Limited Reevaluation Report for Phase II was completed in July 1997. There are Fish and Wildlife Facilities scheduled to be constructed with the Phase II portion of the project. Their cost will be $3,156,000. These funds will be used for wetland mitigation, specifically for geotubes for bank protection and wetland creation.

1396

Phase II:

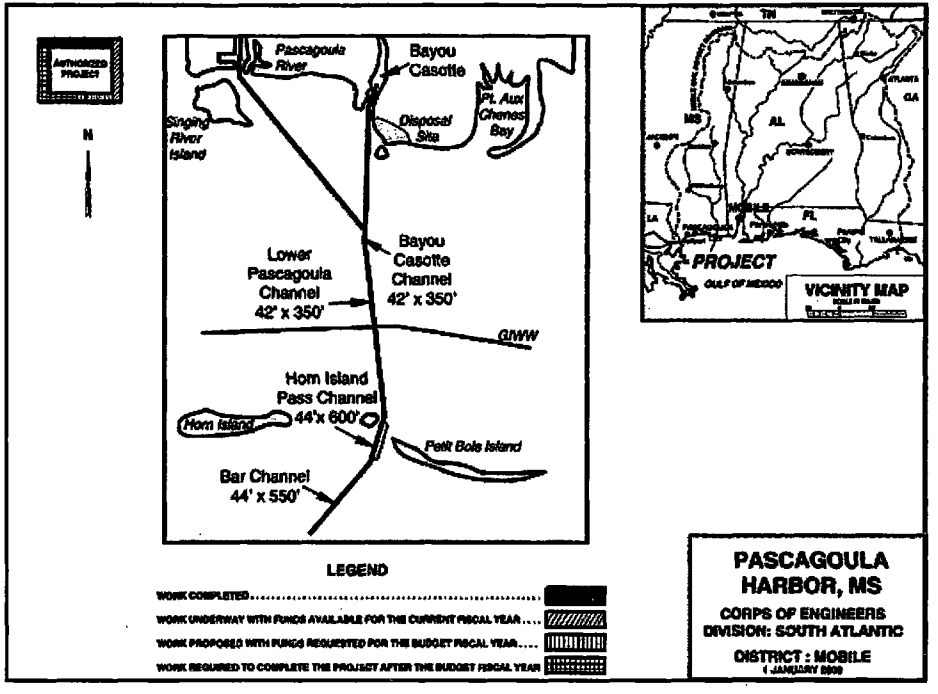
SUMMARIZED FINANCIAL DATA FOR PHASE II:

Estimated Appropriation Requirements (COE)		$28,987,000
Estimated Appropriation Requirements (U.S.C.G.)		52,000
Estimated Total Appropriation Requirements		29,039,000
Future non-Federal Reimbursement		0
Estimated Federal Cost (Ultimate)(COE)		28,987,000
Estimated Non-Federal Cost		14,768,000
Cash Contributions	$9,662,000	
Other Costs	5,106,000	
Reimbursements	0	
Total Estimated Project Cost		$43,807,000

REMAINING BENEFIT-REMAINING COST RATIO: 1.00 to 1 at 7 5/8 percent.

TOTAL BENEFIT-COST RATIO: 1.00 to 1 at 7 5/8 percent.

1400


AUTHORIZED PROJECT
N
Pascagoula River
Bayou Casotte
Singing River Island
Disposal Site
Ft. Aux Chenes Bay
Lower Pascagoula Channel 42' x 350'
Bayou Casotte Channel 42' x 350'
GIWW
Horn Island Pass Channel 44'x 600'
Horn Island
Petit Bois Island
Bar Channel 44' x 550'
LEGEND
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR
TN
MS
AL
GA
LA
FL
MOBILE
PROJECT
GULF OF MEXICO
VICINITY MAP
PASCAGOULA HARBOR, MS
CORPS OF ENGINEERS
DIVISION: SOUTH ATLANTIC
DISTRICT : MOBILE
1 JANUARY 2000

1401

APPROPRIATION TITLE: Construction, General - Channels and Harbors (Navigation)

PROJECT: Wolf and Jordan Rivers and Bayou Portage, MS, (Continuing)

LOCATION: The project is located on the Mississippi coast, near St. Louis Bay, in the city of Pass Christian, Harrison County, Mississippi. It is approximately 62 miles east of New Orleans, Louisiana, and about 84 miles west of Mobile, Alabama. Bayou Portage, a small embayment about 1,500 feet wide, extends about 8,000 feet eastward from St. Louis Bay and forms the northern boundary of the city of Pass Christian.

DESCRIPTION: The recommended plan consists of constructing a channel to a width of 100 feet and a depth of 8 feet from the 8-foot contour in St. Louis Bay for a distance of about 4 1/2 miles to the end of a 200-foot wide by 800-foot long trapezoidal turning basin in Pass Christian Industrial Park. All work is programmed.

AUTHORIZATION: Water Resources Development Act of 1988.

REMAINING BENEFIT-REMAINING COST RATIO: 34.3 to 1 at 7 1/8 percent

TOTAL BENEFIT-COST-RATIO: 30.7 to 1 at 7 1/8 percent

INITIAL BENEFIT-COST-RATIO: 30.7 to 1 at 7 1/8 percent (FY 2000)

BASIS OF BENEFIT-COST RATIO: Benefits are from the General Design Memorandum Report submitted June 1998 at October 1998 price levels, approved in March 1999.

1402

SUMMARIZED FINANCIAL DATA

					ACCUM PCT OF EST FED COST
Estimated Appropriation Requirement (COE)	$2,740,000	Allocation to 30 September 1999	$ 462,000		
Estimated Appropriation Requirement (U.S.C.G.)	9,000	Conference Allowance for FY 2000	1,000,000		
Estimated Total Appropriation Requirement	2,749,000	Allocation for FY 2000	941,000	1/	
Estimated Non-Federal Cost	771,000	Allocations through FY 2000	1,403,000		51
Cash Contributions $ 305,000		Allocation Requested for FY 2001	1,337,000		100
Other Costs 466,000		Programmed Balance to Complete After FY 2001	0		
Total Estimated Project Costs	$3,520,000	Unprogrammed Balance to Complete After FY 2001		0	

1/ Reflects $142,000 reduction assigned as savings and slippage and $83,000 reprogrammed to the project.

STATUS: (1 Jan 2000)	PERCENT COMPLETE	COMPLETION SCHEDULE
Construction not started	0	Sep 2001

JUSTIFICATION: Transportation savings from channel modifications would accrue for the following commodities. Annual tonnage is indicated in parenthesis. The prestress concrete company would barge the input sand (200,000), cement (100,000), and steel bars (100,000) from Mobile, Alabama to Pass Christian. The output of prestress concrete (400,000) would continue to be barged out to Morgan City, Louisiana. The second company would barge its raw material, wax (35,000), in heated coil barges from Houston, Texas to Pass Christian. The third company would barge steel sheets (36,000) from Baytown, Texas to their plant in Pass Christian. The fourth company would shift transportation modes from trucking to barges and barge the raw aggregate (24,000) down the Mississippi River from Vicksburg, Mississippi. The finished product (24,000) would then be barged to oil platforms in the Gulf of Mexico. Average annual transportation savings would total $9,517,000 with an 8-foot channel. Reported damages due to inadequate depths are those sustained by deck barges and tow boats moving in the study area. Reduction in transportation damages would total $270,000 for an 8-foot channel. Annual project commercial navigation benefits including both transportation savings and reduction in damages would total $9,787,000.

1403

FISCAL YEAR 2001: The requested amount will be applied as follows:

Complete Dredging Contract	$ 1,197,000
Planning, Engineering and Design	60,000
Construction Management	80,000
Total	$1,337,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights-of-way, borrow and excavated or dredged material disposal areas.	$368,000	0
Provide relocations, modify or relocate utilities where necessary for the construction of the project.	62,000	0
Pay 10 percent of the costs allocated to the general navigation facilities during construction.	305,000	0
Pay 100 percent of the cost allocated to Berthing Area dredging (without credit)	36,000	0
Reimburse an additional 10 percent of the costs of general navigation features allocated to commercial navigation within a period of 30 years following completion of construction, as entirely reduced by a credit allowed for the value of lands, and relocations provided for commercial navigation.	0	0
Total Non-Federal Cost	$771,000	0

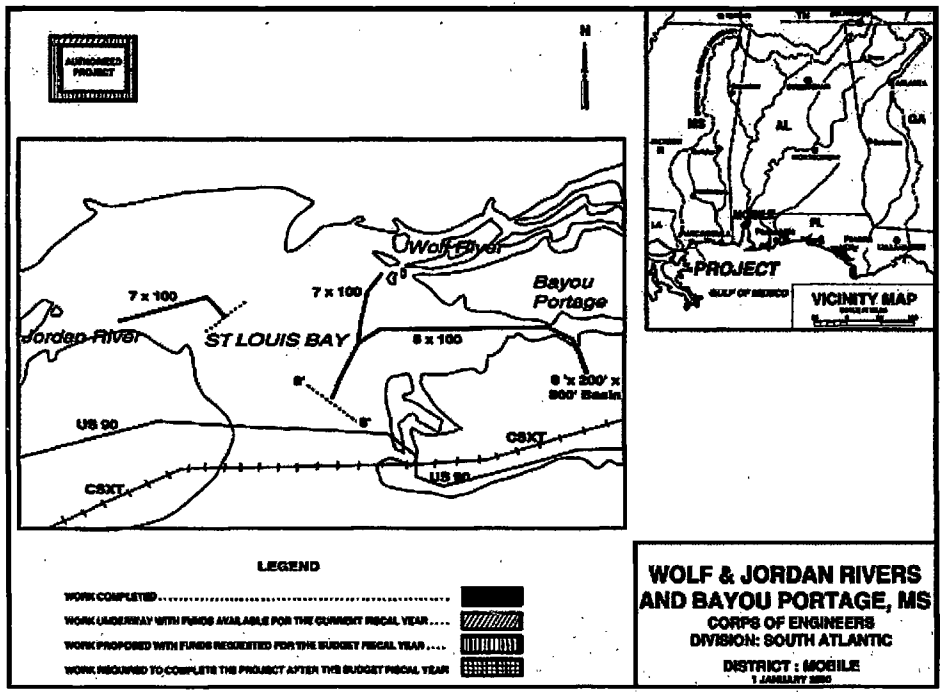
1404

STATUS OF LOCAL COOPERATION; The Harrison County Development Commission will be the local sponsor. A Letter of Intent from the sponsor dated 11 May 1998 states that the sponsor intends to provide all necessary non-Federal costs and all items of local responsibility. A Project Cooperation Agreement (PCA) is scheduled to be signed in May 2000. The local sponsor is willing and able to sign PCA when available.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps) cost estimate of $2,740,000 at October 1999 price level is the initial estimate presented to Congress.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An environmental assessment (EA) and Finding Of No Significant Impact (FONSI) was prepared in conjunction with the Feasibility Report on Wolf and Jordan Rivers and Bayou Portage, Pass Christian, Mississippi, Survey Investigation for Navigation Improvements, dated September, 1985. The EA addressed impacts associated with the adoption, restoration and maintenance of the locally provided entrance channel in Bayou Portage as a part of existing Federal project for Wolf and Jordan Rivers, Mississippi. The EA has been updated to address all current NEPA requirements.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1997.


AUTHORIZED PROJECT
N
Wolf River
Bayou Portage
Jordan River
ST LOUIS BAY
7 x 100
7 x 100
8 x 100
8' x 200' x 800' Basin
8'
6'
US 90
CSXT
CSXT
US 90
MS
AL
GA
LA
FL
PROJECT
VICINITY MAP
LEGEND
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR
WOLF & JORDAN RIVERS AND BAYOU PORTAGE, MS
CORPS OF ENGINEERS
DIVISION: SOUTH ATLANTIC
DISTRICT : MOBILE
1 JANUARY 2000

1406

APPROPRIATION TITLE: Construction, General - Channels and Harbors (Navigation)

PROJECT: AIWW - Replacement of Federal Highway Bridges, North Carolina (Continuing)

LOCATION: The last remaining federally owned, obsolete swing span bridge over the Atlantic Intracoastal Waterway is at Fairfield, North Carolina. The high level Walter B. Jones Bridge (formerly Wilkerson Creek) opened to traffic on 31 July 1981, the high level Joseph P. Knapp Bridge (formerly Coinjock) opened to traffic on 1 July 1986, the high level Core Creek Bridge opened to traffic on 5 October 1993 and the new high level Gene A. Potter Memorial Bridge (formerly Hobucken) opened to traffic on 14 April 1997.

DESCRIPTION: The project provides for replacing five existing low level bridges with fixed span 2-lane bridges, except the Joseph P. Knapp Bridge which has 4-lanes. The new bridges will have a vertical clearance of 65 feet at mean high water. All work is programmed.

AUTHORIZATION: River and Harbor Act of 1970, Water Resources Development Act of 1976, and Water Resources Development Act of 1986.

REMAINING BENEFIT - REMAINING COST RATIO: Not applicable.

TOTAL BENEFIT - COST RATIO: Not applicable.

INITIAL BENEFIT - COST RATIO: Not applicable.

BASIS OF BENEFIT - COST RATIO: Not applicable.

SUMMARIZED FINANCIAL DATA		STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost	$70,200,000	Walter B. Jones	100	Sep 1983
		Joseph P. Knapp	100	Jun 1987
Estimated Non-Federal Cost	$ 0	Core Creek	100	Mar 1994
		Gene A. Potter	100	Sep 1997
Total Estimated Project Cost	$70,200,000	Fairfield	62	Being Determined
		Entire Project	90	Being Determined

1407

SUMMARIZED FINANCIAL DATA (Continued)

		ACCUM. PCT. OF EST. FED. COST
Allocations to 30 September 1999	$62,044,000	
Conference Allowance for FY 2000	6,300,000	
Allocation for FY 2000	7,156,000 1/	
Allocations through FY 2000	69,200,000	98
Allocation Requested for FY 2001	1,000,000	100
Programmed Balance to Complete after FY 2001	0	
Unprogrammed Balance to Complete After FY 2001	0	

1/Reflects $897,000 reduction assigned as savings and slippage and $1,753,000 reprogrammed to the project.

PHYSICAL DATA

Lands and Damages - 723 acres
Bridges (Walter B. Jones, Joseph P. Knapp, Core Creek, Gene A. Potter (formerly Hobucken), and Fairfield)
Type - Fixed span, 2-lane (Except Joseph P. Knapp which is 4-lane).
Vertical Clearance - 65 feet at mean high water
Horizontal Navigation Opening - 90 feet minimum

JUSTIFICATION: The last remaining bridge to be replaced was constructed in 1935, and is now substandard with relation to current criteria recommended by the Federal Highway Administration, the N.C. Department of Transportation and Highway Safety (NCDOTHS), and the American Association of State Highway and Transportation Officials (AASHTO). Fairfield Bridge is overstressed when applying the current user loading and when considering the present deteriorated state of the structure and loss of section due to corrosion. Overstress ranges up to 80%. The Fairfield Bridge is restricted to one-lane traffic, is posted for a maximum load of 12 tons for single vehicles and has a clear roadway width of only 20 feet. The bridge has a vertical roadway clearance of only 13 feet 6 inches and is difficult to traverse, especially for bus and truck traffic. During the period January 1971 to October 1999, there were 22 accidents at Fairfield Bridge involving vehicles and tugs striking the bridge structures. Although remedial repairs are being made continuously, this work can no longer render the bridges safe. These conditions, together with the economics of operation and maintenance, underscore the urgent need for the immediate replacement of the bridge.

FISCAL YEAR 2001: The requested amount of $1,000,000 will be applied as follows:

Complete Land Acquisition of Fairfield Bridge	77,000
Complete Construction of Fairfield Bridge	658,000
Planning, Engineering and Design for Fairfield Bridge	49,000
Construction Management for Fairfield Bridge	216,000
Total	$1,000,000

NON-FEDERAL COSTS: In accordance with the authorizing legislation, the State of North Carolina must accept ownership responsibilities for the bridges upon completion, including all costs of operation, maintenance, and replacement as listed below:

	Annual Operation, Maintenance Repair, Rehabilitation and Replacement Costs
Fairfield Bridge	10,000

STATUS OF LOCAL COOPERATION: The State of North Carolina, by resolutions adopted 2 August 1974 and 7 February 1975, reaffirmed its intention of providing the terms of local cooperation with the exception of the 25 percent cost sharing. The Water Resources Development Act of 1976 modified the terms of local cooperation to delete the non-Federal cost sharing requirement for the Walter B. Jones and Joseph P. Knapp Bridges. The Water Resources Development Act of 1986 modified the terms of local cooperation to delete the non-Federal cost-sharing requirement for the Core Creek, Gene A. Potter, and Fairfield Bridges. A local assurance agreement pursuant to Section 221 of the River and Harbor and Flood Control Act of 1970 (PL 91-611) was signed by the Secretary of the Army on 28 July 1977 for the Walter B. Jones Bridge and on 10 August 1979 for the Joseph P. Knapp Bridge. The Section 221 Agreement for the Joseph P. Knapp Bridge was amended on 1 February 1983 to assure that State highway improvements would proceed concurrently with the bridge construction. These improvements have been completed. A project cooperation agreement was executed in December 1990 for the Core Creek Bridge and in December 1993 for the Gene A. Potter Memorial Bridge. The project cooperation agreement for Fairfield Bridge was executed in February 1997.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps) cost estimate of $70,200,000 is a decrease of $500,000 from the latest estimate ($70,700,000) presented to Congress (FY 2000). This change includes the following items.

Item	Amount
Post Contract Award and Other Estimating Adjustments	-$500,000
Total	-$500,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final EIS for all five bridges was filed with CEQ on 16 November 1970. During engineering and design, each bridge is being evaluated separately and updated EIS's were filed or are scheduled to be filed with the Environmental Protection Agency as follows:

	Schedule to EPA	
	Draft	Final
Original	-	Nov 1970
Updated		
Walter B. Jones	May 1974	Dec 1975
Joseph P. Knapp	Aug 1980	Mar 1981
Core Creek	Aug 1989	Jul 1990
Gene A. Potter	Mar 1992	Jun 1992
Fairfield	Sep 1993	Jun 1994

1409

OTHER INFORMATION: Funds to initiate preconstruction planning were appropriated in FY 1973 and funds to initiate construction were appropriated in FY 1974. Construction contract for Fairfield Bridge was awarded December 1997.

Walter B. Jones Bridge

SUMMARIZED FINANCIAL DATA FOR PROGRAMMED SEPARABLE ELEMENTS:

Estimated Federal Cost	$10,692,000
Estimated Non-Federal Cost	0
Total Estimated Project Cost	$10,692,000

REMAINING BENEFIT-REMAINING COST RATIO FOR PROGRAMMED SEPARABLE ELEMENTS: Not Applicable

TOTAL BENEFIT-COST RATIO FOR PROGRAMMED SEPARABLE ELEMENTS: Not Applicable

Joseph P. Knapp Bridge

SUMMARIZED FINANCIAL DATA FOR PROGRAMMED SEPARABLE ELEMENTS:

Estimated Federal Cost	$11,808,000
Estimated Non-Federal Cost	0
Total Estimated Project Cost	$11,808,000

REMAINING BENEFIT-REMAINING COST RATIO FOR PROGRAMMED SEPARABLE ELEMENTS: Not Applicable.

TOTAL BENEFIT-COST RATIO FOR PROGRAMMED SEPARABLE ELEMENTS: Not Applicable.

Core Creek Bridge

SUMMARIZED FINANCIAL DATA FOR PROGRAMMED SEPARABLE ELEMENTS:

Estimated Federal Cost	$12,802,000
Estimated Non-Federal Cost	0
Total Estimated Project Cost	$12,802,000

REMAINING BENEFIT-REMAINING COST RATIO FOR PROGRAMMED SEPARABLE ELEMENTS: Not Applicable.

TOTAL BENEFIT-COST RATIO FOR PROGRAMMED SEPARABLE ELEMENTS: Not Applicable.

1410

Gene A. Potter Memorial Bridge

SUMMARIZED FINANCIAL DATA FOR PROGRAMMED SEPARABLE ELEMENTS:

Estimated Federal Cost	$13,656,000
Estimated Non-Federal Cost	0
Total Estimated Project Cost	$13,656,000

REMAINING BENEFIT-REMAINING COST RATIO FOR PROGRAMMED SEPARABLE ELEMENTS: Not Applicable.

TOTAL BENEFIT-COST RATIO FOR PROGRAMMED SEPARABLE ELEMENTS: Not Applicable.

Fairfield Bridge

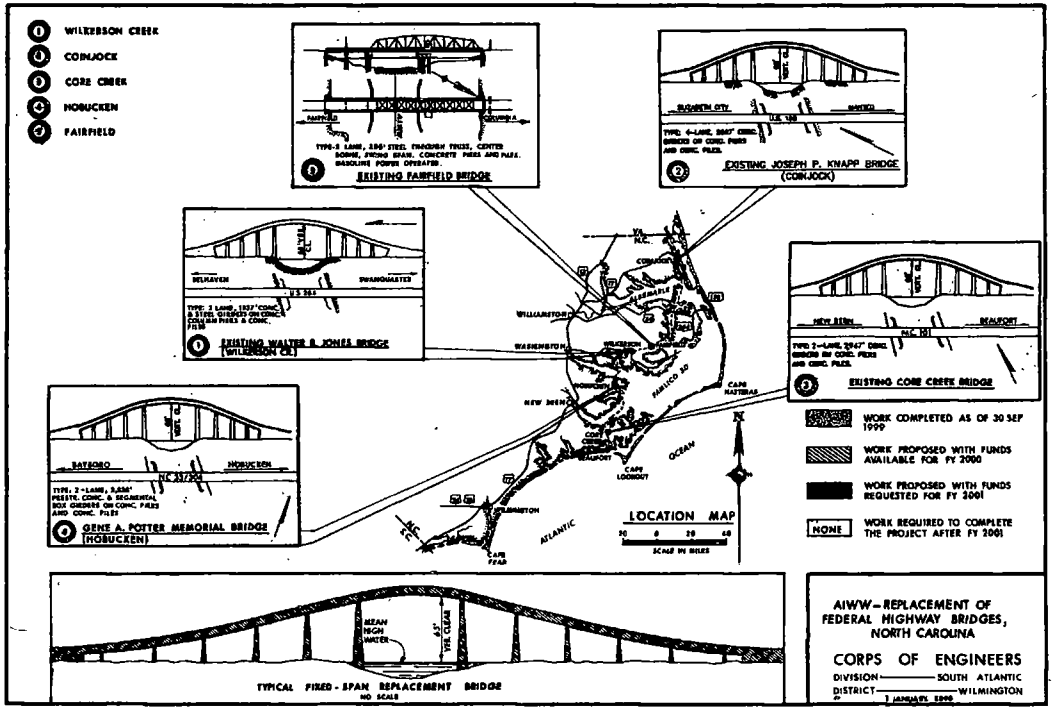
SUMMARIZED FINANCIAL DATA FOR PROGRAMMED SEPARABLE ELEMENTS:

Estimated Federal Cost	$21,242,000
Estimated Non-Federal Cost	0
Total Estimated Project Cost	$21,242,000

REMAINING BENEFIT-REMAINING COST RATIO FOR PROGRAMMED SEPARABLE ELEMENTS: Not Applicable.

TOTAL BENEFIT-COST RATIO FOR PROGRAMMED SEPARABLE ELEMENTS: Not Applicable.

1411


WILKERSON CREEK
CONJOCK
CORE CREEK
HOBUCKEN
FAIRFIELD
EXISTING FAIRFIELD BRIDGE
EXISTING JOSEPH P. KNAPP BRIDGE (CONJOCK)
EXISTING WALTER B. JONES BRIDGE (WILKERSON CR.)
EXISTING CORE CREEK BRIDGE
GENE A. POTTER MEMORIAL BRIDGE (HOBUCKEN)
WORK COMPLETED AS OF 30 SEP 1999
WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
NONE
WORK REQUIRED TO COMPLETE THE PROJECT AFTER FY 2001
LOCATION MAP
TYPICAL FIXED - SPAN REPLACEMENT BRIDGE
AIWW - REPLACEMENT OF FEDERAL HIGHWAY BRIDGES, NORTH CAROLINA
CORPS OF ENGINEERS
DIVISION — SOUTH ATLANTIC
DISTRICT — WILMINGTON

1412

APPROPRIATION TITLE: Construction, General - Channel and Harbors (Navigation)

PROJECT: Wilmington Harbor, North Carolina (Continuing)

LOCATION: The project is located at Wilmington on the southeastern coast of North Carolina in New Hanover and Brunswick Counties.

DESCRIPTION: The project consists of two separable elements, the portion for deepening of the existing project and the portion for raising the dikes on Eagle Island dredged material disposal facility (DMDF) for maintenance of the existing project until the deepening is completed. The plan of improvement consists of deepening the ocean bar and entrance channels from the authorized depth of 40 feet to 44 feet; deepening the authorized 38-foot project to 42 feet up to and including the anchorage basin immediately upriver from the State Ports Authority dock, and extending the anchorage basin northward by 300 feet; widening the existing 400-foot wide channel to 600 feet over a total length of 6.2 miles including Lower and Upper Midnight and Lower Lilliput reaches; widen five turns and bends by 100 to 200 feet providing a total average channel width of 500 to 675 feet; widening the Fourth East Jetty Channel to 500 feet over a total length of 1.5 miles; deepening the 32-foot channel between Castle Street and the Hilton Railroad Bridge, the 32-foot turning basin just above the mouth of the Northeast Cape Fear River on the west side, and the 25-foot channel from the Hilton Railroad Bridge to 750 feet upstream all to a depth of 38 feet; deepening the 25-foot channel from 750 feet upstream of the Hilton Railroad Bridge to the turning basin near the upstream limits of the project to 34 feet, along with widening of the channel from 200 to 250 feet; and widening the turning basin from 700 to 800 feet; mitigation to include acquiring, by fee title, 30 acres of upland and construction of an embayment and acquisition of about 500 acres of existing marsh and upland areas for preservation of habitat to offset losses of wetlands and primary nursery areas. The plan of improvement for the dredged material disposal facility consists of incrementally raising the dikes of three cells on Eagle Island confined disposal facility from their current elevations to 25,29,32,35,38 and 40 feet.

1413

AUTHORIZATION: Water Resources Development Acts of 1986 and 1996, Rivers and Harbors Acts of 1945 and 1962 and the River and Harbor Act of 1960, as amended (Section 107).

REMAINING BENEFIT-REMAINING COST RATIO: 1.5 to 1 at 7-5/8 percent (deepening portion); N/A (DMDF Portion)

TOTAL BENEFIT-COST RATIO: 1.3 to 1 at 7-5/8 percent (deepening portion); N/A (DMDF Portion)

INITIAL BENEFIT - COST RATIO: 1.3 to 1 at 7-5/8 percent (deepening portion); N/A (DMDF Portion)

BASIS OF BENEFIT-COST RATIO: Benefits for the deepening portion are from the latest available evaluation contained in the feasibility report dated June 1996 at October 1995 price levels for the previous Cape Fear-Northeast Cape Fear River project, in the General Design Memorandum Supplement dated February 1994 at October 1993 price levels for the previous Wilmington Harbor-Northeast Cape Fear River project and in the feasibility report dated March 1994 at October 1992 price

BASIS OF BENEFIT-COST RATIO (continued):

levels for the previous Wilmington Harbor Channel Widening project. Project feasibility for the DMDF portion is based on the original project authorization and the method of disposal of the dredged material is based on the least cost alternative as shown in the decision report approved 1 September 1998.

SUMMARIZED FINANCIAL DATA			PHYSICAL STATUS (1 Jan 2000)	PERCENT COMPLETE	COMPLETION SCHEDULE
Estimated Appropriation Requirement (COE)		$248,100,000	Deepening Portion	6	Being Determined
Estimated Appropriation Requirement (OFA)		1,678,000	Dredged Material Disposal Facility (DMDF) Portion	6	Being Determined
Estimated Total Appropriation Requirement		249,778,000	Entire Project	6	Being Determined
Future Non-Federal Reimbursement		27,000,000			
Estimated Federal Cost (Ultimate)		227,778,000			
Estimated Non-Federal Cost		154,622,000			
Cash Contributions	82,900,000				
Other Costs	44,722,000				
Reimbursements	27,000,000				
Navigation 27,000,000					
Total Estimated Project Cost		$377,400,000			
			ACCUM. PCT. OF EST. FED COST		
Allocations to 30 September 1999		16,166,000			
Conference Allowance for FY 2000		18,300,000			
Allocation for FY 2000		14,494,000 1/			
Allocations through FY 2000		30,660,000	13		
Allocation Requested for FY 2001		40,600,000	31		
Programmed Balance to Complete After FY 2001		179,214,000			
Unprogrammed Balance to Complete After FY 2001		0			

1/Reflects $2,606,000 reduction assigned as savings and slippage and $1,200,000 reprogrammed from the project.

1414

PHYSICAL DATA

Channels and Basins	Length	Width	Depth
Ocean Bar and Entrance Channel	8.5 miles	500 feet	44 feet
River Channel to mile 27.5	24.8 miles	400 feet	42 feet
Passing Lane	6.2 miles	200 feet	42 feet
Turns and Bends - widen five turns and bends by 100 to 200 feet providing a total average navigation channel width of 500 to 675 feet.			
Anchorage Basin	1,600 feet	1,200 feet	42 feet
Fourth East Jetty	1.5 miles	500 feet	42 feet
Castle Street to NC 133 Bridge	1.7 miles	400 feet	38 feet
NC 133 Bridge to Hilton RR Bridge	0.5 miles	300 feet	38 feet
Hilton RR Bridge Upstream	750 feet	200 feet	38 feet
Turning Basin #1	750 feet	750 feet	38 feet
Channel from 750 feet upstream of Hilton RR Bridge to mile 30.5	1.3 miles	250 feet	34 feet
Turning Basin #2	550 feet	800 feet	34 feet

Mitigation - Acquire 30 acres of upland and construction of an embayment and acquisition of 700 acres to offset losses of wetlands and primary nursery area.

Incremental dike raising of cells 1,2, and 3 on Eagle Island to elevations 25,29,32,35, 38 and 40 feet.

JUSTIFICATION: The existing Wilmington Harbor project averaged 7,838,000 tons of waterborne commerce for the period 1992-1996. The recommended project would result in substantial savings ranging from $0.57 to $13.00 per ton in transportation and handling costs on certain commodities. The largest savings would be $13.00 per ton on liquefied gas followed by chrome ore at $6.88. The major commodities imported through the port are salt, chrome ore, fertilizer materials, basic chemicals, asphalt, alcohols and cement with major exports being tobacco, wood pulp and DMT fibers. It is estimated that each passing situation necessitates an average delay of approximately 25 minutes for each vessel in order to pass in the safest reaches of the river resulting in increased costs of vessel operation. Construction of the 6.2 mile passing lane will eliminate 85 percent of such delays and provide increased speeds in transit. Widening the five turns will result in an average savings of 15 minutes in vessel operating time for each transit of the river. The current 38-foot project could handle vessels in the 25,000 to 40,000 ton class while the 42-foot project could handle vessels in the 35,000 to 60,000 ton class. The current 32-foot channel can handle vessels in the 25,000 ton class while the recommended 38-foot channel will handle vessels in the 40,000 ton class. Recently completed investments in container facilities, regional highway improvements, airport facilities, and refrigerated warehouse storage will

JUSTIFICATION (continued):

result in greater opportunities for growth. The Wilmington Harbor Ocean Dredged Material Disposal Site (ODMDS) is available for the lower reaches, an existing disposal site, Eagle Island is available for the middle reach and the State is acquiring a site at Point Peter from New Hanover County for the upper reach of the project. If the capacity of the Eagle Island DMDF is not increased by raising the dikes, material removed from the middle reach of the Wilmington Harbor would have to be deposited in the only other approved disposal site which is the ODMDS. This would require that the material be removed by a bucket dredge and placed on barges for transport to the ODMDS. This assumes that the material to be removed is acceptable for ocean disposal. Since these dredging costs would be incurred every year, they represent the equivalent average annual cost of this operation and can therefore be compared directly to the equivalent annual cost associated with the Eagle Island Dike plan. This comparison resulted in the dike raising being the least costly alternative. The recommended improvements are essential to the economic welfare of New Hanover County and the surrounding area. Average annual benefits are as follows:

Annual Benefits	Amount
Commercial Navigation	$34,102,000
Environmental Enhancement	(not quantified)
Total	$34,102,000

FISCAL YEAR 2001: The requested amount of $40,600,000 will be applied as follows:

Continue Channel Dredging Contracts for deepening portion	$36,100,000
Complete Diking Contract for Deepening portion	1,300,000
Continue Dike Raising Cell 2, to elevation 25 feet for DMDF portion	1,505,000
Initiate Dike Raising Cells 1,2&3 Site Management for DMDF Portion	400,000
Planning, Engineering, and Design for deepening portion	100,000
Planning, Engineering, and Design for DMDF portion	40,000
Construction Management for deepening portion	1,100,000
Construction Management for DMDF portion	55,000
Total	$40,600,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1996, the non-Federal sponsor must comply with the requirements listed below:

1416

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Separable Element (Deepening Portion):		
Provide lands, easements, rights of way, and dredged material disposal area lands.	$ 1,915,000	$6,000
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities where necessary for the construction of the project.	19,595,000	
Pay 25 percent of the costs allocated to deep draft navigation during construction.	71,600,000	
Provide and maintain, at its own expense, the local service facilities necessary to realize the benefits of the general navigation features.	23,212,000	
Reimburse an additional 10 percent of the costs allocated to general navigation facilities within a period of 30 years following completion of construction, as partially reduced by a credit allowed for the value of lands, easements, rights of way, relocations and dredged material disposal areas.	27,000,000	
Total Non-Federal Costs	$143,322,000	$6,000

NON-FEDERAL COSTS (Continued):

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Separable Element (DMDF):		
Pay 25 percent of the cost of construction of the faciliities	$ 11,300,000	
Reimburse an additional 10 percent of the costs of the facility within a period of 30 years following completion of construction	4,540,000	
Total Non-Federal Costs	$ 15,840,000	$0

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction and reimburse its share of construction costs within a period of 30 years following completion of construction.

STATUS OF LOCAL COOPERATION:

The State of North Carolina is the project sponsor. By letters dated 16 May 1996 and 24 April 1997 the State expressed support for the project and provided assurances of their intent to act as project sponsor and to sign a Project Cooperation Agreement (PCA) at the appropriate time. The State of North Carolina intends to seek appropriations from the General Assembly to fund its share of the project cost. The future reimbursement payment will be initiated in the year following completion of construction. The combined PCA was executed on 26 March 1999 for both elements. All work on the dredged material disposal facility prior to FY 00 was accomplished with advanced contributed funds under and agreement executed in July 1997. The future reimbursement for this element will be initiated in the year following the completion of the first dike raising.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps of Engineers) cost estimate of $248,100,000 is an increase of $1,000,000 from the latest estimate ($247,100,000) presented to Congress (FY 2000). This change includes the following items.

Item	Amount
Price Escalation on Construction Features	+$ 5,623,000
Design Changes	+ 822,000
Post Contract Award and other Estimating Adjustments	- 5,450,000
Total	+$ 1,000,000

1418

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The draft EIS for the deepening portion was filed with EPA in February 1996. The final EIS was filed with EPA in July 1996. 401 Certification was completed in October 1996. The final EIS for the DMDF portion was filed with EPA in July 1996. A Record of Decision was signed in December 1996. A Finding of No Significant Impact for design changes is scheduled to be signed in March 2000.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1987. The Wilmington Harbor, NC - 96 Act, and Wilmington Harbor, NC (Dredged Material Disposal Facilities) projects were combined in October 1998 to form this project.

Wilmington Harbor, NC - 96 Act - Deepening Portion

SUMMARIZED FINANCIAL DATA FOR SEPARABLE ELEMENTS:

Estimated Appropriation Requirement (COE)		$214,000,000
Estimated Appropriation Requirement (OFA)		1,678,000
Estimated Total Appropriation Requirement		215,678,000
Future Non-Federal Reimbursement		27,000,000
Estimated Federal Cost (Ultimate)		188,678,000
Estimated Non-Federal Cost		143,322,000
Cash Contributions	71,600,000	
Other Costs	4,722,000	
Reimbursements	27,000,000	
Navigation	27,000,000	

1419

SUMMARIZED FINANCIAL DATA FOR SEPARABLE ELEMENTS (Continued):

Total Estimated Project Cost $332,000,000

REMAINING BENEFIT-REMAINING COST RATIO FOR PROGRAMMED SEPARABLE ELEMENTS: 1.5 to 1 at 7-5/8 percent.

TOTAL BENEFIT-COST RATIO FOR PROGRAMMED SEPARABLE ELEMENTS: 1.3 to 1 at 7-5/8 percent.

Wilmington Harbor, NC - Dredged Material Disposal Facilities Portion

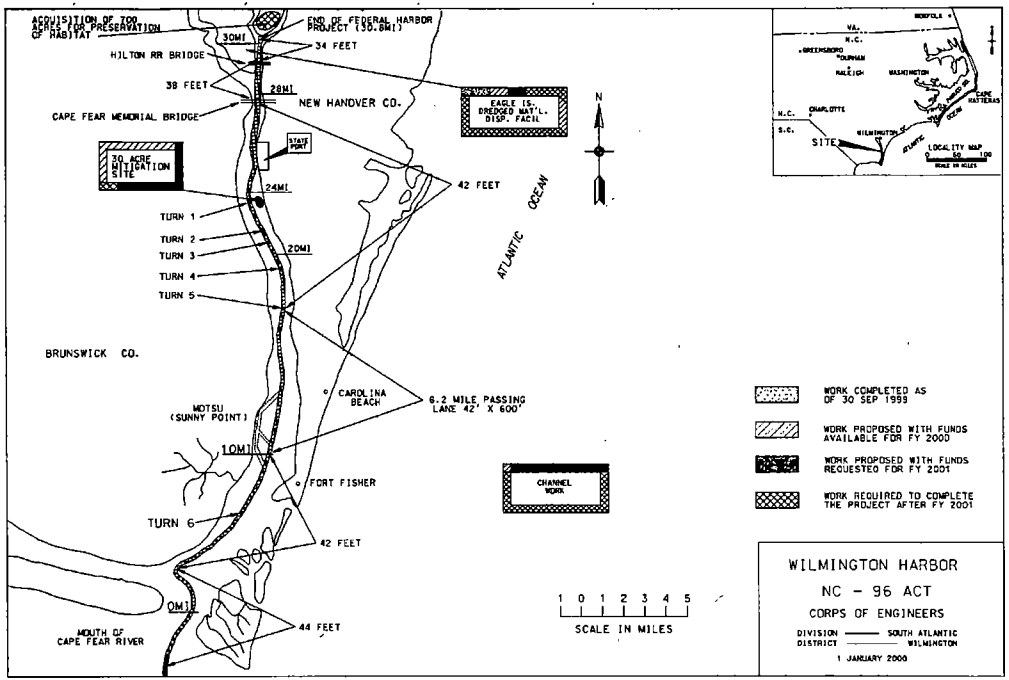
SUMMARIZED FINANCIAL DATA FOR SEPARABLE ELEMENTS:

Estimated Total Appropriation Requirement		$34,100,000
Estimated Non-Federal Reimbursement		4,540,000
Estimated Federal Cost (Ultimate)		29,560,000
Estimated Non-Federal Cost		15,840,000
Cash Contribution	$11,300,000	
Other Costs	0	
Reimbursements	4,540,000	
Navigation $4,540,000		
Total Estimated Project Cost		$45,400,000

REMAINING BENEFIT-REMAINING COST RATIO FOR PROGRAMMED SEPARABLE ELEMENTS: Not Applicable.

TOTAL BENEFIT-COST RATIO FOR PROGRAMMED SEPARABLE ELEMENTS: Not Applicable.

1420


ACQUISITION OF 700 ACRES FOR PRESERVATION OF HABITAT
END OF FEDERAL HARBOR PROJECT (30.8MI)
30MI
34 FEET
HILTON RR BRIDGE
38 FEET
28MI
NEW HANOVER CO.
CAPE FEAR MEMORIAL BRIDGE
EAGLE IS. DREDGED MAT'L. DISP. FACIL
30 ACRE MITIGATION SITE
STATE PORT
24MI
42 FEET
TURN 1
TURN 2
TURN 3
TURN 4
TURN 5
20MI
ATLANTIC OCEAN
N
BRUNSWICK CO.
CAROLINA BEACH
6.2 MILE PASSING LANE 42' X 600'
MOTSU (SUNNY POINT)
10MI
FORT FISHER
CHANNEL WORK
TURN 6
42 FEET
0MI
MOUTH OF CAPE FEAR RIVER
44 FEET
1 0 1 2 3 4 5
SCALE IN MILES
SITE
LOCALITY MAP
WORK COMPLETED AS OF 30 SEP 1999
WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER FY 2001
WILMINGTON HARBOR
NC - 96 ACT
CORPS OF ENGINEERS
DIVISION — SOUTH ATLANTIC
DISTRICT — WILMINGTON
1 JANUARY 2000

APPROPRIATION TITLE: Construction, General - Local Protection Project (Navigation)

PROJECT: San Juan Harbor, Puerto Rico (Continuing)

LOCATION: San Juan Harbor is located within the San Juan metropolitan area along the north coast of Puerto Rico. It is the island's principal port, handling over 75 percent of the Commonwealth's non-petroleum waterborne commerce and is the only harbor on the north coast affording protection in all types of weather.

DESCRIPTION: The proposed plan calls for a principle project depth of 40 feet into Army Terminal and 39 feet for Puerto Nuevo Channel Berths, the Bar Channel will be deepened from its authorized 48 foot depth to stepped depths from 56 feet in the ocean to 49 feet at its intersection with Anegado Channel and widened from 500 feet to 800 feet. The Cruise Channel, Cruise Basin, and Anchorage Area E are unprogrammed.

AUTHORIZATION: Water Resources Development Acts of 1986 and 1996, Sec 202a.

REMAINING BENEFIT - REMAINING COST RATIO: 2.2 to 1 at 6 7/8 percent.

TOTAL BENEFIT - COST RATIO: 2.2 to 1 at 7 3/4 percent.

INITIAL BENEFIT - COST RATIO: 2.2 to 1 at 7 3/4 percent.

BASIS OF BENEFIT - COST RATIO: Benefits are from the General Reevaluation Report dated March 1994 (revised October 98), updated at October 1999 price levels.

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SUMMARIZED FINANCIAL DATA		ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Total Appropriation Requirement	$ 26,400,000		Channels and Canals		
			Puerto Nuevo, Graving Dock	100	Oct 1999
Future Non-Federal Cost (Ultimate)	3,209,000		Entrance, Anegado, Army Terminal	0	To be determined
Estimated Federal Cost (Ultimate)	23,191,000		Entire Project	30	To be determined

SUMMARIZED FINANCIAL DATA (Continued)

Estimated Non-Federal Cost		12,709,000
Cash Contributions	$ 8,674,000	
Other Costs	826,000	
Reimbursements	3,209,000	
Total Estimated Programmed Construction Cost		35,900,000
Total Estimated Unprogrammed Construction Cost		0
Total Estimated Project Cost		$ 35,900,000
Allocations to 30 September 1999		$ 10,647,000
Conference Allowance for FY 2000		8,000,000
Allocation for FY 2000		7,761,000 1/
Allocations thru FY 2000		18,408,000
Allocation requested for FY 2001		6,940,000
Programmed Balance to Complete After FY 2001		10,552,000
Unprogrammed Balance to Complete After FY 2001		0

1/ Reflects $1,168,000 reduction assigned as savings and slippage and $900,000 reprogrammed from the project.

PHYSICAL DATA: Active features of the plan recommended for implementation to include deepening Sabana approach to 32 feet. Deepening and widening Bar Channel to 800 feet wide and moving the center line alignment 350 feet westward. Deepening Anegado Channel, and Army Terminal to 40 feet, Puerto Nuevo Channel to 39 feet, and Graving Dock Channel to 36 feet.

1423

JUSTIFICATION: San Juan Harbor is Puerto Rico's major port accounting for 75 percent of the islands non-petroleum cargo. Over 13 million tons of cargo has been moving through the harbor in recent years, the majority of which is imports that supply the needs of the island residents. With harbor improvements, over $9 million in annual transportation savings could be realized with the project.

Annual Benefits	Amount
Containerized Cargo	$ 6,079,000
Bulk Grain	1,169,000
Liquid Petroleum	2,280,000
Total	$ 9,528,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Dredging	$ 6,426,000
Supervision and Administration	514,000
Total	$ 6,940,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the authorizing legislation, the non-Federal sponsor must comply with the requirements listed below for programmed work.

Requirements of Local Cooperation	Payments During Construction, and Reimbursements	Annual Operation, Maintenance, and Replacement Costs
Pay 25 percent of the costs allocated to navigation ports and harbors.	$ 8,674,000	
Pay 100% of the costs associated with dredging berthing areas.	826,000	
Reimburse an additional 10 percent of the costs of general navigation features allocated to commercial navigation within a period of 30 years following completion of construction.	3,209,000	
Total Non-Federal Costs	$ 12,709,000	$ 0

1424

NON-FEDERAL COST (Continued)

The non-Federal sponsor has agreed to make all required payments concurrently with project construction and reimburse its share of construction costs within a period of 30 years following completion of construction.

STATUS OF LOCAL COOPERATION: The Commonwealth's Puerto Rico Ports Authority is the local sponsor. A Project Cooperation Agreement (PCA) for the project was executed 12 January 1998.

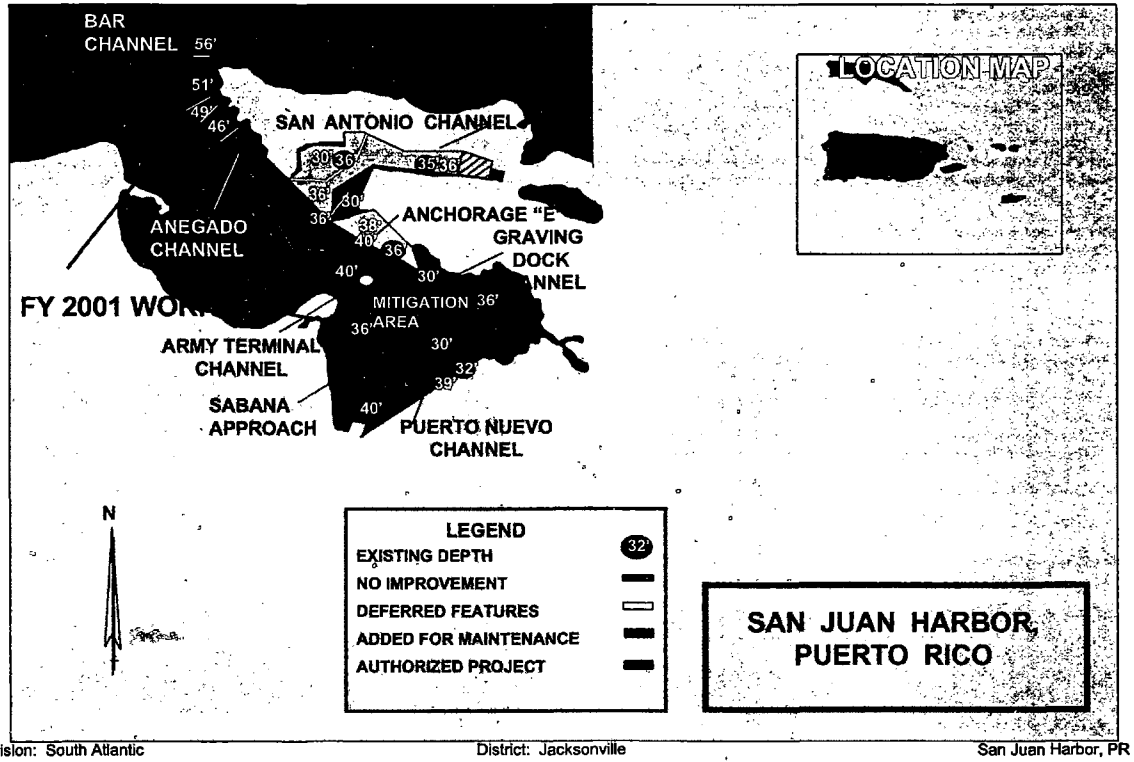
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps of Engineers) cost estimate of $26,400,000 is an increase of $2,300,000 from the latest estimate presented to Congress (FY00). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	$ 1,109,065
Post Contract Award and Other Estimating Adjustments	1,190,935
Total	$ 2,300,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Environmental Assessment and the FONSI for the project were filed and signed in March 1994.

OTHER INFORMATION: None

1425



Division: South Atlantic District: Jacksonville San Juan Harbor, PR

APPROPRIATION TITLE: Construction, General - Channels and Harbors (Navigation)

PROJECT: Charleston Harbor (Deepening/Widening), South Carolina (Continuing)

LOCATION: Charleston Harbor is located on the coast of South Carolina about 15 miles south of the midpoint of the coastline, 165 miles south of Wilmington Harbor, North Carolina and 105 miles north of Savannah Harbor, Georgia.

DESCRIPTION: The plan of improvement is to deepen the Entrance Channel from 42 ft deep by 1000 ft wide to 47 ft deep x 800 ft wide and the inner channels from 40 ft deep to 45 ft deep. Realign/widen various channels/reaches, construct a new turning basin on the Cooper River, construct a new contraction dike, reconstruct two existing contraction dikes and remove the third existing contraction dike. All work is programmed.

AUTHORIZATION: Water Resources Development Act of 1996

REMAINING BENEFIT - REMAINING COST RATIO: 2.08 to 1 at 7 5/8 percent.

TOTAL BENEFIT - COST RATIO: 1.8 to 1 at 7 5/8 percent.

BASIS OF BENEFIT - COST RATIO: Benefits are from the Feasibility Report completed in Feb 1996 at 1995 price levels.

SUMMARIZED FINANCIAL DATA		STATUS: (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Appropriation Requirement (COE)	$98,444,000	Channels & Canals		
		Entrance Channel	10	Being Determined
Estimated Appropriation Requirement (USCG)	95,000	Inner Channels	15	Being Determined
		Turning Basin	0	Being Determined
Estimated Total Appropriation Requirement	98,539,000	Contraction Dikes	30	Apr 00
Future Non-Federal Reimbursement	13,106,000	Entire Project	18	Being Determined
Estimated Federal Cost (Ultimate)	85,433,000			

1427

SUMMARIZED FINANCIAL DATA (Continued).

Estimated Non-Federal Cost		53,267,000
Cash Contributions	32,815,000	
Other Costs	7,346,000	
Reimbursements	13,106,000	
Deep Draft Navigation	13,106,000	
Total Estimated Project Cost		$138,700,000

			ACCUM. PCT. OF EST. FED COST
Allocations to 30 September 1999	14,275,000		
Conference Allowance for FY 2000	37,284,000		
Allocation for FY 2000	31,974,000	1/	
Allocations through FY 2000	46,249,000		47
Allocation Requested for FY 2001	16,227,000		63
Programmed Balance to Complete After FY 2001	35,968,000		
Unprogrammed Balance to Complete After FY 2001	0		

1/ Reflects $5,310.0 reduction assigned as savings and slippage.

PHYSICAL DATA

Entrance Channel - Deepen from 42 ft deep and 1000 ft wide to 47 ft and 800 ft wide for a distance of 16.3 miles. The remaining 200 ft width of the authorized channel will be maintained at 42 ft.

Inner Channels
Harbor and Wando Channel - Deepen from 40 ft to 45 ft.
Shipyard River Entrance Channel and Basin A - Deepen from 38 ft. to 45 ft.
Shutes/Folly Reach - Realign
Daniel Island Reach - Widen from continuous 600 ft to varying 600-875 ft.
Upper Town Creek Channel - Decrease from 40 ft deep by 500 ft wide channel to 16 ft deep by 250 ft wide.

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PHYSICAL DATA (Continued)

Turning Basin - Dredge a 45 ft deep turning basin 1400 ft x 1400 ft for the new Daniel Island Terminal.

Contraction Dikes - Construct a new contraction dike, reconstruct two existing dikes, and remove the third existing dike.

Disposal of approximately 37.9 million cubic yards of new material will be placed into either existing upland dredged material disposal sites or offshore disposal site. A significant diking effort will be required at the Clouter Creek upland disposal area.

JUSTIFICATION: Charleston Harbor is the largest port in South Carolina and ranks first among container cargo ports on the Southeast and Gulf coasts, handling approximately 50 percent of all container tonnage among competing ports. The commerce in Charleston Harbor has increased from 6,850,000 tons in 1982 to an estimated 10,900,000 tons in 1994, of which 7,500,000 tons were containerized cargo. In 1995, shipments of containerized cargo had increased about 25 percent from the 1992 traffic base used in the feasibility report and currently exceed the projected traffic levels used in that analysis. In 1995, 64 percent of containerized cargo were exports of textiles, chemical products, machinery, specialized clays, food products, frozen meats, plastic, and paper products. Charleston Harbor also has a significant amount of coal and petroleum products traffic. Petroleum products, chemicals, bauxite and non-ferrous ores are the major import commodities for Charleston Harbor. The largest ship that stops in Charleston is about 965 feet long and 106 feet wide with design drafts up to 44 ft and the bulk carriers have design drafts up to 49 ft. The Port=s major customers, the shipping lines, are planning container ships as long as 1,100 feet and as wide as 150 feet and have already placed orders for 41 mega-container ships. Existing channel depths, widths, and alignments constrain the ability of vessels to utilize the port to their design capacity, increase transit time due to limited ability to pass except at designated locations, and/or present hazardous conditions. Vessels with deeper draft will be able to take advantage of a deeper channel and reduce transportation costs from tidal delays. Additional transportation savings will result from improved passing areas and alignments. Dredged material will be placed into either existing upland dredged material disposal sites or an offshore disposal site. Charleston Harbor is currently served by three upland disposal sites.

Annual Benefits	Amount
Deep Draft Navigation	$21,634,000
Total	$21,634,000

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FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue construction on Entrance Channel	11,653,150
Continue construction on Contraction Dikes	3,290,000
Diking	642,600
Engineering and Design	202,500
Construction Management	438,750
Total	$16,227,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction And Reimbursements	Annual Operation, Maintenance, Repair Rehabilitation and Replacement Costs
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas, after reductions for such credit have been made in the required cash payments.	20,000	
Provide and maintain, at its own expense, the local service facilities. All berthing areas will be maintained at the project depth of 45 ft at all commercial terminals, piers, and docks.	7,326,000	
Pay 25 percent of the costs allocated to general navigation facilities during construction.	32,815,000	
Reimburse an additional 10 percent of the costs of general navigation features allocated to commercial navigation within a period of 30 years following completion of construction, as partially reduced by a credit allowed for the value of lands, easements, rights of way, and relocations, provided for commercial navigation.	13,106,000	
Total Non-Federal Costs	$ 53,267,000	

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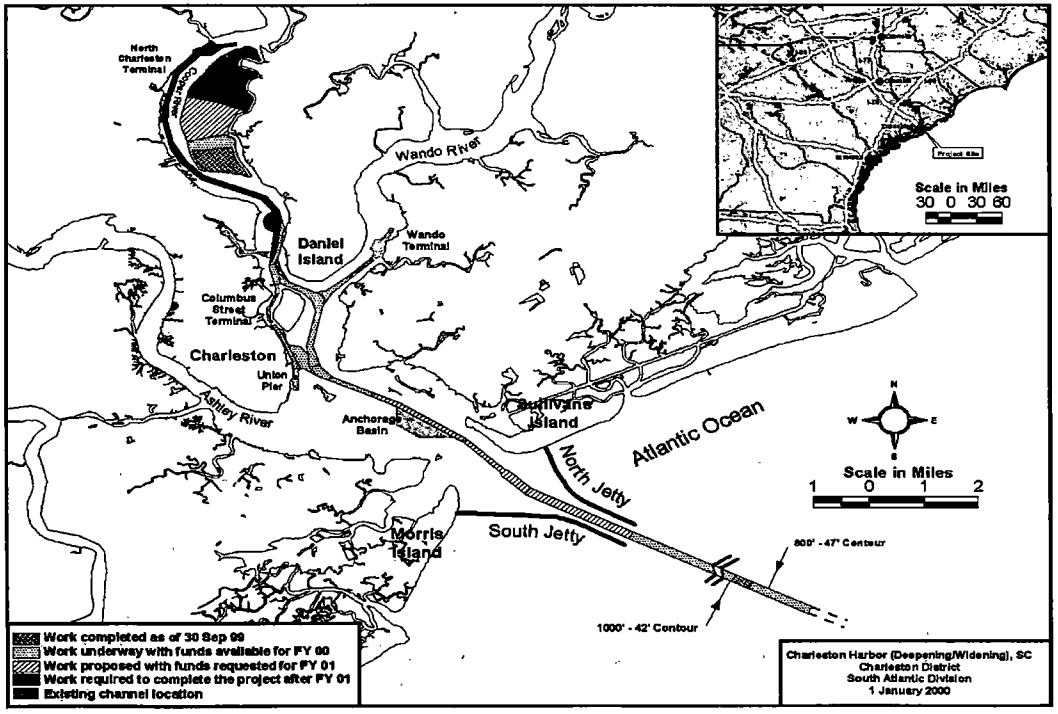
NON-FEDERAL COST (Continued): The non-Federal sponsors have also agreed to make all required payments concurrently with project construction and reimburse its share of construction costs within a period of 30 yrs following completion of construction.

STATUS OF LOCAL COOPERATION: The South Carolina State Ports Authority (SPA) is the non-Federal partner. The Project Cooperation Agreement was executed on 5 June 1998. Their financial plan has been reviewed and found to be in compliance with requirements for ensuring that the non-Federal partner has a reasonable and implementable plan for meeting its financial commitment. Their plan is to fund their share of project costs from the South Carolina Legislature. In the event such funds are not available from the South Carolina Legislature, the SPA is prepared to fund their portion of the project construction cost by an accumulation of cash before and during construction plus the sale, if required, of Revenue Bonds. SPA is a state agency which generates revenues through assessment of port fees to shipping firms that use their facilities. The SPA has a positive cash flow and exercises sound management practices.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate is $98,444,000.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The proposed action does not constitute a major Federal action significantly affecting the quality of the human environment, therefore, the preparation of an EIS is not required. The Assessment (EA) and Findings Of No Significant Impact (FONSI) were signed by the District Engineer on 8 March 1996.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1997 and funds to initiate construction were appropriated in FY 1998.



Division: South Atlantic

District: Charleston

Charleston Harbor (Deepening/Widening), SC

7 February 2000

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1432

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Dade County, Florida (Continuing)

LOCATION: Dade County is on the southeast coast of Florida. The project area consists of 9.3 miles of the Atlantic shoreline of the county from Government Cut north to Bakers Haulover Inlet, 1.2 miles at Haulover Beach Park, and the section of beach along 2.5 miles north of Haulover Beach Park at Sunny Isles.

DESCRIPTION: The project provides for a protective and recreational beach with a dune for beach erosion control and hurricane protection along 9.3 miles and a protective and recreational beach along 3.7 miles. The berm width is 50 feet at elevation +9.0 feet MLW for 10.5 miles and 20 feet wide at +9.0 feet MLW for 2.5 miles.

AUTHORIZATION: Flood Control Act of 1968, Water Resources Development Act of 1974, Supplemental Appropriations Act of 1985, and Water Resources Development Act of 1986.

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable because initial construction has been completed.

TOTAL BENEFIT-COST RATIO: 2.6 to 1 at 3-1/4 percent.

INITIAL BENEFIT-COST RATIO: 5.1 to 1 at 3-1/4 percent (FY 1965).

BASIS OF BENEFIT-COST RATIO: Initial benefits are from the June 1965 Dade County Report at October 1964 price levels. Total benefits are from the April 1985 Dade County, North of Haulover Beach Park, Design Memorandum at October 1984 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PCT COMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		177,300,000		Breakwaters and Seawalls		
Initial Construction	49,712,000			Jetty Extension	100	Aug 1976
Periodic Nourishment	127,588,000			Upgrading N. Jetty at Government Cut	100	Nov 1983
Estimated Non-Federal Cost		160,600,000		Jetty Rehabilitation at		
Initial Construction	42,606,000			Haulover Inlet	100	Nov 1986
Cash Contributions	40,767,000			Beach Replenishment		
Other Costs	1,839,000			Initial Fill	100	Aug 1989

SUMMARIZED FINANCIAL DATA (Continued):

			ACCUM. PCT OF EST FED COST
Periodic Nourishment		117,994,000	
Cash Contributions	117,994,000		
Other Costs	0		
Total Estimated Project Cost		$337,900,000	
Initial Construction	92,318,000		
Periodic Nourishment	245,582,000		
Allocations to 30 September 1999		62,897,000	
Conference Allowance for FY 2000		5,000,000	
Allocation for FY 2000		4,288,000	1/
Allocations through FY 2000		67,185,000	38%
Allocation Requested for FY 2001		3058,000	39%
Programmed Balance to Complete after FY 2001		107,057,000	
Unprogrammed Balance to Complete after FY 2001		0	

STATUS (1 Jan 2000)	PCT COMPL	PHYSICAL COMPLETION SCHEDULE
Periodic Nourishment		
Sunny Isles (Portion)	0	To be determined
Dade County (Remainder	10	To be determined
Entire Project	25	To be determined

1/ Reflects $712,000 reduction assigned savings and slippage.

PHYSICAL DATA

Jetty Extension	1
Initial Beach Fill	15,597,000 cy
Advance Nourishment	450,000 cy
Periodic Nourishment	3,540,000 cy/10 years

JUSTIFICATION: The Dade County shore, occupied by Miami Beach and a number of smaller communities, is highly developed and probably represents the most densely concentrated resort area in the world. The area is heavily visited by tourists throughout the year. The estimated current attendance for the project shore exceeds 15 million annually. Prior to the initial beach fill, recession of the shore caused loss of valuable beaches and property and placed seawalls and other structures under direct wave attack. At a number of locations, erosion undermined or threatened to undermine shorefront structures. Dade County lies in a zone of relatively high hurricane frequency, and many of the most intense hurricanes of record have passed over or near the area. Storm surge and waves generated in the ocean and in Biscayne Bay by past hurricanes have caused major tidal flooding in the project area. A severe hurricane crossing the area on a

JUSTIFICATION (Continued): critical path could cause a major flood disaster. The September 1926 hurricane devastated Miami and took 100 lives. Hurricane Andrew impacted the shorefront in Dade County in August 1992. The project prevented an estimated $20 million in damages to shorefront development, with a loss of only 2 percent of the beach fill. The beach fill loss due to Hurricane Andrew is being restored under the authority of PL 84-99 during the overall renourishment of the project during FY97 and FY99. The beaches of Dade County are of prime importance as tourist attractions. It is essential to the economy of the area that the beaches be maintained and preserved. Average annual benefits are as follows:

Annual Benefits	Amount
Beach Erosion Control	3,795,000
Recreation	22,181,000
Storm Damage Prevention	1,879,000
Land Enhancement	125,000
Total	27,980,000

FISCAL YEAR 2001: Funds requested for this fiscal year will be applied as follows:

Complete construction Sunny Isles Mod Construction/Breakwaters	2,945,000
Engineering and Design	113,000
Total	$3,058,000

NON-FEDERAL COST: In accordance with the cost-sharing concepts reflected in the authorizing legislation, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, and rights-of-way.	1,839,000	
Pay 41.3 percent of the costs allocated to initially nourish the reach south of Bakers Haulover Inlet; 50.2 percent of the costs to renourish the reach south of Bakers Haulover Inlet; 47.5 percent of the costs to renourish Sunny Isles; and 30 percent to nourish and renourish the reach at Haulover Beach Park.	158,761,000	
Total	$160,600,000	$ 0

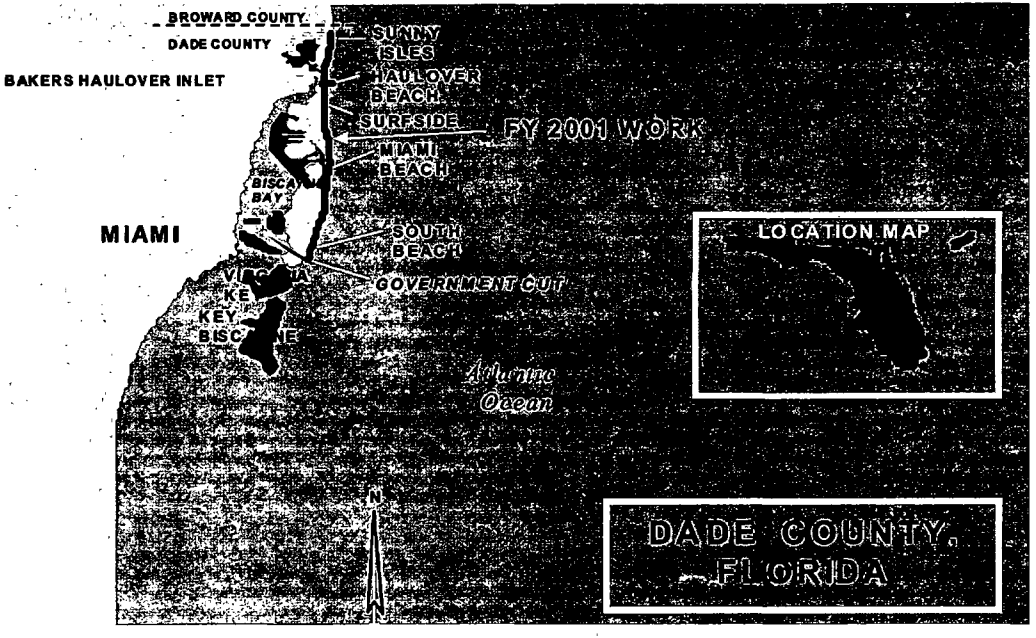
STATUS OF LOCAL COOPERATION; The Dade County Board of County Commissioners, Miami, Florida, is the local sponsor. A Local Cooperation Agreement, pursuant to Section 221 of the River and Harbor and Flood Control Act of 1970 (PL 91-611) was accepted by the Secretary of the Army on 16 January 1973. A supplemental agreement for reimbursement to the local sponsor for the Bal Harbour portion was approved on 30 June 1976. An agreement for the section north of Haulover Beach Park was signed on 20 June 1986.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps) cost estimate of $177,300,000 is an increase of $14,000,000 from the latest estimate ($163,300,000) presented to Congress (FY 1999). This change includes the following items.

Item	Amount
Price Escalation on Construction Features	12,970,000
Design Changes (Reduction for Reef Contract #2)	1,030,000
Total	$14,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final EIS was filed with CEQ on 27 August 1976. The provisions of Section 404 of the Clean Water Act were met by a Section 404(b)(1) Evaluation in June 1984. A supplement to the EIS was filed with EPA on 18 March 1983. An EIS is under preparation for the modification of the project at Sunny Isles.

OTHER INFORMATION: Funds to initiate preconstruction planning were appropriated in FY 1973 and initial construction funds were appropriated in FY 1977. Funds to initiate construction of the Sunny Isles (North of Haulover Beach Park) segment were appropriated in FY 1985. Section 69 of the Water Resources Development Act of 1974 authorized initial construction by non-Federal interests of the 0.85-mile segment immediately south of Bakers Haulover Inlet (Bal Harbour). Local interests have accomplished the work and reimbursement was provided by funds included in the 1976 Appropriations Act. Section 501(a) of the Water Resources Development Act of 1986 authorized the extension of Federal participation in beach nourishment from 10 years to the life of the project; however, a period of 50 years was used for economic analysis of the project. Available beach fill material located in offshore borrow areas will be exhausted through renourishment contracts in 1999 and 2000. Engineering and design is underway to allow use of alternative sources of beach fill for subsequent renourishments. Engineering and environmental monitoring of the renourishment planned for 2000 using alternative sources of beach fill is anticipated to support future large-scale renourishment of the project.



Division: South Atlantic | District: Jacksonville | Dade County, FL

1437

APPROPRIATION TITLE: Construction, General - Beach Erosion Control

PROJECT: Duval County, Florida (Continuing)

LOCATION: Duval County is located on the upper east coast of Florida at Jacksonville within 20 miles of the Florida-Georgia state line. The project area extends along the Atlantic Ocean shoreline for about 10 miles south from the south side of the St. Johns River to the St. Johns County line.

DESCRIPTION: The plan of improvement for the Duval County beaches provides for a 60-foot-wide berm extension seaward from the state-established Erosion Control Line. This includes restoration of the protective beach along the 10-mile shoreline and future periodic nourishment at 4-year intervals. The last renourishment was completed in the summer of 1995. All work is programmed.

AUTHORIZATION: River and Harbor Act of 1965 and Water Resources Development Act of 1986.

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable because initial construction has been completed.

TOTAL BENEFIT-COST RATIO: Not applicable.

INITIAL BENEFIT-COST RATIO: 2.2 to 1 at 3-1/4 percent (FY 1976).

BASIS OF BENEFIT-COST RATIO: Benefits are from the July 1990 Section 934 Reevaluation Study and January 1992 Supplement to the Reevaluation Report at April 1990 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PCT	PHYSICAL COMPLETION COMPL	SCHEDULE
Estimated Federal Cost		$111,200,000		Beach Replenishment			
Initial Construction	6,717,000			Initial Fill	100	Oct 1980	
Periodic Nourishment	104,483,000			Periodic Nourishment	7	Jun 2026	
Estimated Non-Federal Cost		$72,900,000		Entire Project	10	To be determined	
Initial Construction	7,235,000						
Cash Contributions	4,901,000						
Other Costs	2,334,000						

Division: South Atlantic

District: Jacksonville

Duval County, FL

1438

SUMMARIZED FINANCIAL DATA (Continued)

Periodic Nourishment		65,665,000	
Cash Contributions	65,665,000		
Other Costs	0		
Total Estimated Project Cost		184,100,000	
Initial Construction		13,952,000	
Periodic Nourishment		170,148,000	
Allocations to 30 September 1999		$ 20,174,000	
Conference Allowance for FY 2000		0	
Allocation for FY 2000		0	
Allocations through FY 2000		20,174,000	18%
Allocation Requested for FY 2001		3,800,000	
Programmed Balance to Complete after FY 2001		87,226,000	
Unprogrammed Balance to Complete after FY 2001		0	

PHYSICAL DATA

Initial Beach Fill	2,486,000 cubic yards
Periodic Nourishment for FY 1995-1996	1,240,000 cubic yards
Future Periodic Nourishment	960,000 cubic yards every 4 years

JUSTIFICATION: The majority of the project shore is a popular resort area with substantial summer influxes of seasonal residents and visitors. The consolidated City of Jacksonville developed a 450-acre full-facility park, Kathryn Abbey Hanna Park, along the 7,800 feet of ocean shore south of and adjacent to Mayport Naval Station. The park has a native plant and wildlife environment fronted by dune formations that is protected by the project. Atlantic Beach, Neptune Beach, and Jacksonville Beach are highly developed with homes, apartment houses, resort motels and condominiums, and concession facilities throughout. The current estimate of this shorefront development is $155 million. In 1964, storm damage to the Duval oceanfront amounted to about $4,000,000. A 1962 northeast storm caused $2,580,000 in damages. Neptune and Jacksonville Beaches both experienced over $1,000,000 in damages. Federal costs for temporary emergency protection and restoration of storm damage at Jacksonville and Neptune Beaches totaled $1,076,000 in March 1963. At these two beaches and Atlantic Beach, additional emergency work costs totaled $1,391,000 in September 1964 and $309,000 at Atlantic Beach in October 1964. Emergency costs to State, county, cities, and private individuals during the storms were substantial. Since completion of initial construction, there have been over 12 northeasters and, in September 1979, Hurricane David caused water levels that exceeded design criteria. Two northeasters during the Fall of 1981 and the Fall of 1982 occurred during the highest peak tides of the year. These storms and the severe northeasters in September and October 1992 caused accelerated

JUSTIFICATION (Continued): erosion and recession to the extent that renourishment was required in 1995. The authorized project has performed well and has prevented damage to shorefront development. The annual reduction of damages to development based on current shorefront development is estimated to be $3.7 million. Average annual benefits for the proposed 60-foot project are as follows:

Annual Benefits	Amount
Storm Damage Prevention	3,670,000
Recreation Benefits	2,108,500
Total	5,778,500

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue and complete beach renourishment	$3,420,000
Construction management	380,000
Total	$3,800,000

NON-FEDERAL COST: In accordance with the cost-sharing concepts reflected in the authorizing legislation, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights-of-way, relocations, and dredged material disposal areas.	$ 2,334,000	
Pay 41.6 percent of the costs allocated to initial fill.	5,327,000	
Pay 38.4 percent of the costs allocated to periodic renourishment of the project shoreline.	65,239,000	
Total	$72,900,000	

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

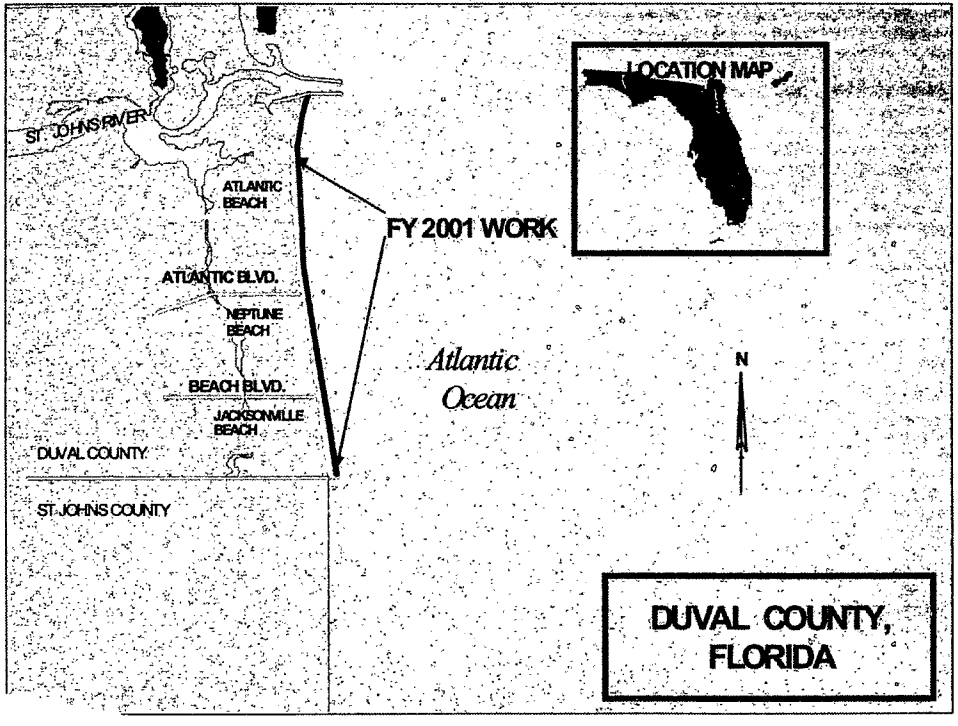
1440

STATUS OF LOCAL COOPERATION: By letter of 18 May 1988, the local sponsor (City of Jacksonville) expressed their interests in continuing an agreement with the Federal government to extend the beach nourishment of the project. A new Project Cooperation Agreement was executed in July 1994 to allow Federal participation in cost sharing from 10 to 50 years based upon the Section 934 Report that was approved by ASA(CW) in February 1992.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps) cost estimate of $111,200,000 reflects no change from the latest estimate presented to Congress (FY 1998).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final EIS for the previously authorized project was filed with CEQ on 10 September 1975. Prior to the nourishment of any segment of the project, appropriate NEPA documentation will be prepared.

OTHER INFORMATION: Initial construction began in 1978 and was completed in October 1980. The first renourishment was completed in 1987. The second overall renourishment (second renourishment south segment and third renourishment north of Atlantic) was completed in November 1995. The next renourishment is anticipated in 2001.


ST. JOHNS RIVER
ATLANTIC BEACH
ATLANTIC BLVD.
NEPTUNE BEACH
BEACH BLVD.
JACKSONVILLE BEACH
DUVAL COUNTY
ST. JOHNS COUNTY
FY 2001 WORK
Atlantic Ocean
LOCATION MAP
N
DUVAL COUNTY, FLORIDA

APPROPRIATION TITLE: Construction, General - Beach Erosion Control

PROJECT: Manatee County, Florida (Continuing)

LOCATION: The project is located along the west central coast of Florida, immediately south of the entrance to Tampa Bay.

DESCRIPTION: The plan of improvement provides for the placement of fill to form a protective and recreational beach for about 4.7 miles of shore along the Gulf shore of Anna Maria Key, together with periodic nourishment of the entire 7.5 miles of shorefront as needed and justified. The project provides a minimum 75-foot berm at an elevation of 5 feet above the national geodetic vertical datum. Offshore slopes would be about 1 on 11 from the berm crest to mean low water, thence 1 on 27 to existing bottom. Initial construction was completed in March 1993. All work is programmed.

AUTHORIZATION: Section 201 of the Flood Control Act of 1965, Section 206 of WRDA 92.

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable because initial construction has been completed.

TOTAL BENEFIT-COST RATIO: Not applicable.

INITIAL BENEFIT-COST RATIO: 2.8 to 1 at 8-5/8 percent (FY 1990).

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluation included in the General Design Memorandum approved February 1991 at May 1989 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PCT COMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$43,600,000		Beach Replenishment		
Initial Construction	5,739,000			Initial Fill	100	Mar 1993
Periodic Nourishment	37,861,000			Periodic Nourishment	0	To be determined
Estimated Non-Federal Cost		$36,400,000		Entire Project	10	To be determined
Initial Construction	3,442,000					
Cash Contributions	3,395,000					
Other Costs	47,000					

Division: South Atlantic

District: Jacksonville

Manatee County, FL

SUMMARIZED FINANCIAL DATA (Continued)

Periodic Nourishment		32,958,000	
Cash Contributions	32,844,000		
Other Costs	114,000		
Total Estimated Project Cost		$80,000,000	
Initial Construction		9,181,000	
Periodic Nourishment		70,819,000	
Allocations to 30 September 1999		$ 5,898,000	
Conference Allowance for FY 2000		0	
Allocation for FY 2000		0	
Allocations through FY 2000		5,898,000	14%
Allocation Requested for FY 2001		200,000	
Programmed Balance to Complete after FY 2001		37,502,000	
Unprogrammed Balance to Complete after FY 2001		0	

JUSTIFICATION: The primary purpose of the Manatee County shore protection project is to mitigate physical damages from storms affecting the project shorefront at Anna Maria Key. The project provides protection to over $66 million in private and commercial upland development, as well as infrastructure such as roads and utilities. About $4.4 million in annual damages occur in the project area under existing conditions. Two of the evacuation routes from the island to the mainland would be protected by the project. Physical loss of land would be prevented, and the value of the land enhanced by project construction. Incidental recreation benefits would be generated by increased recreational usage of the project beach. The project increased usable nesting beach for the endangered and threatened turtle species from 5.1 to 35 acres. Average annual benefits are:

Annual Benefits	Amount
Storm Damage Reduction	$ 3,938,500
Prevention of Land Loss	96,600
Recreation	321,000
Total	$ 4,351,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Contnue and complete E&D for beach renourishment Anna Maria Key	$180,000
Construction management for renourishment Anna Maria Key	20,000
Total	$200,000

NON-FEDERAL COST: The estimated cost to the local sponsor, Manatee County Board of County Commissioners, of complying with the requirements of local cooperation for construction of the project as set forth in the authorizing legislation is $36,400,000.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights-of-way, relocations, and dredged material disposal areas	$ 161,000	
Pay 45.71 percent of the costs associated with the initial nourishment and periodic renourishment of the project	36,239,000	
Total Non-Federal Costs	$36,400,000	

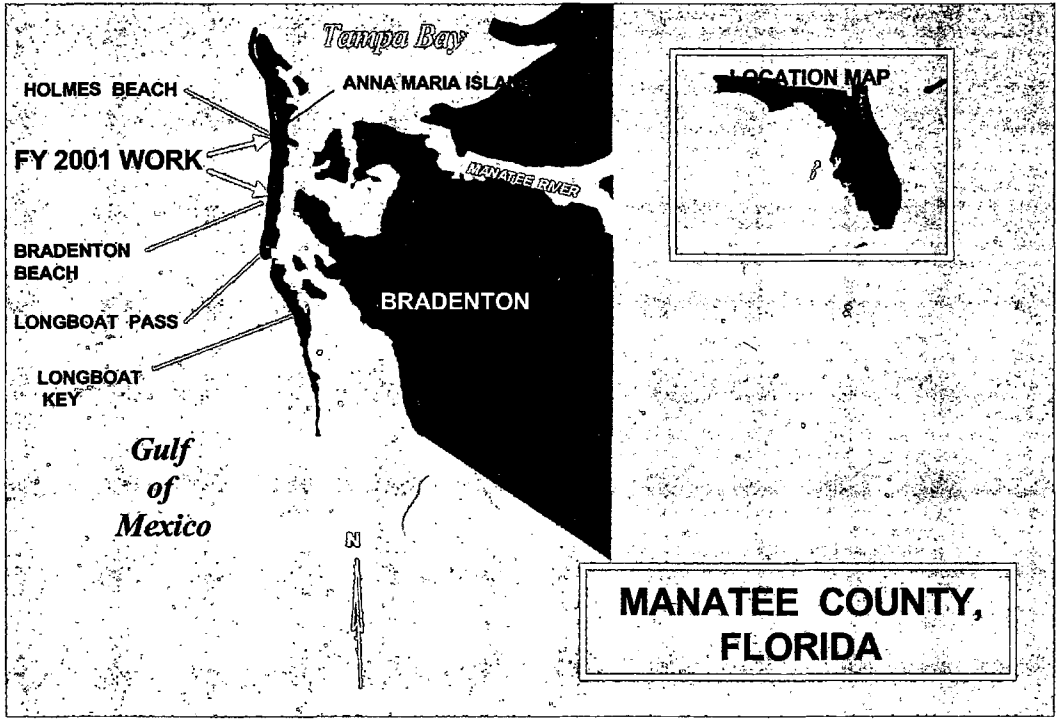
The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The Manatee County Board of County Commissioners is the local sponsor. A Local Cooperation Agreement reflecting the cost sharing requirements of the Water Resources Development Act of 1986 was executed in August 1992. In December 1997, the ASA(CW) approved the use of Section 206 (of WRDA 1992) authority for Manatee County to conduct E&D for the first periodic renourishment. An amendment to the existing PCA will be necessary to allow Federal reimbursement for the Federal share of E&D and renourishment costs.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps) cost estimate of $43,600,000 reflects no change from the latest estimate ($43,600,000) presented to Congress (FY 1998).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final EIS was prepared in August 1973 and a first supplement to the final EIS was filed with EPA in June 1979. A Final Supplement 2 to the Final Environmental Impact Statement was filed with EPA in November 1991.

OTHER INFORMATION: The local sponsor desires to conduct the E&D and award the renourishment contract for Anna Maria Island. Funds for initiation of engineering and design for renourishment were reprogrammed to the project in FY97.


Tampa Bay
HOLMES BEACH
ANNA MARIA ISLA
FY 2001 WORK
MANATEE RIVER
BRADENTON BEACH
BRADENTON
LONGBOAT PASS
LONGBOAT KEY
Gulf of Mexico
N
LOCATION MAP
MANATEE COUNTY, FLORIDA

1446

APPROPRIATION TITLE: Construction, General - Beach Erosion Control

PROJECT: Martin County, Florida (Continuing)

LOCATION: Martin County is located about 100 miles north of Miami and due east of Lake Okeechobee. The Martin County Atlantic coastline is located in the southeastern section of Florida with the Indian River Lagoon to the West, the Atlantic Ocean to the East, St. Lucie Inlet to the South, and St. Lucie County to the North. The beach control project itself is located on Hutchinson Island and stretches from the St. Lucie/Martin County line to the southern boundary of Stuart Public Beach Park.

DESCRIPTION: The recommended plan of improvement for Martin County provides for restoration of a protective beach along 3.75 miles of shoreline. The borrow area for initial and future renourishments is located within a shoal area about 1 mile offshore of the southern project area. The restored beach will require approximately 589,600 cubic yards of material every 11 years to maintain project dimensions. The plan includes restoration of the primary dune, as needed, to an elevation of 12.5 feet above mean sea level and a top width of 20 feet, as well as a 35-foot-wide protective berm at an elevation of 8.0 feet mean sea level. The recommended plan was designed to reduce associated environmental impacts to minimum levels. Of primary importance is the impact of project construction on sea turtle nesting. Future nourishments of the Martin County shore protection project are scheduled to occur between November 1st and April 15th. Initial construction was completed 15 April 1996.

AUTHORIZATION: Water Resources Development Act of 1990.

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable because initial construction has been completed.

TOTAL BENEFIT-COST RATIO: 5.0 to 1 at 7-5/8 percent.

INITIAL BENEFIT-COST RATIO: 5.0 to 1 at 8-5/8 percent (FY 1990).

BASIS OF BENEFIT-COST RATIO: Benefits are from the Martin County, Florida, General Design Memorandum dated December 1993 (revised June 1994) at December 1993 price levels.

SUMMARIZED FINANCIAL DATA		ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PCT COMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost	$35,800,000		Beach Replenishment		
Initial Construction	5,254,000		Initial Fill	100	Apr 1996
Periodic Nourishment	30,546,000		1st Nourishment	0	Apr 2001

Division: South Atlantic

District: Jacksonville

Martin County, FL

1447

SUMMARIZED FINANCIAL DATA (Continued)				ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PCT COMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Non-Federal Cost			$41,000,000		Remaining Renourishments	0	To be determined
Cash Contributions	6,566,000						
Other Costs	0						
Periodic Nourishment		34,434,000					
Cash Contributions	34,434,000						
Other Costs	0						
Total Estimated Project Cost			76,800,000				
Initial Construction		11,820,000					
Periodic Nourishment		64,980,000					

Allocations to 30 September 1999	$ 5,656,000	
Conference Allowance for FY 2000	250,000	
Allocation for FY 2000	214,000	1/
Allocations through FY 2000	5,870,000	16%
Allocation Requested for FY 2001	2,419,000	
Programmed Balance to Complete after FY 2001	27,511,000	
Unprogrammed Balance to Complete after FY 2001	0	

1/ Reflects $36,000 reduction assigned savings and slippage.

PHYSICAL DATA

Initial Beach Fill	1,297,500 cubic yards
Future Periodic Nourishment	589,600 cubic yards every 11 years

JUSTIFICATION: Martin County is a rapidly developing region of southern Florida with an estimated 1985 population of 80,000. The population is expected to grow to 165,000 by the year 2020. Economic development depends heavily upon tourism, with other major industries including aerospace, plastics, and agriculture. The majority of the development on Hutchinson Island within the previous 10 years consists of multi-unit residential structures. A feasibility report was completed in September 1985. A General Design Memorandum (GDM) with an Environmental Assessment was approved June 1994. The recommended plan described in the GDM, estimated to cost $55,900,000 with an estimated Federal cost of $25,600,000 and an estimated non-Federal cost of $30,300,000,

JUSTIFICATION (Continued): provides for initial beach fill and periodic nourishment for 3.75 miles beginning at the St. Lucie/Martin County and proceeding south on Hutchinson Island. The plan includes restoration of the primary dune and a 35-foot protective beach to provide storm damage protection along the project area. The average annual benefits amount to $5,674,000. The benefit-cost ratio is 5.0 to 1.

The project was authorized for construction by the Water Resources Development Act of 1990. The cost sharing requirements as stated in the GDM calls for Martin County Board of County Commissioners to pay 53.41 percent of all costs associated with the initial construction and future nourishments of the project, presently estimated at $41,000,000.

The annual reduction of damages to development based on current shorefront development is estimated to be $4.972 million. Average annual benefits for the recommended plan are as follows:

Annual Benefits	Amount
Storm Damage Prevention	4,972,000
Recreation Benefits	702,000
Total	$5,674,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Complete 1st beach nourishment	2,029,000
Complete pre- and post-construction monitoring	226,000
Construction management	164,000
Total	$2,419,000

1449

NON-FEDERAL COST: In accordance with the cost-sharing concepts reflected in the Martin County, Florida, General Design Memorandum dated December 1993 (revised June 1994).

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights-of-way, relocations, and dredged material disposal areas	$ 385,000	
Pay 53.41 percent of the costs allocated to initial fill.	6,539,000	
Pay 53.41 percent of the costs allocated to periodic renourishment of the project shoreline	34,076,000	
Total Non-Federal Costs	$41,000,000	

STATUS OF LOCAL COOPERATION: A Project Cooperation Agreement was executed in August 1995.

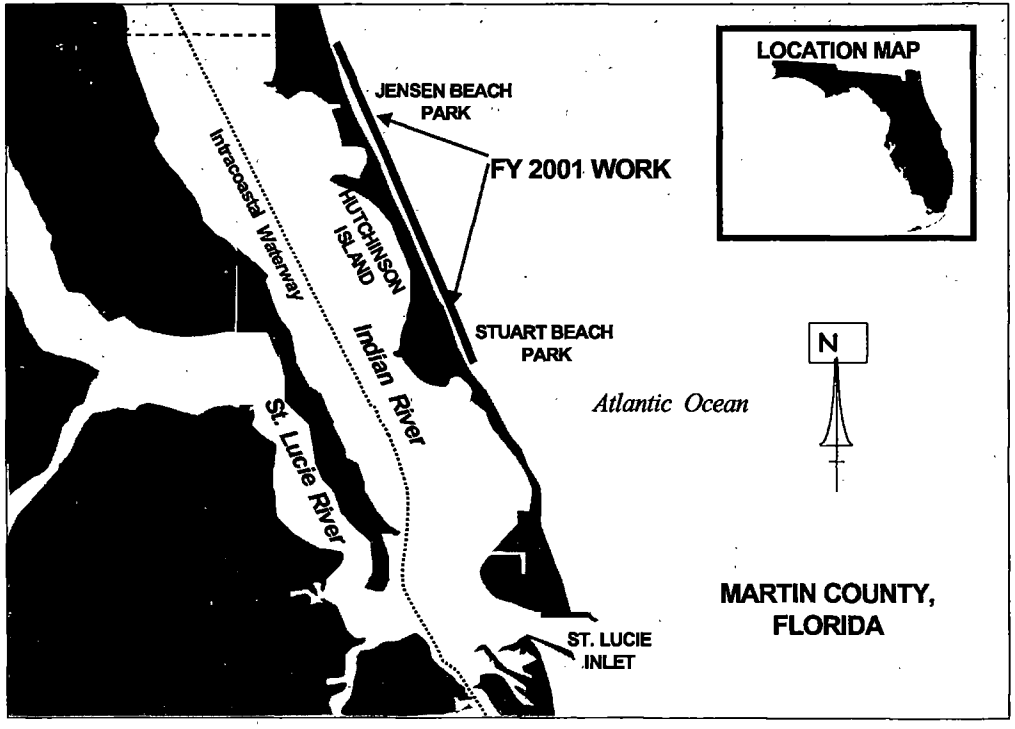
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps) cost estimate of $35,800,000 is an increase of $10,200,000 from the latest estimate ($25,600,000) presented to Congress (FY 1998). This change includes the following item:

Item	Amount
Additional Renourishment	$10,200,000
Total	$10,200,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: A final EIS was prepared and included in the Feasibility Report dated September 1985 (revised June 1986). An Environmental Assessment and a FONSI (Finding-of-No-Significant-Impact) are included in the General Design Memorandum dated December 1993 (revised June 1994).

OTHER INFORMATION: Due to the numerous tropical storms and hurricanes that have impacted the project area, engineering and design for the 1st renourishment was initiated in FY 2000. FY 2001 funds will be used to construct the 1st renourishment of the project and to conduct pre- and post-construction monitoring.

1450


LOCATION MAP
JENSEN BEACH PARK
FY 2001 WORK
HUTCHINSON ISLAND
Intracoastal Waterway
Indian River
STUART BEACH PARK
Atlantic Ocean
N
St. Lucie River
MARTIN COUNTY, FLORIDA
ST. LUCIE INLET

APPROPRIATION TITLE: Construction, General - Local Protection Projects (Flood Control)

PROJECT: Carolina Beach and Vicinity, North Carolina (Continuing)

LOCATION: The project is located in New Hanover County, about 15 miles southeast of Wilmington, North Carolina, on the peninsula which separates the lower Cape Fear River from the Atlantic Ocean.

DESCRIPTION: The project consists of two separable elements, the Carolina Beach Portion and Area South of Carolina Beach and provides for construction of a dune with a crown width of 25 feet at elevation 13.5 feet National geodetic vertical datum (NGVD), a berm with a crown width of 50 feet at elevation 10.5 feet NGVD for Carolina Beach and 9 feet NGVD for the Area South, a rock revetment at elevation 10.5 feet NGVD along the northern 2,050 feet fronted by a 130 foot wide berm at elevation 6.5 feet NGVD, and Federal participation in the cost of beach nourishment for a period not to exceed 50 years from year of initial placement. Total length of project is 32,000 feet. A reevaluation report was completed which determined that future nourishment on the Carolina Beach Portion should be continued for 50 years in accordance with the Water Resources Development Act of 1986. All work is programmed.

AUTHORIZATION: Flood Control Act of 1962.

REMAINING BENEFIT - REMAINING COST RATIO: The remaining benefit-remaining cost ratio for the Carolina Beach Portion and Area South of Carolina Beach is not applicable because the initial construction has been completed.

TOTAL BENEFIT - COST RATIO: 1.6 to 1 at 8-1/4 percent (Carolina Beach); 1.8 to 1 at 8-1/4 percent (Area South)

INITIAL BENEFIT - COST RATIO: 3.2 to 1 at 3 percent (FY 1965).

BASIS OF BENEFIT - COST RATIO: Benefits for the Carolina Beach portion are based on the December 1992 Section 934 Reevaluation Report at April 1992 price levels. Hurricane damage prevention benefits for the Area South are based on the Design Memorandum Supplement approved in March 1994 at October 1992 price levels.

SUMMARIZED FINANCIAL DATA		STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost	$193,970,000	Carolina Beach Portion	69	Being Determined
Initial Construction	$ 16,481,000	Area South	6	Being Determined
Periodic Nourishment	177,489,000			
		Entire Project	37	Being Determined

SUMMARIZED FINANCIAL DATA - Continued

			ACCUM. PCT. OF EST. FED. COST
Estimated Non-Federal Cost		$106,325,000	
Initial Construction	$ 9,339,000		
Cash Contributions	$ 9,104,000		
Other Costs	235,000		
Periodic Nourishment	96,986,000		
Cash Contributions	96,516,000		
Other Costs	470,000		
Total Estimated Project Cost		$300,295,000	
Initial Construction	25,820,000		
Future Nourishment	274,475,000		
Allocations to 30 September 1999		$ 23,986,000	
Conference Allowance for FY 2000		0	
Allocation for FY 2000		50,000 1/	
Allocation through FY 2000		24,036,000	12
Allocation Requested for FY 2001		2,000,000	13
Programmed Balance to Complete after 2001		167,934,000	
Unprogrammed Balance to Complete after FY 2001		0	

1/Reflects $50,000 reprogrammed to the project.

1453

PHYSICAL DATA

Carolina Beach Portion:

	Dune	Integral Berm	Stone Revetment	Frontal Berm
Elevation	13.5 feet above NGVD	10.5 feet above NGVD	10.5 feet above NGVD	6.5 feet above NGVD
Crown Width	25 feet	50 feet	-	-
Length	14,000 feet	14,000 feet	2,050 feet	2,050 feet

Area South of Carolina Beach:

	Dune	Integral Berm
Elevation	13.5 feet above NGVD	9 feet above NGVD
Crown Width	25 feet	50 feet
Length	18,000 feet	18,000 feet

JUSTIFICATION: The project will provide improvements for hurricane protection, beach erosion control, and recreation in the urban area of the towns of Carolina Beach and Kure Beach, North Carolina. These areas experienced heavy hurricane flood damages in the hurricanes of 1944, 1954, 1955, and 1958. Hurricane Hazel, the maximum hurricane of record, which occurred in 1954, caused $4,664,000 and $1,218,000 in damages to Carolina Beach and Kure Beach, respectively, based on 1954 price levels. A recurrence of this type hurricane at October 1999 price levels and July 1973 development would cause damages of $46,052,000 to Carolina Beach, and $39,878,000 in damages at October 1999 price levels and January 1993 development to Kure Beach. The beach communities suffered minor damage from overwash during the 1999 hurricane season as a result of the project. Average annual benefits are as follows:

Annual Benefits	Amount
Hurricane Damage Prevention	$10,159,600
Recreation	482,300
Total	$10,641,900

1454

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate renourishment for Carolina Beach and Kure Beach	$1,900,000
Planning, Engineering and Design	50,000
Construction Management	50,000
Total	$2,000,000

NON-FEDERAL COST: Carolina Beach - The actual cost to the town of Carolina Beach, North Carolina, the local sponsor for the Carolina Beach portion, of complying with the requirements of local cooperation for initial construction of the project and the completed future nourishment as set forth in the authorizing legislation was $7,315,000. In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below for the remaining future nourishment.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair Rehabilitation and Replacement Costs
Provide lands, easements, rights of way, including borrow areas.	$ 470,000	
Pay 35 percent of the first costs and future nourishment allocated to hurricane and storm damage reduction and bear all costs of operation, maintenance and replacement of hurricane and storm damage reduction facilities.	16,928,000	$ 95,000
Total Non-Federal Costs - Future Nourishment	$17,398,000	$ 95,000

Area South of Carolina Beach - In accordance with the cost sharing and financing concepts reflected in the Water Resource Development Act of 1986, the town of Kure Beach, North Carolina, as non-Federal sponsor for the Area South of Carolina Beach, must comply with the requirements listed below.

Provide lands, easements, rights of way, including borrow areas	$ 235,000	
Pay 35 percent of the first costs and future nourishment allocated to hurricane and storm damage reduction and bear all costs of operation, maintenance and replacement of hurricane and storm damage reduction facilities.	84,465,000	$100,000
Total Non-Federal Costs	$ 84,700,000	$100,000

1455

STATUS OF LOCAL COOPERATION: The Town of Carolina Beach has complied with all the terms of local cooperation to date including three increments of periodic nourishment. On 1 November 1983, a local occupancy tax went into effect in New Hanover County. Seventy-five percent of the revenues collected from this tax must be used for beach erosion control. A Section 221 local assurance agreement was not required since the project was under construction prior to 1 January 1972. Since the reevaluation report determined that continuation of future nourishment, in accordance with Section 934 of the Water Resources Development Act of 1986, is feasible, a Project Cooperation Agreement was executed in July 1994. A project cooperation agreement for the Area South Portion was executed on 26 September 1995.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps) cost estimate of $193,970,000 is an increase of $24,190,000 from the latest estimate ($169,780,000) presented to Congress (FY 1998). This change includes the following items.

Item	Amount
Design Changes - Area South	+$ 550,000
Price Escalation on Construction Features - Carolina Beach Portion	+$ 1,190,000
Price Escalation on Construction Features - Area South	+$22,450,000
Total	+$24,190,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: A draft Environmental Impact Statement (EIS) was filed with CEQ 15 November 1974. A revised draft EIS was filed on 17 April 1981 and a final EIS was filed on 17 July 1981 for the Carolina Beach Portion. The draft EIS for the Area South of Carolina Beach was filed with EPA in November 1992 and the final was filed in June 1993.

OTHER INFORMATION: Funds to initiate preconstruction planning were appropriated in FY 1964 and funds to initiate construction of the Carolina Beach Portion were appropriated in FY 1965. Funds to initiate construction of the Area South were appropriated in FY 1995.

1456

Carolina Beach Portion

SUMMARIZED FINANCIAL DATA FOR PROGRAMMED SEPARABLE ELEMENTS:

Estimated Federal Cost			$36,670,000
Initial Construction		$ 6,987,000	
Periodic Nourishment		29,683,000	
Estimated Non-Federal Cost			$21,625,000
Initial Construction		$ 4,227,000	
Cash Contributions	$4,227,000		
Other Costs	0		
Periodic Nourishment		17,398,000	
Cash Contributions	16,928,000		
Other Costs	470,000		
Total Estimated Project Cost			58,295,000
Initial Construction		11,214,000	
Future Nourishment		47,081,000	

REMAINING BENEFIT-REMAINING COST RATIO FOR PROGRAMMED SEPARABLE ELEMENTS: Not applicable because the initial construction has been completed.

TOTAL BENEFIT-COST RATIO FOR PROGRAMMED SEPARABLE ELEMENTS: 1.6 TO 1 at 8-1/4 percent.

1457

Area South of Carolina Beach

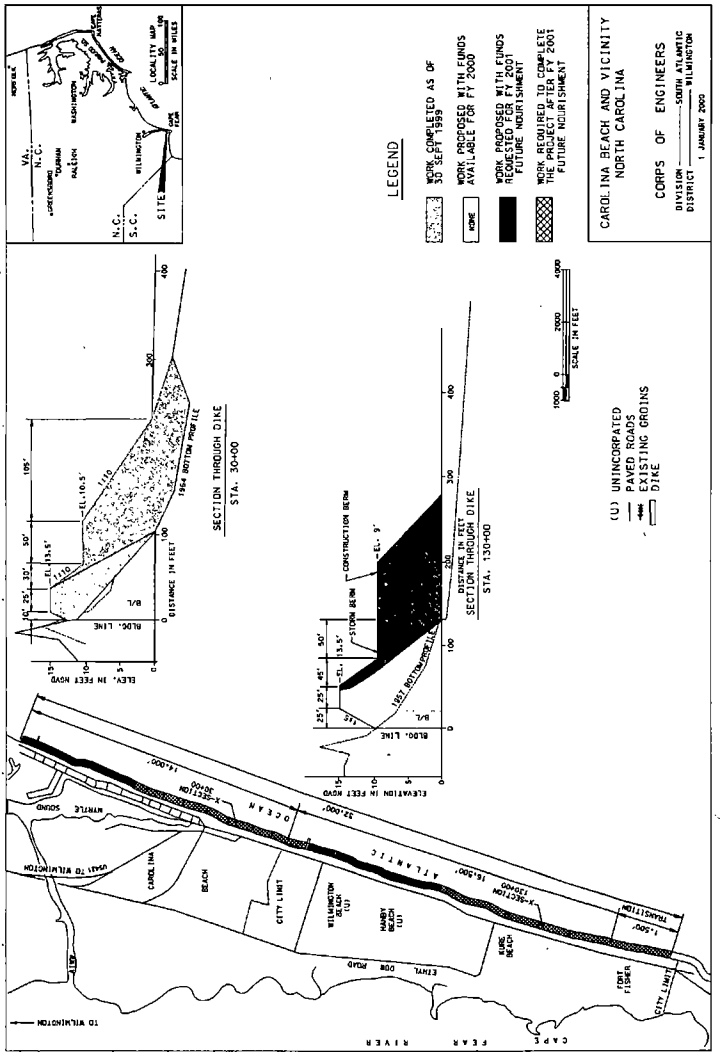
SUMMARIZED FINANCIAL DATA FOR PROGRAMMED SEPARABLE ELEMENTS:

Estimated Federal Cost			$157,300,000
Initial Construction		$ 9,494,000	
Periodic Nourishment		147,806,000	
Estimated Non-Federal Cost			84,700,000
Initial Construction		5,112,000	
Cash Contributions	$ 4,877,000		
Other Costs	235,000		
Periodic Nourishment		79,588,000	
Cash Contributions	79,588,000		
Other Costs	0		
Total Estimated Project Cost			$242,000,000
Initial Construction		$ 14,606,000	
Future Nourishment		227,394,000	

REMAINING BENEFIT-REMAINING COST RATIO FOR PROGRAMMED SEPARABLE ELEMENTS: Not applicable because the initial construction has been completed.

TOTAL BENEFIT-COST RATIO FOR PROGRAMMED SEPARABLE ELEMENTS: 1.8 to 1 at 8-1/4 percent.

1458



Division: South Atlantic District: Wilmington Carolina Beach and Vicinity, NC

7 February 2000 165

APPROPRIATION TITLE: Construction, General - Beach Erosion Control

PROJECT: Pinellas County, Florida (Continuing)

LOCATION: The project is located along the west-central coast of Florida covering about 25 miles of the island beaches in the Clearwater-St. Petersburg area of Pinellas County, extending from Dunedin Pass to Pass-A-Grille.

DESCRIPTION: The project provides for restoration of 5,000 feet of beach at Clearwater Beach Island; 41,700 feet of beach at Sand Key; 10,700 feet of beach at Treasure Island; 2,800 feet of beach on Long Key; advance nourishment of each island; construction of 600 feet of revetment at Long Key and breakwaters at locations along Sand Key, along with periodic nourishment of each island as needed. All work is programmed, except for the Clearwater Beach segment.

AUTHORIZATION: River and Harbor Act of 1966 and Water Resources Development Act of 1986.

REMAINING BENEFIT-REMAINING COST RATIO: Clearwater Beach Island, 1.2 to 1.0 at 7-1/8 percent; Sand Key, Treasure Island, and Long Key not applicable because initial construction has been completed.

TOTAL BENEFIT-COST RATIO: Clearwater Beach Island, 1.2 to 1.0 at 7/1-8 percent; Sand Key, 9.8 to 1.0 at 7-5/8 percent; Treasure Island, 7.6 to 1.0 at 3-1/8 percent; Long Key 1.8 to 1.00 at 3-1/8 percent.

INITIAL BENEFIT-COST RATIO: Clearwater Beach Island, 1.2 to 1.0 at 7-1/8 percent; Sand Key, 9.8 to 1.0 at 7-5/8 percent; Treasure Island, 7.6 to 1.0 at 3-1/8 percent; Long Key 1.8 to 1.00 at 3-1/8 percent.

BASIS OF BENEFIT-COST RATIO: Benefit-cost ratios are based upon the approved Limited Reevaluation Report and Environmental Summary for Pinellas County, Florida, Beach Erosion Control Project dated April 1994 (revised August 1994) at October 1993 price levels.

SUMMARIZED FINANCIAL DATA		ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PCT COMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost	$167,200,000		Groins:		
Programmed Construction	149,162,000		Treasure Island	100	Sep 1976
Initial Construction	18,640,000		Treasure Island Groin No. 2 Extension	100	Jun 1983
Periodic Nourishment	130,522,000		Pass-A-Grille	100	Jun 1984
			Redington Shores Brkwtr	100	Mar 1986
Unprogrammed Construction	18,038,000		Rehabilitation of N. Groin at Johns Pass	100	Dec 1987
Initial Construction	1,994,000		Breakwaters: Long Key	100	Sep 1986
Periodic Nourishment	16,044,000				

Division: South Atlantic District: Jacksonville Pinellas County, FL

7 February 2000

SUMMARIZED FINANCIAL DATA (Continued)			ACCUM PCT OF EST FED CPST	STATUS (1 Jan 2000)	PCT COMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Non-Federal Cost		$113,100,000				
Programmed Construction		100,860,000				
Initial Construction		16,994,000				
Cash Contributions	16,932,000					
Other Costs	62,000					
Periodic Nourishment	83,866,000			Initial Fill:		Jul 1969
Cash Contributions	83,551,000			Treasure Island	100	Apr 1980
Other Costs	315,000			Long Key	100	Sep 1993
				Sand Key	100	Unprogrammed
Estimated Non-Federal Cost				Clearwater	0	
Unprogrammed Construction		12,240,000				Nov 1971
Initial Construction		1,254,000		Nourishment:		Mar 1973
Cash Contributions	1,254,000			Treasure Island 1st	100	Jun 1976
Other Costs	0			Treasure Island 2nd	100	Jun 1983
				Treasure Island 3rd	100	To be determined
Periodic Nourishment	10,986,000			Treasure Island 4th	50	To be determined
Cash Contributions	10,986,000			Treasure Island Remainder	45	To be determined
Other Costs	0			Long Key Remainder	10	Unprogrammed
				Sand Key	0	
				Clearwater		
Total Estimated Programmed Construction Cost			$250,022,000		9	To be determined
Initial Construction		35,634,000		Entire Project		
Periodic Nourishment		214,388,000				
Total Estimated Unprogrammed Construction Cost			$ 30,278,000			
Initial Construction		3,248,000				
Periodic Nourishment		27,030,000				
Total Estimated Project Cost			$ 280,300,000			
Initial Construction		38,882,000				
Periodic Nourishment		241,418,000				

Division: South Atlantic

District: Jacksonville

Pinellas County, FL

SUMMARIZED FINANCIAL DATA (Continued)

Allocations to 30 September FY 1999	$41,425,000	
Conference Allowance for FY 2000	2,000,000	
Allocation for FY 2000	1,665,000	1/
Allocations through FY 2000	43,090,000	26%
Allocations Requested for FY 2001	1,321,000	27%
Programmed Balance to Complete after FY 2001	104,751,000	
Unprogrammed Balance to Complete after FY 2001	$18,038,000	

1/ Reflects $285,000 reduction assigned as savings and slippage and $50,000 reprogrammed from the project.

PHYSICAL DATA

Placement of Initial Beach Fill	Sand Key = 2,173,000 CY Treasure Island = 599,000 CY Long Key = 67,000 CY Clearwater Beach Island = 130,000 CY
Periodic Beach Nourishment	Sand Key = 365,200 CY every 5 yrs Treasure Island = 275,000 CY every 5 yrs Long Key = 275,000 CY every 5 yrs Clearwater Beach Island = 55,000 CY every 5 yrs

JUSTIFICATION: Erosion problems include the lowering of beach profiles, recession of the shorelines, and damage to upland properties. The shore is highly developed and used intensively year-round. The project will provide needed restoration and stability of the beaches and protection for shore development. Nourishment completed to date at Treasure Island has been highly successful in retaining the material and providing protection to development while providing a large recreational beach. Average annual benefits for each project segment are as follows (annual benefits are based upon the approved Limited Reevaluation Report and Environmental Summary for Pinellas County, Florida, Beach Erosion Control Project dated April 1994 (Revised August 1994) at October 1993 price levels):

Annual Benefits	Amount
Sand Key:	
Beach Erosion Control/Storm Damage Prevention	$18,969,000
Recreation	13,225,000
Total	$32,194,000

JUSTIFICATION (Continued):

Long Key:	
Beach Erosion Control/Storm Damage Prevention	$ 339,000
Recreation	293,000
Total	$ 632,000
Treasure Island:	
Beach Erosion Control/Storm Damage Prevention	$ 9,924,000
Recreation	0
Total	$ 9,924,000
Clearwater Beach Island:	
Beach Erosion Control/Storm Damage Prevention	$ 679,000
Recreation	62,000
Total	$ 741,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Engineering and Design	1,321,000
Total	$1,321,000

NON-FEDERAL COST: Non-Federal costs are in accordance with the cost sharing and financing concepts reflected in the authorizing legislation and as agreed to in the Project Cooperation Agreement (PCA) which was executed 7 April 1995. The PCA is supported by the approved Limited Reevaluation Report and Environmental Summary for Pinellas County, Florida, Beach Erosion Control Project dated April 1994 (revised August 1994) at October 1993 price levels:

Requirements of Local Cooperation	Payments During Construction and Reimbursement	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, and rights-of-way	$ 403,000	
Pay percentage of all costs associated with the nourishment and renourishment of the project	112,697,000	
Total Non-Federal Costs	$113,100,000	

STATUS OF LOCAL COOPERATION: Assurances of local cooperation from the Pinellas County Board of Commissioners were accepted by the District Engineer on 22 March 1967. Additional assurances required by Public Law 91-646 were accepted in May 1971. The Pinellas County Board of County Commissioners has adopted resolutions agreeing to act as local sponsor for the Long Key, St. Petersburg Beach, and Sand Key segments. A Project Cooperation Agreement, in accordance with cost-sharing provisions and Section 501(b) of the WRDA of 1986, was executed 7 April 1995.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps) cost estimate of $167,200,000 is an increase of $22,600,000 from the latest estimate ($144,600,000) presented to Congress (FY 2000). This change includes the following item:

Item	Amount
Design Changes	$22,600,000
Total	$22,600,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement for Sand Key, Pinellas County project, and Section 404(b)(1) Evaluation were filed with the Environmental Protection Agency on 8 November 1985.

OTHER INFORMATION: Funds to initiate preconstruction planning were appropriated in FY 1968. Funds to initiate construction were appropriated in FY 1969. Project completion date reflects 50-year Federal participation as authorized by the Water Resources Development Act of 1986, and in accordance with the Project Cooperation Agreement executed 7 April 1995.

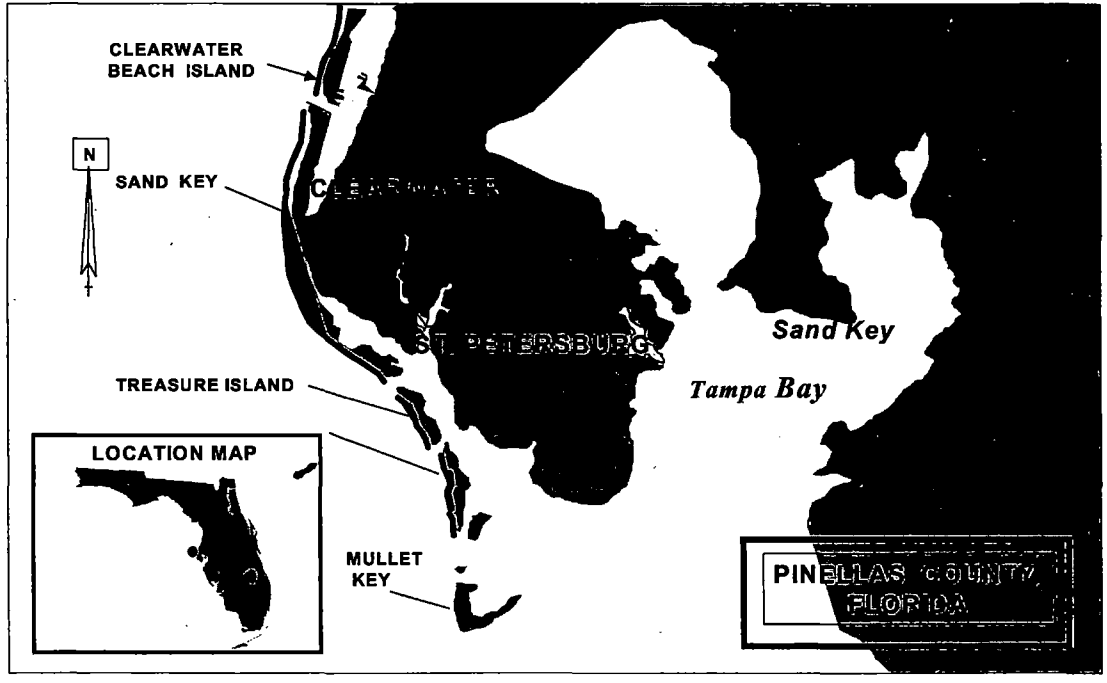
SUMMARIZED FINANCIAL DATA:

Separable Element - Clearwater

Estimated Federal Cost			$15,500,000
Programmed Construction		0	
Unprogrammed Construction		15,500,000	
Estimated Non-Federal Cost			9,700,000
Programmed Construction		0	
Cash Contributions	0		
Other Costs	0		
Estimated Non-Federal Cost			
Unprogrammed Construction		9,700,000	
Cash Contributions	9,700,000		
Other Costs	0		

SUMMARIZED FINANCIAL DATA (Continued):

Total Estimated Programmed Construction Cost		0
Total Estimated Unprogrammed Construction Cost		25,200,000
Total Estimated Project Cost		$25,200,000
Separable Element - Sand Key		
Estimated Federal Cost		120,500,000
Estimated Non-Federal Cost		81,500,000
Cash Contributions	81,264,000	
Other Costs	236,000	
Total Estimated Project Cost1		202,000,000
Separable Element - Treasure Island		
Estimated Federal Cost		11,000,000
Estimated Non-Federal Cost		8,500,000
Cash Contributions	8,500,000	
Other Costs	0	
Total Estimated Project Cost		19,500,000
Separable Element - Long Key		
Estimated Federal Cost		20,200,000
Estimated Non-Federal Cost		13,400,000
Cash Contributions	13,338,000	
Other Costs	62,000	
Total Estimated Project Cost		$33,600,000


CLEARWATER
BEACH ISLAND
N
SAND KEY
CLEARWATER
ST. PETERSBURG
Sand Key
Tampa Bay
TREASURE ISLAND
LOCATION MAP
MULLET
KEY
PINELLAS COUNTY
FLORIDA

1466

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Cedar Hammock (Wares Creek), Florida (Continuing)

LOCATION: The project area is located in Bradenton and unincorporated Manatee County on the southwest coast of Peninsular Florida.

DESCRIPTION: The project provides for clearing and snagging from approximately 500 feet upstream of Manatee Avenue bridge and extending 17th Avenue West; trapezoidal grass-lined channel, 1V:2H side slopes, 26-foot-bottom width from 17th Avenue West to 21st Avenue West; Vertical Sheet Pile Wall channel from just upstream of 21st Avenue West to 14th Street West (B.R. 41) with a 40-foot-bottom; and trapezoidal grass-lined channel, 1V:2H side slopes, 26-foot-bottom width from upstream of 14the Street West (B.R. 41) and extending to just downstream of 44th Avenue West (Cortez Road) bridge.

AUTHORIZATION: Water Resources Development Act of 1996

REMAINING BENEFIT-REMAINING COST RATIO: 3.5 to 1 at 6 7/8 percent.

TOTAL BENEFIT-COST RATIO: 3.5 to 1 at 6 7/8 percent.

BASIS OF BENEFIT-COST RATIO: Benefits are included in the Cedar hammock (Wares Creek) Final Detailed Project Report and Environmental Assessment Report completed in April 1995 revised in 1996 at October price levels.

SUMMARIZED FINANCIAL DATA			ACCUM. PCT OF EST FED COST	STATUS: (1 January 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$ 12,300,000		Channels & Canals	5	To be determined
Estimated Non-Federal Cost		6,600,000				
Cash Contribution	$ 1,352,000			Total Project	100	To be determined
Other	5,248,000					
Total Estimated Project Cost		$ 18,900,000				
Allocations to 30 September 1999		560,000				
Conference Allowance for FY 2000		3,000,000				
Allocations for FY 2000		200,000	1/			
Allocations through FY 2000		760,000	5			
Allocations Requested for FY 2001		200,0000	29			
Scheduled Balance to Complete After FY 2001		11,340,000				
Unscheduled Balance to Complete After FY 2001			0			

1/ Reflects $42,000 reduction assigned as savings and slippage and $2,373,000 reprogrammed from the project.

1497

JUSTIFICATION: The Cedar Hammock (Wares Creek) are is urban, and existing development has encroached upon the channel in several areas. Heavy rains in September 1988 and June 1992 caused extensive flooding to the area and impacted residential as well as commercial development. Under existing conditions, average annual flood damages are estimated at $6,725,000.

Annual Benefits	Amount
Flood Protection	$ 3,741,000
Total	$ 3,741,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Planning, Engineering and Design	200,000
Total	$ 200,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$ 4,742,000	
Modify or relocate Utilities, roads, bridges, and other Facilities, where Necessary for the construction of the project.	506,000	
Pay 10.01 percent of the costs allocated to flood damage reduction During construction.	1,352,000	
Total	$ 6,600,000	

STATUS OF LOCAL COOPERATION: Manatee County, Florida strongly supports this project. The Project Cooperation Agreement will be executed January 2001.

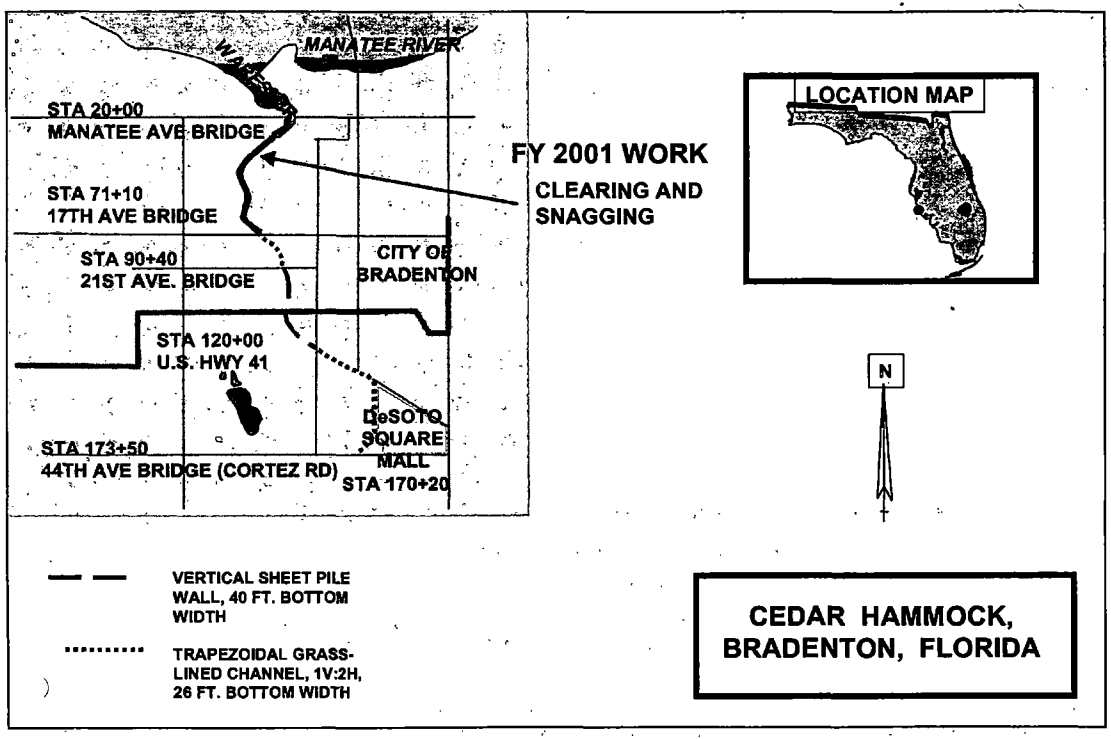
COMPARISON OF FEDERAL COST ESTIMATE: The current Federal (Corps of Engineers) cost estimate of $12,300,000 is an increase of $700,000 from the latest estimate ($11,600,000) presented to Congress (FY 1999). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	$ 359,000
Schedule Changes	341,000
Total	$ 700,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: Final Environmental Assessment was signed April 13, 1995.

OTHER INFORMATION: Preconstruction, Engineering, and Design was initiated in August 1997 and is scheduled for completion in February 2001.

1469


MANATEE RIVER
STA 20+00
MANATEE AVE BRIDGE
STA 71+10
17TH AVE BRIDGE
STA 90+40
21ST AVE. BRIDGE
CITY OF BRADENTON
STA 120+00
U.S. HWY 41
DeSOTO SQUARE MALL
STA 170+20
STA 173+50
44TH AVE BRIDGE (CORTEZ RD)
FY 2001 WORK
CLEARING AND SNAGGING
LOCATION MAP
N
VERTICAL SHEET PILE WALL, 40 FT. BOTTOM WIDTH
TRAPEZOIDAL GRASS-LINED CHANNEL, 1V:2H, 26 FT. BOTTOM WIDTH
CEDAR HAMMOCK, BRADENTON, FLORIDA

1470

APPROPRIATION TITLE: Construction, General -- Local Protection Project (Flood Control)

PROJECT: Arecibo River, Puerto Rico

LOCATION: The city of Arecibo is located on the northern coast of Puerto Rico, approximately 40 miles west of San Juan. The Rio Arecibo Basin covers a 272 square mile area and has experienced numerous floods over recent years. The upstream towns of Utuado, Jayuya, and Adjuntas have also been subject to the frequent flooding. Extensive floods occurred in May and October 1985 and again in September 1996 with Hurricane Hortense. When Hurricane Georges hit the island in September 1998, the municipality of Arecibo experienced the 100-year flood event, resulting in significant damages to commercial and residential properties and loss of the Victor Rojas bridge.

DESCRIPTION: The proposed plan includes channel improvements, a flood wall, and a levee along the Arecibo River; a levee along the Tanama River; and a plug, channel improvements, and a diversion channel along the Santiago river.

AUTHORIZATION: Water Resource Development Act 1996, Sec 101(a)(26).

INITIAL BENEFIT – COST RATIO: 4.2 at 8 1/4 PERCENT

REMAINING BENEFIT - REMAINING COST RATIO: 4.1 to 1 at 6 7/8 PERCENT

TOTAL BENEFIT – COST RATIO: 4.1 to 1 at 6 7/8 PERCENT

BASIS OF BENEFIT - COST RATIO: Benefits are from the economic analyses performed for the July 1998 Limited Reevaluation Report updated at October 1999 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$ 12,500,000		Relocations - Roads	0	To Be Determined
Estimated Non-Federal Cost		10,600,000		Cemeteries/Utilities	0	To Be Determined
Cash Contributions	$ 1,426,000			Levees and Floodwalls	0	To Be Determined
Other Costs	9,174,000			Recreation	0	To Be Determined
				Fish/Wildlife Facilities	0	To Be Determined
Total Estimated Project Costs		$ 23,100,000		Channels & Canals	0	To Be Determined
				Breakwaters	0	To Be Determined
				Entire Project	0	To Be Determined

Division: South Atlantic

District: Jacksonville

Arecibo River, PR

SUMMARIZED FINANCIAL DATA (Continued)

Allocations to 30 September 1999	$1,858,000	
Conference Allowance for FY 2000	2,500,000	
Allocations through FY 2000	1,244,000	1/
Allocations Requested for FY 2001	4,102,000	
Programmed Balance to Complete After FY 2001	$5,296,000	

1/ Reflects $356,000 reduction assigned as savings and slippage with $900,000 reprogrammed from the project.

PHYSICAL DATA

Relocations - Bridges (Replacement)	5	
Levee	6325	Meters
Floodwalls	315	Meters
Channels	6300	Meters
Jetty	30.5	Meters
Wetland Mitigation	7.2	Acres
Recreation Trails	1465	Meters

JUSTIFICATION: Over 500 acres of urbanized city area are impacted by floods including 800 residences, and over 100 businesses and public facilities. In addition to quantifiable damages, severe disruption of transportation and socio-economic activities resulted from these floods.

Annual Benefits	Amount
Inundation Reduction	$ 6,609,000
Employment	80,000
Advance Bridge Replacement	161,000
Flood Insurance Cost	9,000
Recreation	236,000
Total	$ 7,095,000

1472

FISCAL YEAR 2001: The requested amount will be applied as follows:

Channels and Canals	$ 933,000
Levees and Floodwalls	1,920,000
Floodway Control	338,000
Engineering During Construction	22,000
Construction Management	889,000
Total	$ 4,102,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the authorizing legislation, the non-Federal sponsor must comply with the requirements listed below for programmed work.

Requirements of Local Cooperation	Payments During Construction, and Reimbursements	Annual Operation, Maintenance, and Replacement Costs
Provide lands, easements, rights of way, and dredged material disposal areas.	$ 4,517,000	
Modify or relocate buildings, utilities, roads, bridges, (except railroad bridges), and other facilities, where necessary in the construction of the project.	4,734,000	
Pay one-half of the separable costs allocated to recreation and bear all costs of operation, maintenance, and replacement of recreation facilities.	267,000	
Pay 8.52 percent of the first costs allocated to flood control, and bear all cost of operation, maintenance, and replacement of flood control structures.	1,082,000	
Total Non-Federal Costs	$ 10,600,000	$ 76,000

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

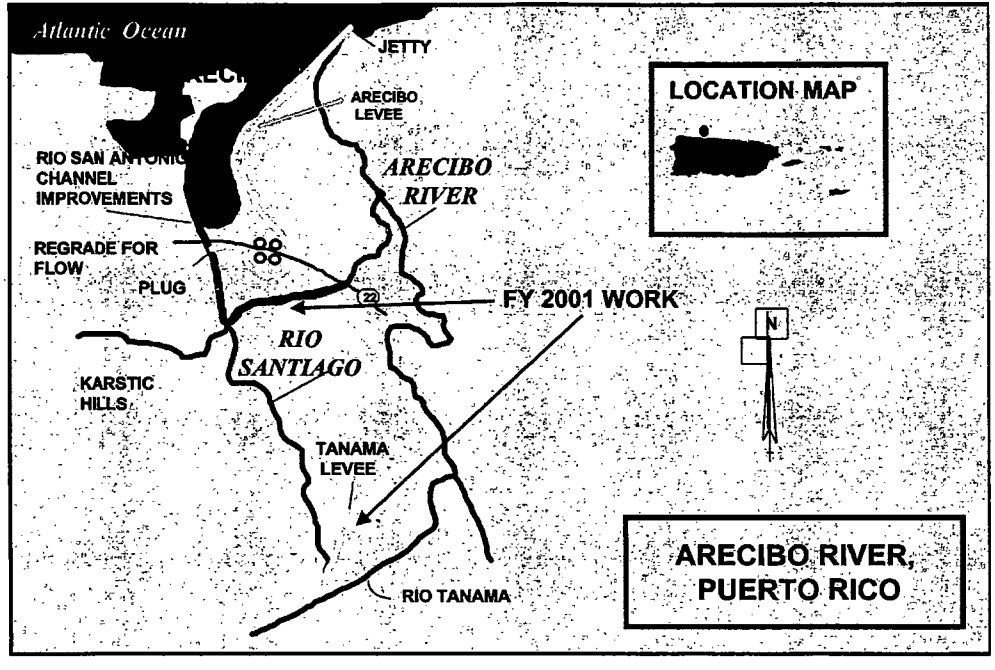
STATUS OF LOCAL COOPERATION: The Puerto Rico Department of Natural and Environmental Resources (DNER), is the local sponsor. The Project Cooperation Agreement is scheduled for execution in May 2000.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps of Engineers) cost estimate of $12,500,000 remains constant with the latest estimate of $12,500,000 submitted to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement for the project was filed on 10 December 1993.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design (PED), were appropriated in fiscal year 1994. This project is on the President's Long Term Recovery Action Plan for Puerto Rico.

1474


Atlantic Ocean
JETTY
ARECIBO LEVEE
RIO SAN ANTONIO CHANNEL IMPROVEMENTS
ARECIBO RIVER
REGRADE FOR FLOW
PLUG
22
FY 2001 WORK
RIO SANTIAGO
KARSTIC HILLS
TANAMA LEVEE
RIO TANAMA
LOCATION MAP
N
ARECIBO RIVER, PUERTO RICO

APPROPRIATION TITLE: Construction, General - Local Protection Projects (Flood Control)

PROJECT: Portugues and Bucana Rivers, Puerto Rico (Continuing)

LOCATION: The improvements are in and near Ponce on the Portugues and Bucana Rivers on the south coast of Puerto Rico.

DESCRIPTION: The project provides for two multiple-purpose reservoirs for flood control, water supply, general recreation, and fish and wildlife enhancement; enlargement of 5.7 miles of Bucana River and 2 miles of Portugues River; a 1.3 mile diversion channel connecting the Portugues River to lower Bucana River; and debris basins at the Bucana and Portugues Rivers. All work is programmed except the water supply increment of Portugues Dam.

AUTHORIZATION: Flood Control Act of 1970 and Water Resources Development Act of 1986.

REMAINING BENEFIT - REMAINING COST RATIO: 6.8 to 1 at 6 7/8 percent.

TOTAL BENEFIT - COST RATIO: 1.4 to 1 at 5 5/8 percent.

INITIAL BENEFIT - COST RATIO: 1.6 to 1 at 5 5/8 percent (FY 1975).

BASIS OF BENEFIT - COST RATIO: Benefits are from the July 1973 Design Memorandum Phase 1, Plan Formulation and Site Selection Report at July 1973 prices levels except for Portugues Dam where benefits are from the March 1990 Economic Reanalysis Report at January 1990 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Total Appropriation Requirement		$430,300,000		Channels and Canals		
Programmed Construction	430,078,000			Lower Channels	100	Aug 1978
Unprogrammed Construction	222,000			Upper Bucana Channel	100	Jun 1983
				Upper Portugues Channel	95	Dec 2000
Future Non-Federal Reimbursement		$ 66,360,000		Bucana River Debris Basin	100	Jun 1987
Programmed Construction	66,360,000			Portugues Debris Basin	100	Mar 1987
Unprogrammed Construction	0			Dams		
				Cerrillos	100	Sep 1994
Estimated Federal Cost (Ultimate)		$363,940,000		Portugues (Flood Control)	30	To be determined
Programmed Construction	363,718,000			Portugues (Water Supply)	0	Indefinite
Unprogrammed	222,000					

1476

SUMMARIZED FINANCIAL DATA (Continued)

				ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Non-Federal Cost		$210,360,000			Recreation		
Programmed Construction		190,425,000			Channels	60	To Be Determined
Cash Contributions	28,869,000				Cerrillos	42	To Be Determined
Other Costs	95,196,000				Portugues	0	To Be Determined
Reimbursement							
Water Supply	66,360,000				Entire Project	85	To be determined
Unprogrammed Construction		19,935,000					
Cash Contribution	19,935,000						
Other Costs	0						
Reimbursement	0						
Total Estimated Programmed Construction Cost			$554,143,000				
Total Estimated Unprogrammed Construction Cost			20,157,000				
Total Estimated Project Cost			574,300,000				
Allocations to 30 September 1999			375,957,000				
Conference Allowance for FY 2000			5,434,000				
Allocation for FY 2000			5,434,000	1/			
Allocation through FY 2000			380,617,000	88			
Allocation Requested for FY 2001			9,590,000	90			
Programmed Balance to Complete After FY 2001			39,198,000				
Unprogrammed Balance to Complete After FY 2001			$ 191,000				

1/ Reflects $774,000 reduction assigned as savings and slippage and $774,000 reprogrammed to the project.

1477

PHYSICAL DATA

	Portugues River	Cerrillos River
Dam		
Type	Concrete arch	Earth and rock-filled
Height	272 feet	323 feet
Crest Length	1,500 feet	1,555 feet
Spillway Type	Ungated concrete ogee 150 feet wide	Ungated rock cut 400 feet wide
Reservoir Capacity (Acre-Feet)		
Flood Control	8,342	17,065
Water Supply	14,000	25,200
Sediment	2,841	5,635
Total	25,183	47,900
Portugues River Channel Enlargement		2.1 miles
Bucana River Channel Enlargement		5.7 miles
Diversion Channel connecting portugues River to the Lower Bucana River		1.3 miles

JUSTIFICATION: The mountainous terrain above Ponce permits rapid runoff into the rivers which overflow in the lower elevation flood plains in Ponce causing loss of life and extensive property damage. The 1954 flood caused damages of $1,297,000 ($6,991,000 at 1989 price levels). Minor flooding occurs almost yearly and major floods occur every 5 years on the average. Other major damaging floods occurred in 1961 ($4,931,000 at 1989 price levels), 1970 ($2,176,000 at 1989 price levels), 1975 ($35,253,000 at 1989 price levels), and 1985 ($33,517,000 at 1989 price levels). The average degree of protection provided by the completed project will be the standard project flood frequency. Upon completion, 6,415 acres will be protected, including 4,310 agricultural acres, 1,855 urban acres, and 250 acres which are undeveloped. Present value of property subject to flood damages is $624,069,000. Average annual flood damages prevented are all attributable to existing urban development. Water supply is also a need that will be met by the Portugues and Bucana Rivers project. The water storage capacity in Lake Cerrillos is 25,200 acre-feet while ongoing studies have established a preliminary capacity for Lake Portugues of 14,000 acre-feet. Primary uses of the water supply will be municipal and industrial. Average annual benefits are as follows:

Annual Benefits	Amount
Flood Control	$43,387,000
Water Supply	13,968,000
Recreation	2,418,000
Area Redevelopment	1,166,000
Total	$62,939,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Recreation	$ 2,841,000
Clearing –Portugues Dam	253,000
Initiate Portugues Dam	5,353,000
Planning, Engineering and Design	586,000
Construction Management	557,000
Total	$ 4,660,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Flood Control Act of 1970 and the Water Resources Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, and Replacement Costs
Provide lands, easements, and rights-of-way.	$ 74,912,000	
Modify or relocate buildings, utilities, roads, bridges, and other facilities, where necessary in the construction of the project.	20,577,000	
Pay additional cash required to bring the total non-Federal share of flood control costs to 25 percent and bear all costs of operation, maintenance, and replacement of flood control facilities.	16,997,000	249,900
Pay one-half of the separable costs allocated to recreation and bear all costs of operation, maintenance, and replacement of recreation facilities.	10,847,000	258,300
Pay all costs allocated to municipal and industrial water supply and bear all costs of operation, maintenance, and replacement of municipal and industrial water supply facilities.	20,667,000	85,700
Reimbursement for water supply on Cerrillos Dam.	66,360,000	
Total Non-Federal Costs	$ 210,360,000	$ 593,900

1479

STATUS OF LOCAL COOPERATION: The Commonwealth of Puerto Rico Department of Natural and Environmental Resources is the local sponsor. The following contract agreements are required pursuant to Section 221 of the River and Harbor and Flood Control Act of 1970 and the Water Resources Development Act of 1986:

Contract	Actual or Anticipated Execution Date
Section 221 - Cerrillos Reservoir	15 Mar 1982
Channels	22 Jul 1974
Water Supply - Cerrillos Reservoir	15 Mar 1982
Recreation - Cerrillos Reservoir	15 Mar 1982
Channels	24 Jun 1987
Project Cooperation Agreement - Portugues Reservoir	9 Aug 1993

Portugues Dam is a concrete elliptical arch dam, curved in both the vertical and horizontal planes. The dam is designed as a multi-purpose dam to be constructed in two phases. The Commonwealth of Puerto Rico has requested that the dam be constructed as soon as possible for flood control and recreation, but to defer the water supply feature to a later date. By letter dated 15 November 1991, the Commonwealth restated their commitment to the full and complete multi-purpose Portugues Dam, and agreed to pay the additional costs required for the phased construction.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps) cost estimate of $430,300,000 is an increase over the latest estimate ($422,617,000) presented to Congress (FY 2000). This change is due to the following items:

Item	Amount
Price Escalation on Construction Feature	$ 918,000
Post Contract Award and Other Estimating Adjustments	4,472,000
Schedule Changes	2,293,000
Total	$ 7,683,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final EIS was filed with CEQ on 25 February 1974. A Supplemental EIS for the Portugues Dam was submitted in November 1992.

OTHER INFORMATION: Funds to initiate preconstruction planning were appropriated in Fiscal Year 1972. Funds to initiate construction were appropriated in Fiscal Year 1975.

1480

SUMMARIZED FINANCIAL DATA FOR PROGRAMMED SEPARABLE ELEMENTS:

Channels and Canals

Estimated Federal Cost		$113,406,000
Estimated Non-Federal Cost		61,702,000
Cash Contributions	3,322,000	
Other Costs	58,380,000	
Total Estimated Project Cost		$175,108,000

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable because construction is substantially complete.

TOTAL BENEFIT-COST RATIO: 9.1 to 1 at 5 5/8 percent.

Cerrillos Dam

Estimated Total Appropriation Requirement		$223,994,000
Future Non-Federal Reimbursement (Water Supply)		66,360,000
Estimated Federal Cost Ultimate		$157,634,000
Estimated Non-Federal Cost		$ 94,858,000
Cash Contributions	4,618,000	
Other Costs	23,880,000	
Reimbursement: Water Supply	66,360,000	
Total Estimated Project Cost		$252,492,000

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable because construction is substantially complete.

TOTAL BENEFIT-COST RATIO: 9.1 to 1 at 5 5/8 percent.

1481

SUMMARIZED FINANCIAL DATA FOR PROGRAMMED SEPARABLE ELEMENTS (Continued)

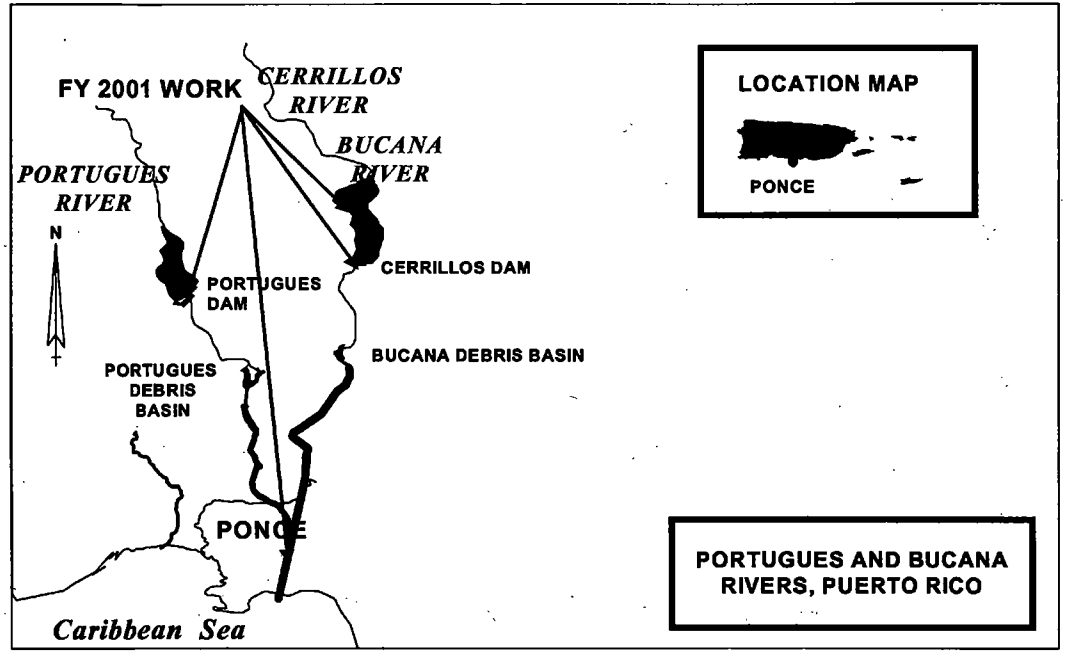
Portugues Dam

Estimated Total Appropriation Requirement		$ 92,900,000
Programmed Construction	92,678,000	
Unprogrammed Construction	222,000	
Estimated Non-Federal Cost		$ 53,800,000
Programmed Construction	33,865,000	
Cash Contributions 20,929,000		
Other Costs 12,936,000		
Unprogrammed Construction	19,935,000	
Cash Contributions 19,935,000		
Other Costs 0		
Total Estimated Programmed Construction Cost		$126,543,000
Total Estimated Unprogrammed Construction Cost		20,157,000
Total Estimated Project Cost		$146,700,000

REMAINING BENEFIT-REMAINING COST RATIO: 6.8 to 1 at 7 1/8 percent.

TOTAL BENEFIT-COST RATIO: 4.1 to 1 at 5 5/8.

1482



Division: South Atlantic

District: Jacksonville

Portugues and Bucana Rivers, PR

7 February 2000

189

1483

APPROPRIATION TITLE: Construction, General - Local Protection Projects (Flood Control)

PROJECT: Rio de la Plata, Puerto Rico (Continuing)

LOCATION: The Rio de La Plata basin drains an area of approximately 240 square miles at a point 11 miles west of San Juan. This area includes all or part of the municipalities of Dorado, Toa Baja, Toa Alta, Camerio, Cedra, Cayey, Arbonito and Barranquitas. The total population of the basin is approximately 290,000 people.

DESCRIPTION: The proposed plan calls for 7.0 miles of channel excavation an improvements, 7.6 miles of levees along both sides of the river, 8 ponding areas, wetland mitigation, recreation facilities, and the replacement of 3 bridges. The project is designed to provide 100-year flood protection for the areas south of Highway 2 and the area surrounding El Polvorin Ward and SPF protection for the remainder of the area north of Highway 2. All work is programmed. Hurricane Georges caused an estimated $21,500,000 in damages in a 24-year event.

AUTHORIZATION: Water Resources Development Act of 1990, Sec 101(a)(19).

REMAINING BENEFIT - REMAINING COST RATIO: 1.8 to 1 at 6 7/8 percent.

TOTAL BENEFIT - COST RATIO: 1.6 to 1 at 8 1/2 percent.

INITIAL BENEFIT - COST RATIO: 1.6 to 1 at 8 1/2 percent.

BASIS OF BENEFIT - COST RATIO: Benefits are from the economic analyses performed for the April 1992 Limited Reevaluation Report (LRR), revised in June 1992 at October 1999 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$ 64,900,000		Relocations - Bridges	0	To be determined
Estimated Non-Federal Cost		32,100,000		Channels and Canals	0	To be determined
Cash Contributions	$ 5,279,000			Levees and Floodwalls	0	To be determined
Other Costs	27,521,000			Recreation	0	To be determined
				Floodway Control and		
Total Estimated Project Cost		$ 97,000,000		Diversion Structures	0	To be determined
				Entire Project	7	To be determined

1484

SUMMARIZED FINANCIAL DATA (Continued)

Allocations to 30 September 1999	$ 5,255,000	1/	
Conference Allowance for FY 2000	1,000,000		
Allocation for FY 2000	8 58,000	2/	
Allocations through FY 2000	6,113,000		12
Allocation Requested for FY 2001	3,493,000		14
Programmed Balance to Complete After FY 2001	$55,294,000		
Unprogrammed Balance to Complete After FY 2001			

1/ Reflects $2,450,000 reprogrammed ($750,000 to Charleston Harbor and $1,700,000 to Rio Puerto Nuevo).
2/ Reflects $146,000 reduction assigned as savings and slippage.

PHYSICAL DATA

Relocations - Bridges (Replacement)	3
Levees - Miles	7.6
Canals - Miles	7
Ponding Areas	8
Wetlands Mitigation * - Acres	5.25
Recreation Areas	3

* An additional 10 acres of shallow lagoon and emergent marsh will also be created adjacent to the mitigation area.

JUSTIFICATION: Heavy rainfall combined with the very steep slopes of the upper basin produces high discharges in a relatively short time. Flooding in the area affects over 12,300 families and numerous public buildings and commercial facilities. The area has been declared a flood disaster area by the President six times since 1974. The most recent flood occurred in January 1992 which damaged numerous commercial structures, public facilities and about 3,000 homes and resulted in the loss of two lives. The average annual rainfall is about 71 inches. Average annual benefits are as follows:

Annual Benefits	Amount
Inundation Reduction	$ 9,230,000
Benefits During Construction	937,000
Redevelopment	429,000
Advance Bridge Replacement	608,000
Recreation	117,000
Other: Emergency and Insurance	162,000
Total	$ 12,176,000

1485

FISCAL YEAR 2001: The requested amount will be applied as follows:

Planning, Engineering, and Design	$ 1,091,000
Channels and Canals	1,070,000
Levees and Floodwalls	1,030,000
Supervision and Administration	156,000
Cultural Resources	146,000
Total	$ 3,493,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the authorizing legislation, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Anuual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, and rights-of-way and dredged material disposal areas.	$ 8,885,000	
Modify or relocate buildings, utilities, roads, bridges, (except railroad bridges), and other facilities, where necessary in the construction of the project.	18,636,000	
Pay one-half of the separable costs allocated to recreation and bear all costs of operation, maintenance, and replacement of recreation facilities.	493,000	
Pay 6.99 percent of the first costs allocated to flood control, and bear all cost of operation, maintenance, and replacement of flood control structures.	4,786,000	
Total Non-Federal Costs	$ 32,800,000	$ 367,000

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

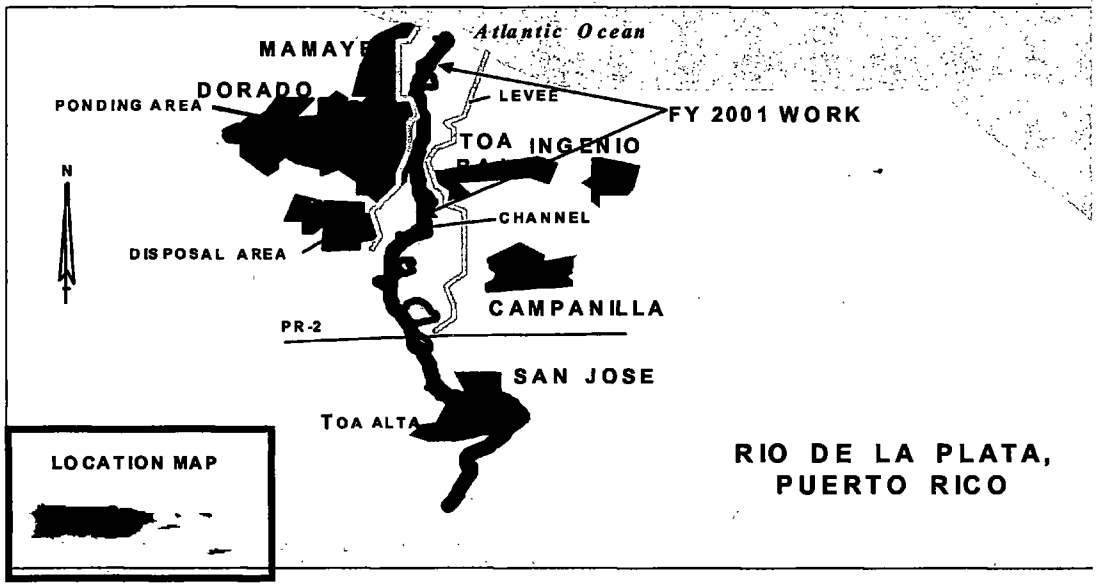
1486

STATUS OF LOCAL COOPERATION: The Commonwealth of Puerto Rico Department of Natural and Environmental Resources is the local sponsor. Acquisition for real estate required for the first contract is underway.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps of Engineers) cost estimate of $64,200,000 is an increase of $900,000 from the $63,300,000 submitted to Congress (FY 1999). This change represents price escalation in construction features due to delay in initiation of construction.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement for the project was filed in September 1988. The FONSI was signed in April 1993.

OTHER INFORMATION: Funds to initiate planning, engineering, and design were appropriated in Fiscal Year 1990, and funds to initiate construction were appropriated in October 1994. This project is on the President's Long Term Recovery Action Plan for Puerto Rico.


Atlantic Ocean
MAMAYE
DORADO
PONDING AREA
LEVEE
FY 2001 WORK
TOA INGENIO
N
CHANNEL
DISPOSAL AREA
CAMPANILLA
PR-2
SAN JOSE
TOA ALTA
LOCATION MAP
RIO DE LA PLATA,
PUERTO RICO

APPROPRIATION TITLE: Construction, General - Local Protection Project (Flood Control)

PROJECT: Rio Puerto Nuevo, Puerto Rico (Continuing)

LOCATION: The Rio Puerto Nuevo drainage basin is located within the San Juan Metropolitan Area along the northern coast of Puerto Rico. The basin joins the southeast side of San Juan Harbor and extends south and up into the foothills of the central mountains of Puerto Rico. The basin is traversed by the Rio Piedras, Rio Puerto Nuevo, Quebrada Margarita, Quebrada Josefina, Quebrada Dona Ana, Quebrada Buena Vista, and Quebrada Guaracanal.

DESCRIPTION: The proposed plan calls for improvements to 11.2 miles of the existing channels of Rio Puerto Nuevo and Rio Piedras and five tributaries of the Rio Puerto Nuevo drainage basin. The project is designed to provide 100-year flood protection for the areas adjacent to the Puerto Nuevo and its tributaries. All work is programmed.

AUTHORIZATION: Water Resources Development Act of 1986.

REMAINING BENEFIT - REMAINING COST RATIO: 2.5 to 1 at 6 7/8 percent.

TOTAL BENEFIT - COST RATIO: 2.5 to 1 at 8 1/2 percent.

INITIAL BENEFIT - COST RATIO: 2.5 to 1 at 8 1/2 percent.

BASIS OF BENEFIT - COST RATIO: Benefits are from the economic analyses performed for the revised General Design Memorandum dated June 1991 at October 1999 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$ 321,000,000		Relocations	3	To be determined
Estimated Non-Federal Cost		115,000,000		Road, Railroads, Bridges	3	To be determined
Cash Contributions	54,147,000			Channels and Canals	9	To be determined
Other Costs	60,853,000			Recreation	0	To be determined
Total Estimated Project Costs		$ 436,000,000		Entire Project	11	To be determined

1489

SUMMARIZED FINANCIAL DATA (Continued)

Allocations to 30 September 1999	$ 55,175,000	1/
Conference Allowance for FY 2000	9,566,000	
Allocation for FY 2000	8,204,000	2/
Allocations through FY 2000	63,379,000	16
Allocation requested for FY 2001	11,000,000	
Programmed Balance to Complete After FY 2001	246,621,000	19
Unprogrammed Balance to Complete After FY 2001	0	

1/ Reflects $4,600,000 reprogrammed from Central & Southern Florida, Rio de la Plata, and San Juan Harbor
1/ Reflects reduction of $1,362,000 assigned as savings and slippage.

PHYSICAL DATA

Relocations - Bridges (Replacement)	17
Bridges (Modification)	8
Bridges (Construction)	5
Canals - Miles	11.2
Debris Basins	2
Stilling Areas	2

JUSTIFICATION: The intense development in the basin has altered the natural discharge patterns, significantly increased the runoff rates and restricted the flows in the flood plain. There are over 240,000 people living in the 25 square mile drainage basin. The area is over 90% developed and is expected to be 100% developed by the year 2000. Development has progressed to the point where some of the tributary channels are not capable of carrying the two-year storm without causing flooding. In many areas, houses and other buildings are built adjacent to the banks of the channels and further restrict flood flows. Over 5,700 families would be subject to flooding from the 100-year storm under existing conditions. The average annual rainfall is about 71 inches. Average annual benefits are as follows:

Annual Benefits	Amount
Inundation Reduction	$ 33,629,000
Location	2,299,000
Redevelopment	1,499,000
Advance Bridge Replacement	177,000
Intensification	28,403,000
Recreation	743,000
Total	$ 66,750,000

FISCAL YEAR 2001: The requested amount of $ 11,000,000 will be applied as follows:

Channels and Canals	$ 8,200,000
Planning, Engineering, and Design	2,000,000
Supervision and Administration	800,000
Total	$ 11,000,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the authorizing legislation, the non-Federal sponsor must comply with the requirements listed below for programmed work.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights of way, and dredged material disposal areas.	$ 22,234,000	
Modify or relocate buildings, utilities, roads, bridges (except railroad bridges), and other facilities, where necessary in the construction of the project.	30,073,000	
Pay one-half of the separable costs allocated to recreation and bear all costs of operation, maintenance, and replacement of recreation facilities.	313,000	
Pay 14.37 percent of the first costs allocated to flood control, and bear all cost of operation, maintenance, repair, rehabilitation, and replacement of flood control structures.	62,380,000	
Total Non-Federal Costs	$ 115,000,000	$ 377,000

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The Commonwealth of Puerto Rico Department of Natural and Environmental Resources is the local sponsor. A Project Cooperation Agreement for the project was executed in March 1994.

1491

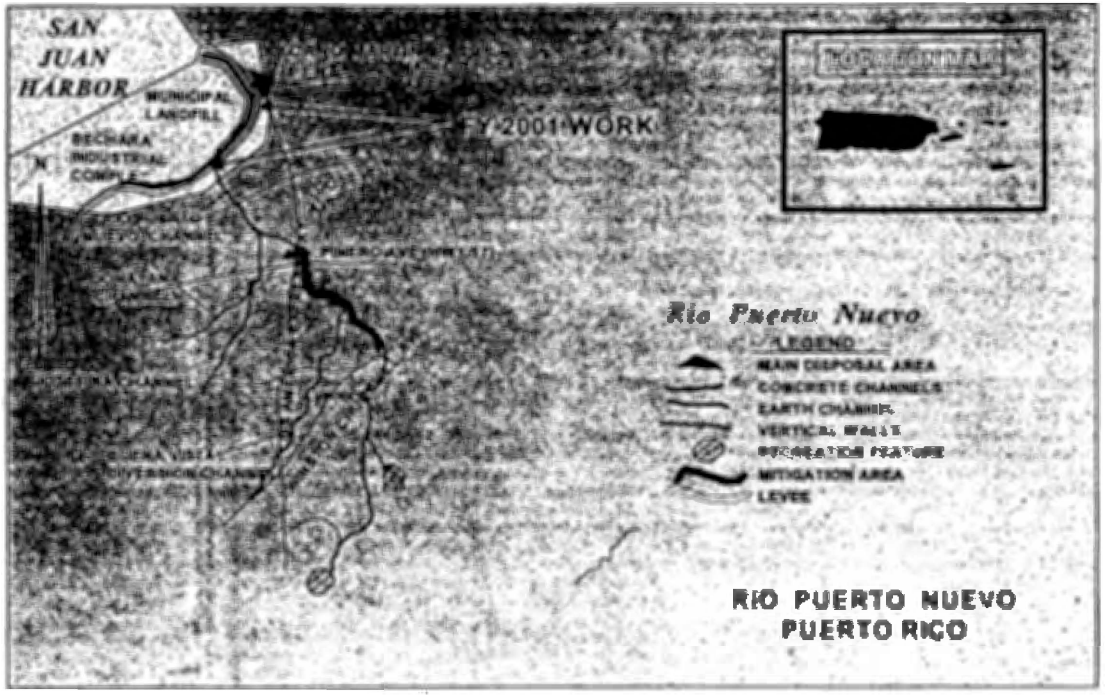
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps) cost estimate of $321,000,000 is a decrease from the latest estimate ($322,100,000) presented to Congress (FY 2000). The change includes the following items.

Item	Amount
Price Escalation on Construction Features	$ (1,100,000)

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement for the project was filed on 6 December 1985. The Finding of No Significant Impact (FONSI) was approved in July 1992.

OTHER INFORMATION: Funds to initiate preconstruction, engineering and design were appropriated in Fiscal Year 1987. Funds to initiate construction were appropriated in Fiscal Year 1994.

1492


SAN JUAN HARBOR
MUNICIPAL LANDFILL
BECHARA INDUSTRIAL COMPLEX
FY-2001 WORK
Rio Puerto Nuevo
LEGEND
MAIN DISPOSAL AREA
CONCRETE CHANNELS
EARTH CHANNEL
VERTICAL WALLS
RECREATION FEATURE
MITIGATION AREA
LEVEE
RIO PUERTO NUEVO
PUERTO RICO

1493

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Roanoke River Upper Basin, Virginia, Headwaters Area (Continuing)

LOCATION: The project is located on the Roanoke River in the City of Roanoke, Virginia.

DESCRIPTION: The project includes about 6.2 miles of channel widening along the 10 miles of river through the City of Roanoke, Virginia. Channel widening will be accomplished with the construction of a benched channel above the elevation of the average streamflow. Other flood damage reduction features include floodproofing at two locations, training walls to prevent floodwater intrusion into low areas along the river, replacement of two low-level bridges which constrict streamflows, and a flood warning system. Recreation facilities consist of a 2.9-mile recreation trail along the project reach and access and parking areas. All work is programmed.

AUTHORIZATION: Water Resources Development Act of 1986 and Energy and Water Development Appropriation Act of 1990.

REMAINING BENEFIT - REMAINING COST RATIO: 1.5 to 1 at 8-7/8 percent.

TOTAL BENEFIT - COST RATIO: 1.01 to 1 at 8-7/8 percent.

INITIAL BENEFIT - COST RATIO: 1.3 to 1 at 8-7/8 percent (FY 1990).

BASIS OF BENEFIT - COST RATIO: Benefits are from the General Design Memorandum approved in January 1990 at 1988 price levels.

SUMMARIZED FINANCIAL DATA			STATUS (1 Jan 2000)	PERCENT COMPLETE	COMPLETION SCHEDULE
Estimated Federal Cost		$29,700,000	Entire Project	19	Being Determined
Estimated Non-Federal Cost		15,600,000			
Cash Contributions	$ 3,535,000				
Other Costs	12,065,000				
Total Estimated Project Cost		$45,300,000			

1494

SUMMARIZED FINANCIAL DATA (continued):

		ACCUM. PCT. OF EST. FED. COST
Allocations to 30 September 1999	$ 5,639,000	
Conference Allowance for FY 2000	1,197,000	
Allocation for FY 2000	377,000 1/	
Allocations through FY 2000	6,016,000	20
Allocation Requested for FY 2001	1,000,000	24
Programmed Balance to Complete after FY 2001	22,684,000	
Unprogrammed Balance to Complete After FY 2001	0	

1/ Reflects $42,000 reduction assigned as savings and slippage and $650,000 reprogrammed from the project.

PHYSICAL DATA

Project Features:		Relocations:	
Channel Excavation	27,000 linear feet	Utility	3,880 linear feet
Training Wall	6,100 linear feet	Roads	2,000 linear feet
Paved Recreation Trail	14,900 linear feet	Overhead Line	6,350 linear feet
Parking/Access Areas	3 each	Buildings	13 each
Riprap	28,000 tons	Bridges	2 each

Land Acquisition (acres):	
Total Rights of Way Requirement	295
Flood Control Rights of Way	185
Disposal Areas (Temporary)	40
Recreation Rights of Way (Separable)	20
Rights of Way Underwater	110

1495

JUSTIFICATION: The project will provide improvements for flood protection and recreation. Most of the property that would be protected is industrial and commercial with a value of $680,000,000. The average annual damages in the project area are estimated at $5,777,000 at October 1988 price levels and 1988 level of development over the next 50 years if no flood control facilities are provided. The project would reduce these damages by $3,126,200. The maximum flood of record, November 1985, caused damages estimated at $112,424,000 under 1985 conditions of development and price levels. Damages at 1988 levels of development and October 1988 price levels would be $119,997,000. Floodplain development is not promoted by the project. Return on investments by local businesses is adversely affected by the flood problem. Firms have to use resources to repair and attempt floodproofing that could be used for expansion and modernization. In this respect, return on investment is suppressed. The project will have a beneficial effect on a variety of firms and increase return on investment throughout the floodplain. Average annual benefits are as follows:

Annual Benefits	Amount
Flood Damage Protection	$3,126,200
Recreation	228,100
Total	$3,354,300

PISCAL YEAR 2001: The requested amount of $1,000,000 will be applied as follows:

Initiate Construction of Channel Improvements	473,000
Continue Monitoring of Endangered Species	20,000
Initiate Construction of Training Walls	37,000
Initiate Construction of Recreation Facilities	48,000
Planning, Engineering and Design	322,000
Construction Management	100,000
Total	$ 1,000,000

1496

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation and Replacement Costs
Provide all lands, easements, and rights of way including suitable spoil disposal areas	$8,963,000	
Modify or relocate buildings, utilities, roads and other facilities except railroad bridges, where necessary for construction of the project.	$3,102,000	
Pay 25 percent of the cost of the flood warning system (partially offset by a credit for lands, easements, rights of way, and relocations).	10,000	
Pay 5 percent of the total cost allocated to flood control in cash in addition to all lands, easements, rights of way and relocations, and bear all costs of operation, maintenance, and replacement of flood control facilities.	2,033,500	$101,000
Pay one-half of the separable cost allocated to recreation (partially offset by a credit for land, easements, rights of way and relocations) and bear all costs of operation, maintenance and replacement of recreation facilities.	1,124,500	9,000
NON-FEDERAL COSTS (continued):		
Pay 25 percent of the cost of the non-structural floodproofing (partially offset by a credit for lands, easements, rights of way and relocations).	367,000	
Total Non-Federal Costs	$15,600,000	$110,000

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

1497

STATUS OF LOCAL COOPERATION: The City of Roanoke is the project sponsor. On 11 April 1989 the voters of the City of Roanoke approved the sale of $7.5 million worth of bonds to pay Roanoke's required cash contribution, acquire lands that are not currently owned and pay for relocation of bridges and utilities. The Local Cooperation Agreement was executed on 25 June 1990. A supplement to the Local Cooperation Agreement addressing the reimbursement for the floodproofing of the hospital was executed in January 1993. Design and construction of the remainder of the project has been deferred for the past eight years due to concerns the sponsor has over assuming liability for potential HTRW issues that might arise during project construction. The City in conjunction with the Corps, EPA and the Virginia Department of Envirnomental Quality conducted an extensive investigation and review of the project right of way to alleviate these concerns. Hazardous material was found at two sites. These sites have been cleaned by the land owner. Soil contamination was found at 14 other sites. A project action plan for the screening and disposal of this material has been prepared and reviewed by the sponsor and the Virginia Department of Environmental Quality. They have agreed with our assessment of the soil condition and our proposed land farming disposal method.

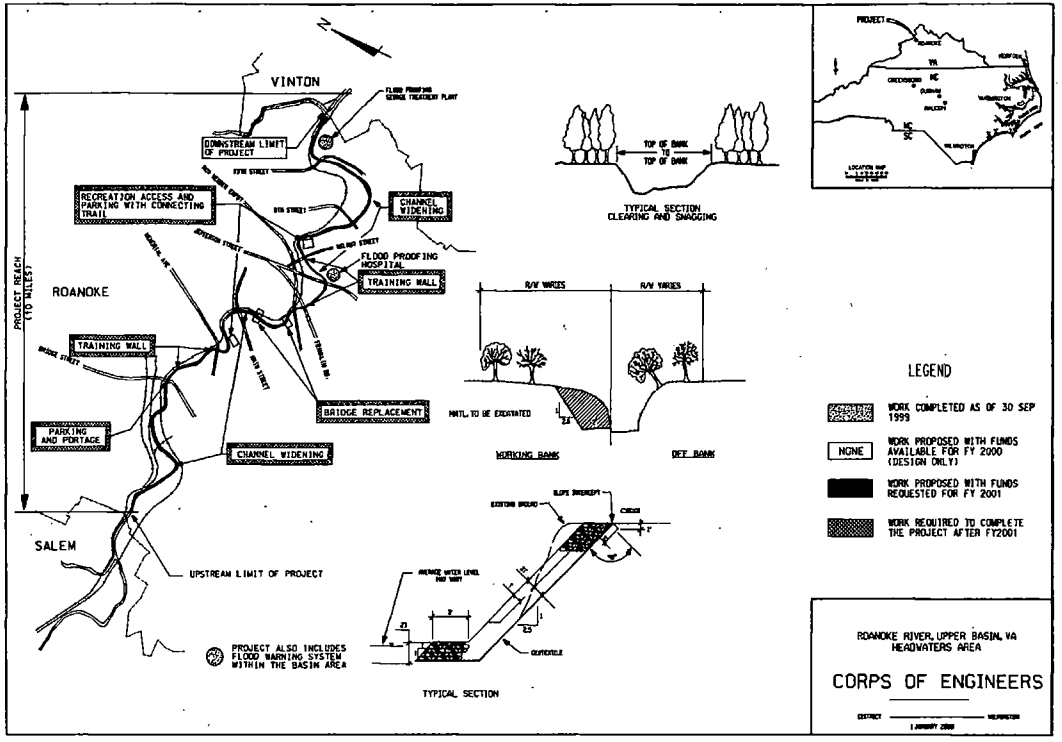
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps) cost estimate of $29,700,0000 is an increase of $900,000 from the latest estimate ($28,800,000) presented to Congress (FY 2000). This change includes the following items.

Item	Amount
Price Escalation on Construction Features	+$ 900,000
Total	+$ 900,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final environmental impact statement was filed with the Environmental Protection Agency in February 1985. A Finding of No Significant Impact for design changes was signed on 30 June 1989. OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1986 and funds to initiate construction were appropriated in FY 1990. The project was modified by the Energy and Water Development Appropriations Act of 1990 to increase the total estimated project cost to $29,000,000 (October 88 price levels). The Roanoke Logperch, which is located in the project area, was listed as an endangered species effective 18 September 1989 and will be monitored during project construction.

Reimbursement for the Federal share of the floodproofing of Roanoke Hospital, as authorized by Section 102cc of the Water Resources Development Act of 1990, in the amount of $501,000, was made in February 1993.

1498


VINTON
DOWNSTREAM LIMIT OF PROJECT
RECREATION ACCESS AND PARKING WITH CONNECTING TRAIL
CHANNEL WIDENING
FLOOD PROOFING HOSPITAL
TRAINING WALL
ROANOKE
TRAINING WALL
BRIDGE REPLACEMENT
PARKING AND PORTAGE
CHANNEL WIDENING
SALEM
UPSTREAM LIMIT OF PROJECT
PROJECT ALSO INCLUDES FLOOD WARNING SYSTEM WITHIN THE BASIN AREA
PROJECT REACH (10 MILES)
TOP OF BANK TO TOP OF BANK
TYPICAL SECTION CLEARING AND SNAGGING
R/W VARIES
R/W VARIES
MATL TO BE EXCAVATED
WORKING BANK
OFF BANK
TYPICAL SECTION
PROJECT
LEGEND
WORK COMPLETED AS OF 30 SEP 1999
NONE
WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2000 (DESIGN ONLY)
WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER FY2001
ROANOKE RIVER, UPPER BASIN, VA HEADWATERS AREA
CORPS OF ENGINEERS

1499

APPROPRIATION TITLE: Construction General - Multiple Purpose Power

PROJECT: Richard B. Russell Dam and Lake, Georgia and South Carolina (Continuing)

LOCATION: The Richard B. Russell Dam and Lake project is located on the Savannah River about 275 miles above the mouth, 16 miles southeast of Elberton, Georgia and between the existing J. Strom Thurmond and Hartwell Lakes.

DESCRIPTION: The project consists of a concrete gravity-type dam, flanked by earth embankments with a maximum height of 200 feet above the river. The total length of 5,616 feet consists of a 1,884 foot concrete section and embankments of 3,732 feet. The gate controlled spillway has a design capacity of 800,000 c.f.s. The project includes the installation of 328 megawatts of conventional power completed in January 1986 and 320 megawatts of reversible pumped storage power for a total available capacity of 648 megawatts. All work is programmed.

AUTHORIZATION: Flood Control Act of 1966, modified by the Water Resources Development Act of 1976 and the Water Resources Development Act of 1986.

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable because project construction is substantially complete.

TOTAL BENEFIT-COST RATIO: 1.9 to 1 at 3 1/4 percent.

INITIAL BENEFIT-COST RATIO: 2.0 to 1 at 3 1/4 percent (FY 1972).

BASIS OF BENEFIT-COST RATIO: Benefits are from the cost allocation study completed in December 1991 at October 1991 price levels.

SUMMARIZED FINANCIAL DATA		PCT. OF EST. FED. COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	ACCUM. PHYSICAL COMPLETION SCHEDULE
Estimated Total Appropriation Requirement	$618,100,000		Construction	96	Being determined
			Environmental Monitoring	0	Being determined
Future Non-Federal Reimbursement	$590,583,000		Entire Project	96	Being determined
Estimated Federal Cost (Ultimate)	$ 27,517,000				

1500

SUMMARIZED FINANCIAL DATA (Continued)

Estimated Non-Federal Cost			$592,483,000
Cash Contributions		$ 1,900,000	
Reimbursements		590,583,000	
Power	$571,810,000		
Recreation	18,773,000		
Total Estimated Project Cost			$620,000,000
Allocations to 30 September 1999			$597,919,000
Conference Allowance for FY 2000			$ 8,000,000
Allocation for FY 2000			$ 3,933,000 1/
Allocations through FY 2000			$601,852,000 97
Allocation Requested for FY 2001			$ 2,666,000 98
Programmed Balance to Complete			$ 13,582,000
Unprogrammed Balance to Complete After FY 2001			$ 0

1/ Reflects $1,139,000 reduction assigned as savings and slippage and $2,928,000 reprogrammed from the project.

PHYSICAL DATA

Dam			
Type	Concrete Gravity, flanked by earth embankments		
Maximum Height	200 feet		
Length	Concrete Section 1,884 feet; embankments 3,732 feet; total 5,616 feet		
Spillway			
Type	Gate Controlled		
Design Capacity	800,000 c.f.s.		
Relocations			Initial Power Installation
Roads - 19.5 miles		($32,537,000)	4 Conventional Units @ 82 MW
Railroads - (SCL RR) 9.1 miles		($29,921,000)	4 pump Storage Units
Cemeteries, Util. Lines and			@ 80 MW; 648 MW
Water Supply Pump Stations		($ 4,966,000)	Normal Average Head - 144 feet

1501

PHYSICAL DATA (Continued)

Lands and Damages	Reservoir Capacity (Acre-feet)	
Acres - 53,112	Flood Control	140,000
Type - Predominantly timber and Agricultural	Power	126,800
Improvements - Typical farm units	Dead Storage	899,400
	Total	1,166,200

JUSTIFICATION: The 648 megawatts installation, including pumped storage, will help meet the increased power requirements and rapid growth demands in this region. The output can be marketed and fully utilized immediately upon project completion in Federal Energy Regulatory Commission (FERC) supply areas 21, 22, and 23. This includes all of South Carolina, most of North Carolina, Georgia, Alabama, and parts of Mississippi and Florida. The FERC has stated repeatedly the need for this power source. This project will be an integral unit of the plan for development of the Savannah River Basin for flood control, navigation, power, and allied purposes. The recreational facilities will serve an area within a large zone of influence surrounding the three-lake complex of J. Strom Thurmond, Hartwell, and Richard B. Russell lakes. The estimated initial attendance at the project was 1,000,000 and should exceed 4,600,000 in the early 2000's. Average annual benefits are as follows:

Annual Benefits	Amount
Power	$ 52,995,000
Recreation	3,597,000
Fish and Wildlife	71,000
Flood Control	177,000
Area Redevelopment	4,212,000
Total	$ 61,052,000

1502

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue environmental monitoring of pumped storage operation	$ 200,000
Initiate construction of McCalla Wilderness Park	10,000
Continue work on JST 02 System contracts for pumped storage	946,000
Continue work on Main Breakers and Static Start	1,000,000
Planning Engineering and Design	350,000
Construction Management	160,000
Total	$2,666,000

NON-FEDERAL COST: In accordance with Public Law 89-72, agreements for recreation development with the States of Georgia and South Carolina have been executed and were approved by the Secretary of the Army 20 May 1974. The costs allocable to power are reimbursable, and will be reviewed and adjusted based on construction costs when the project becomes operational.

	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Requirements of Local Cooperation		
Capital Cost allocated to power.	$571,810,000	$3,557,000
Pay, contribute in kind, or repay (repayment not to exceed 50 years)with interest, one-half of the separable costs allocated to recreation.	20,673,000	
Bear all costs of operation, maintenance, repair, rehabilitation, and replacement of recreation facilities.	0	249,000
Total Non-Federal Costs	$592,483,000	$3,806,000

STATUS OF LOCAL COOPERATION: The State of Georgia began payments for recreation reimbursements in May 1985. The State of South Carolina began payments in August 1985. Responsibility for repayment of power costs rests with the Southeastern Power Administration pursuant to Federal Laws.

COMPARISON OF FEDERAL COST ESTIMATES: No change from last amount ($618,100,000) presented to Congress for FY 2000.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement (EIS) on conventional installation was submitted to Council on Environmental Quality (CEQ) on 31 May 1974. A supplement on water quality to the final EIS was filed with CEQ in May 1976. The final EIS on pumped storage was filed with the Environmental Protection Agency (EPA) in October 1979. The Supplement on fish and wildlife mitigation to the final EIS was filed with the EPA in December 1981. A supplement to the final EIS on pumped storage was filed in August 1991. A final NEPA document (Environmental Assessment) now based on four years of environmental testing is complete. It embodies those technical items that the Corps of Engineers (COE) and South Carolina have reached agreement on, relating to operational measures and environmental monitoring. The EA for Pumped Storage was completed in FY 1999 and the FONSI was signed in August 1999.

OTHER INFORMATION: Funds to initiate preconstruction planning were appropriated in FY 1968. Funds to initiate land acquisition were appropriated in FY 1971 and allocated in FY 1972. Initial construction funds were appropriated in FY 1975. A preliminary injunction halting the installation of pumped storage was issued on 23 May 1988. A hearing on the merits of our appeal for injunctive relief was held on 8 December 1988 in the 4th Circuit Court of Appeals in Richmond, Virginia. On 24 January 1989, the Richmond 4th Circuit Court of Appeals granted injunctive relief to the COE to only install the reversible pump turbines. Testing and operation is contingent on demonstrating through the supplemental EIS process that units can be operated in a responsible manner without unduly impacting existing fish habitat. With the record-of-decision on the Supplemental EIS, dated 4 September 1991, the Corps completed a settlement with the litigants to proceed forward into a phased testing and monitoring plan to address environmental issues concerning pumped storage. On 6 December 1991, the Federal District Court of Charleston, South Carolina, modified the pump storage injunction to permit testing of the first pumped storage units and permit advertising of the pumped storage conveyance channel. On 8 April 1992, the Charleston District Federal Court granted injunctive relief to allow environmental testing of the pumped storage units from May 1992 through October 1993 (subsequently from March 1993 through October 1996) and allow the award of the dredging of the tailrace channel. This schedule conforms to the Federal Court and the Corps commitment to the resource agencies as stated in the supplement to the final environmental impact statement record-of-decision. Environmental clearance for dredging was attained 27 May 1994. Dredging the tailrace conveyance channel was tied to the phased testing process in accordance with the consent order and it was included in the final EIS on pumped storage. The dredging was completed in March 1995. The Vortex Fix scheduled for unit eight was awarded in February 1994 and installation was completed in December 1994. A second contract was awarded in February 1996 and completed in March 1996. This contract, a Rock Jetty Flow Diversion Structure, was fully successful in eliminating the remaining vortex influence on fish entrainment at Unit eight.

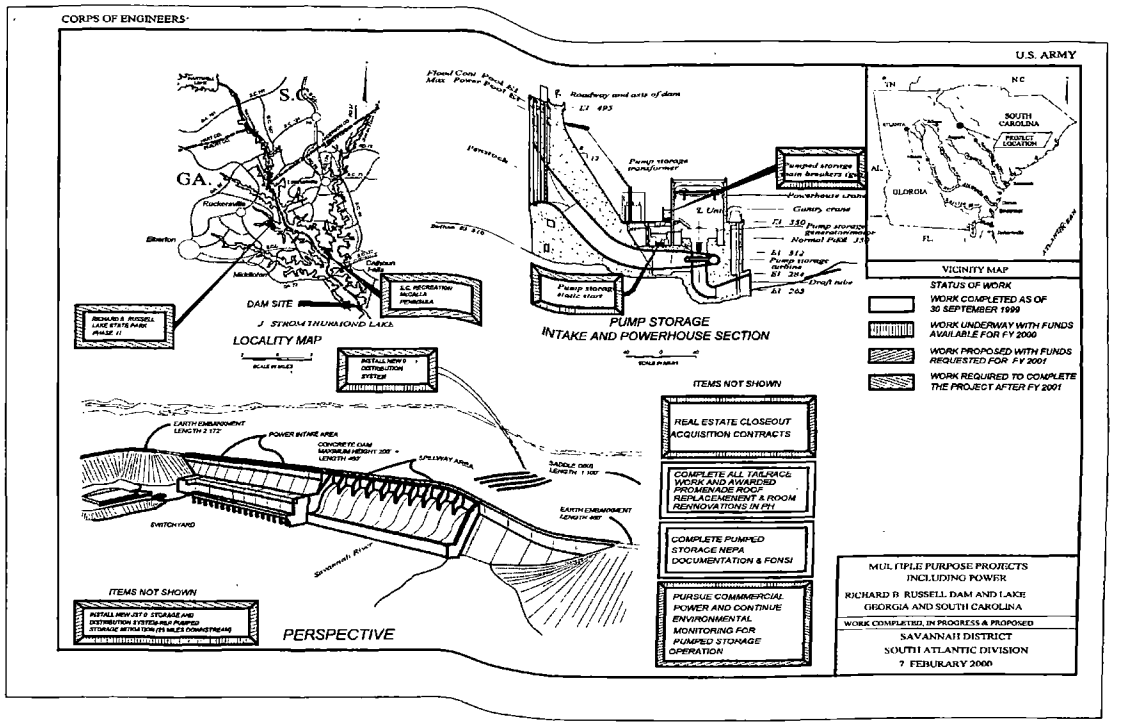
OTHER INFORMATION (Continued)

Four years of environmental testing is now complete at Richard B. Russell Dam and Lake. The Savannah District completed the Final Phase III Environmental Report for Interagency Review and comment in August 1997. Review of the data from Phase III final testing of full operations (April 1996 through October 1996) indicates minimal environmental impact to the fishery and possible environmental impact to water quality due to thermal warming of the Tailwater Region in July, August and September.

The South Carolina Department of Natural Resources requested full compensation for fish losses throughout the remaining life of the turbines (45 years) and a four month moratorium on springtime pumping as an offer to avoid final litigation action in Federal District Court. We have since negotiated limited springtime pumping for the months of March, April, and May which will not impact the dependable annual capacity and marketing of this power, and will minimize springtime sport fish entrainment. The Corps and the Department of Justice cannot pay compensation for fish losses. The remaining impasse to reaching an agreement rests in the legal arena. South Carolina insists on another consent order for commercial operation. COE has advised them that a Federal project cannot operate under a consent order in a NEPA lawsuit. The Corps of Engineers coordinated a draft Memorandum of Agreement (MOA) with South Carolina as an avenue to possibly dismiss the injunction and settle the case. That MOA embodied the agreed upon operational measures and mitigation, but agreement could not be reached.

The Pumped Storage can be declared commercially available in FY 2000 following favorable decision from the Court by either summary judgement or trial.

1505


CORPS OF ENGINEERS
U.S. ARMY
GA.
S.C.
DAM SITE
J STROM THURMOND LAKE
LOCALITY MAP
PUMP STORAGE
INTAKE AND POWERHOUSE SECTION
PERSPECTIVE
VICINITY MAP
SOUTH CAROLINA
GEORGIA
STATUS OF WORK
WORK COMPLETED AS OF 30 SEPTEMBER 1999
WORK UNDERWAY WITH FUNDS AVAILABLE FOR FY 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER FY 2001
ITEMS NOT SHOWN
REAL ESTATE CLOSEOUT ACQUISITION CONTRACTS
COMPLETE ALL TAILRACE WORK AND AWARDED PROMENADE ROOF REPLACEMENT & ROOM RENNOVATIONS IN PH
COMPLETE PUMPED STORAGE NEPA DOCUMENTATION & FONSI
PURSUE COMMMERCIAL POWER AND CONTINUE ENVIRONMENTAL MONITORING FOR PUMPED STORAGE OPERATION
ITEMS NOT SHOWN
MULTIPLE PURPOSE PROJECTS INCLUDING POWER
RICHARD B RUSSELL DAM AND LAKE
GEORGIA AND SOUTH CAROLINA
WORK COMPLETED, IN PROGRESS & PROPOSED
SAVANNAH DISTRICT
SOUTH ATLANTIC DIVISION
7 FEBURARY 2000

1506

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Central and Southern Florida, Florida (Continuing)

LOCATION: The project is located in the southeasterly 18 counties of the State of Florida. Principle areas are the Upper St. Johns River Basin, Kissimmee River Basin, Lake Okeechobee-Everglades Area, and East Coast-Everglades Area.

DESCRIPTION: The Central and Southern Florida Project involves an area of about 16,000 square miles, which includes all or part of 18 counties in central and southern Florida. It embraces Lake Okeechobee, its regulatory outlets, the Florida Everglades, The Upper St. Johns and Kissimmee River Basins, and the lower east coast of Florida. Project purposes are flood control; municipal, industrial, and agricultural water supply; prevention of salt water intrusion, water supply for Everglades National Park; fish and wildlife preservation; navigation; and recreation. In addition to completed work, portions of the Upper St. Johns River, South Dade County, Port Mayaca Recreation, Kissimmee Basin, West Palm Beach Canal, Agricultural Area, Lake Okeechobee, East Cape and homestead Canals, Manatee Pass-Through Gates, North Dade County, and the Central & Southern Florida project Review Separable elements are currently programmed; all remaining separable elements are unprogrammed. Modified Water Deliveries to Everglades National Park will be accomplished with funds transferred to the Corps of Engineers by National Park Service. The restoration of the Kissimmee River Project is being accomplished with a separate appropriation.

AUTHORIZATION: Flood Control Acts of 1948, 1954, 1960, 1962, 1965, and 1968; Authorization in 1970 under Section 201 of the Flood Control Act of 1965, and the Water Resources Development Acts of 1986, 1988, 1990, 1992, and 1996.

REMAINING BENEFIT - REMAINING COST RATIO: 4.0 to 1 at 2 1/2 percent.

TOTAL BENEFIT - COST RATIO: 4.8 to 1 at 2 1/2 percent.

INITIAL BENEFIT - COST RATIO: 2.1 to 1 at 2 1/2 percent (FY 1950).

BASIS OF BENEFIT - COST RATIO: Benefits are a composite of the latest benefits available from the individual reports of the separable elements of the total project.

1507

SUMMARIZED FINANCIAL DATA				ACCUM. PCT. OF EST. FED COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost (CoE)			$2,109,274,000		Misc Completed Works	100	Oct 1992
Programmed Construction		1,533,471,000			Upper St. Johns River	94	Feb 2002
Unprogrammed Construction		575,803,000			West Palm Beach	32	Sep 2003
					South Dade County	24	May 2003
Estimated Federal Cost (OFA)			$ 47,685,000		Manatee Pass Gates	24	Sep 2003
Programmed Construction		47,685,000			Misc Completed Works	100	Oct 1992
Unprogrammed Construction		0			Comp Everglades Rest	0	Sep 2010
Estimated Non-Federal Cost			$1,492,520,000		Entire Project	30	To be determined
Programmed Construction		1,156,829,000					
Cash Contributions	653,525,000						
Other Costs	838,995,000						
Estimated Non-Federal Cost							
Unprogrammed Construction		335,691,000					
Cash Contributions	164,556,000						
Other Costs	171,135,000						
Total Estimated Programmed Construction Cost			2,737,985,000				
Total Estimated Unprogrammed Construction Cost			911,494,000				
Total Estimated Project Cost			$3,649,480,000				
Allocations to 30 September 1999			470,844,000				
Conference Allowance for FY 2000			53,200,000				
Allocation for FY 2000			44,852,000 1/				
Allocation through FY 2000			515,696,000	24			
Allocation Requested for 2001			92,423,000	29			
Programmed Balance to Complete after FY 2001			925,352,000				
Unprogrammed Balance to Complete after FY 2001			575,803,000				

1/ Reflects $7,448,000 reduction assigned as savings and slippage.

1508

PHYSICAL DATA

Lands and Damages		Relocations-Railroads (Bridges)	56
The 1968 authorization included lands for		Locks (Number)	25
Recreational areas.		Length (Feet)	60 to 400
Pumping Plants (Number)	35	Width (Feet)	20 to 56
Capacity (Gallons per Minute)	20,780,080	Canals (Miles	977
Floodway Control & Diversion Structures (Number)	235	Levees (Miles)	1,008
Relocations-Highways (Bridges)	2	Minimum to Maximum Height (Feet)	2 to 30

JUSTIFICATION: The Central and Southern Florida project was originally authorized and designed as a flood control project in response to the maximum flood of record in 1947. Existing damages, without the project, were $59,693,000 ($366,903,000 at 1 October 1989 price levels). The 1947 flood frequency averages 1 in 25 years over the project area, with an average duration of 70 days. Minor floods occur almost yearly in the project area and major floods occur frequently. This situation is aggravated by wet antecedent conditions followed by heavy seasonal rainfall. The average degree of protection provided by the completed project is about a 10-year flood frequency protection. Approximately 2,853,700 acres are protected. This encompasses 2,765,100 agricultural acres and 88,600 urban acres. The present value of property subject to flood damages is about $12.3 billion. Property types include residential, commercial, industrial, public, and agricultural.

Average annual damages without the project would be $110,580,000 and $22,536,000 with the project. Damages attributable to urban property are 16.7 percent and 83.3 percent are attributable to rural property. The proportion of average annual damages prevented are 36.8 percent to existing development and 63.2 percent to future development. Flood damages incurred since project authorization through March, 1987 total $306,370,000; damages prevented by project works in place at times of flood total $474,793,000 and damages with no project works would have totaled $781,163,000.

Under Public Law 90-483 (River and Harbor Act of 1968), additional project features for the purpose of water supply were added to the Central and Southern Florida project. The storage capacity of the entire project is 2,953,000 average annual acre-feet divided into approximately 1,600,000 acre-feet for urban use by 2020 and 740,000 acre-feet for agricultural use by 2020. The Everglades National Park receives virtually its entire source of water (other than direct rainfall) from the Central and Southern Florida Project. The pumping rate for irrigation of 590 square miles would yield approximately 917,850 acre-feet per year for agricultural use. Recurrent drought conditions with resultant low flows require supplemental irrigation to ensure adequate crops yields. Average annual benefits are as follows:

Annual Benefits	Amount
Flood Control	235,213,000
Municipal and Industrial Water Supply	25,664,000
Agricultural Water Supply	27,614,000
Recreation	11,109,000
Fish and Wildlife	238,000
Area Redevelopment	3,012,000
Total	$302,850,000

1509

JUSTIFICATION (Continued)

Public Law 90-483 in addition to Public Law 101-229 (Everglades National Park Protection and Expansion Act) have authorized modifications to the project for environmental restoration in the C-111 basin. The South Dade County effort will restore natural hydrologic conditions in Taylor Slough within Everglades National Park for the purpose of restoring the historic diversity and abundance of the native flora and fauna.

FISCAL YEAR 2001: The request amount of $92,423,000 will be applied as follows:

Continue construction of channels, canals, and pumping plants for South Dade County	$ 8,449,000	
Continue construction of channels, canals, levees, floodwalls, and flood control Structures for Upper St. Johns River Basin	2,156,000	
Continue construction of levees, floodwalls, pumping plants, and floodway control for West Palm Beach Canal	42,812,000	
Continue construction of locks, channels, and canals for Manatee Pass-Through Gates	1,427,000	
Complete the feasibility phase of the Central and Southern Florida Project Review Study	2,334,000	
Planning, Engineering and Design for South Dade County		1,860,000
Planning, Engineering and Design for West Palm Beach Canal	1,469,000	
Planning, Engineering and Design for Manatee Pass-Through Gates	204,000	
Planning, Engineering and Design for Comprehensive Everglades Restoration Plan	26,913,000	
Construction Management	4,799,000	
Total	$ 92,423,000	

1510

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the authorizing legislation and the Water Resources Development Act of 1986 and 1996, as applicable, the non-Federal sponsor must comply with the requirements listed below:

Requirements of local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Upper St. Johns River Basin		
Provide lands, easements, rights of way, and dredged material disposal areas.	$ 86,232,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	11,060,000	
Pay one-half of the separable costs allocated to recreation (except Recreational navigation) and bear all costs of operations, maintenance, Repair, and replacement of recreational facilities.	3,023,000	$ 82,000
Total	$100,315,000	$ 82,000
West Palm Beach Canal		
Provide lands, easements, rights of way, and dredged material disposal areas.	11,412,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	3,887,000	
Pay 12.8 percent of the separable costs allocated to flood control and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of facilities.	10,220,000	$289,800
Total	$ 25,519,000	$289,800

1511

Requirements of local Cooperation (Continued)	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
South Dade County		
Provide lands, easements, rights of way, and dredged material disposal areas.	59,129,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	419,000	
Pay on-half of the cost of the project assigned to flood control and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of flood control facilities.	13,652,000	$845,000
Total	$ 73,200,000	$ 845,000
Manatee Pass-Through Gates		
Pay applicable percentage based upon authorized cost share for each particular project.	2,067,000	
Total	$2,067,000	
Completed Works		
Provide lands, easements, rights of way, and modify or relocate buildings, utilities, roads, bridges and other facilities.	35,782,000	
Cash Contribution	$778,851,000	
Total	814,633,000	
Total Non-Federal First Cost	$1,015,734,000	$1,301,000

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

Division: South Atlantic District: Jacksonville Central and Southern Florida, FL

STATUS OF LOCAL COOPERATION: Assurances of local cooperation have been accepted from the local sponsor, the South Florida Water Management District, for all works authorized under the Central and Southern Florida project except for the Upper St. Johns River portion of the project. Local interest voluntarily executed a supplemental assurances contract which was approved by the District Engineer on 1 July 1972 for all modifications to the project. Assurances of local cooperation were accepted from the St. Johns River Water Management District for the Upper St. Johns River portion on 30 December 1987. The Project Cooperation Agreement for the West Palm Beach Canal (C51) separable element was executed with the South Florida Water Management District in April 1999.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps cost estimate of $2,109,274,0000 is an decrease of $477,026,000 over the latest estimate ($2,586,300,000) submitted to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	23,869,000
Being pursued under Major Rehab separable element	(291,802,000)
Design Change	(12,309,000)
Post Construction Awards & Other Estimating Changes	(196,784,000)
Total	$ 477,026,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The latest Environmental Impact Statement for the project was for the West Palm Beach Canal (C51) Separable element and was filed with the Environmental Protection Agency in June 1998.

OTHER INFORMATION: Funds to initiate preconstruction planning and construction were appropriated in FY 1950. The Everglades National Park Protection and Expansion Act, signed 13 December 1989, authorizes construction of structural works required for improved water deliveries to Shark River Slough in Everglades National Park, construction of flood protection works for the residential area in the East Everglades, and acquisition of 107,600 acres of privately owned wetlands in the East Everglades. The Department of the Interior and the State of Florida would acquire the land and the Secretary of the Army would construct all project modifications with funds transferred to the Corps of Engineers by the National Park Service for this purpose. All Federal funding for implementation of this project is being appropriated through the Department of Interior appropriations and transfers are made to the Corps of Engineers as needed for modifications to the Central and Southern Florida project. This authorization also included modification of the South Dade County separable element to improve the natural resources in Taylor Slough in Everglades National Park and was funded through the Corps Central and Southern Florida project appropriation.

The Kissimmee Restoration Project was authorized by the Water Resources Development Act of 1992. It is being funded by a separate appropriation. The project cooperation agreement was executed in March 1994. Preconstruction, engineering , and design is underway, and construction was initiated in August 1997. The Water Resources Development Act of 1992 authorizes the Chief of Engineers to review the Central and Southern Florida project to determine whether modifications to the existing project are advisable at the present time due to significantly changed physical, biological, demographic, or economic conditions, with particular reference to modifying the project or its operation for improving the quality of the environment, improving protection of the aquifer, and improving the integrity, capability, and conservation of urban water supplies affected by the project or its operation. The central organizing theme of the study is restoration of the

Everglades ecosystem while accommodating other demands for water and related land resources in south Florida. Recognizing the complexity of ecological restoration and the extensive interaction between the ecosystem and other uses of water and related land resources, oversight of the reconnaissance study was provided by a Washington level Task Force, which will continue to provide policy guidance, study coordination, and appropriate agency participation. The Water Resources Development Act of 1996 (Section 528) required that a report be submitted to Congress, along with a Programmatic Environmental Impact Statement, in July 1999. The report was submitted 1 July 1999 and addressed a comprehensive restoration plan. This is about one year earlier than the original Project Study Plan called for. Execution of the Design Agreement with the local sponsor is scheduled for spring FY2000.

The Water Resources Development Act of 1996 also legislatively established the Task Force and expanded its membership to include State and local agency representatives. The Task Force, along with the Governor's Commission for a Sustainable South Florida, provided assistance to the Restudy Team.

The Indian River Lagoon Feasibility Study was initiated in 1996. This study is evaluating potential modifications to the Central and South Florida Project for ecological restoration of Indian River Lagoon system.

In Fiscal Year 1994, preconstruction, engineering, and design work was initiated on three congressional adds: East Cape and Homestead Canals, Manatee Pass-Through Gates, and HTW Cleanup of C-103S. The Manatee Pass-Through Gates Study is evaluating potential methods for preventing Manatee deaths associated with operation of existing structures and locks. The East Cape and Homestead Canals project will prevent salt water intrusion into freshwater bays in Everglades National Park by repairing the plugs in the two canals. A memorandum of understanding for this work has been developed with the Everglades National Park Service. The HTW Cleanup of C-103S effort evaluated the extent of the soil contamination at the Homestead power plant and the Corps' authority for cleanup. It was concluded that the Corps has no authority to participate in the cleanup. The City of Homestead is taking appropriate corrective actions.

SUMMARIZED FINANCIAL DATA:

Upper St. Johns River Basin

Estimated Federal Cost			$92,911,000
Programmed Construction		87,836,000	
Unprogrammed Construction		5,525,000	
Estimated Non-Federal Cost			$100,315,000
Programmed Construction		98,477,000	
Cash Contributions	3,023,000		
Other Costs	97,292,000		

1514

SUMMARIZED FINANCIAL DATA (Continued)

Estimated Non-Federal Cost			
Unprogrammed Construction		$1,838,000	
Cash Contributions	1,838,000		
Other Costs	0		
Total Estimated Programmed Construction Cost			$186,313,000
Total Estimated Unprogrammed Construction Cost			7,363,000
Total Estimated Project Cost			$193,226,000

REMAINING BENEFIT-REMAINING COST RATIO: 2.7 to 1 at 8 5/8 percent.

TOTAL BENEFIT-COST RATIO: 3.0 to 1 at 8 5/8 percent.

South Dade County

Estimated Federal Cost			$ 84,500,000
Programmed Construction		83,975,000	
Unprogrammed Construction		525,000	
Estimated Non-Federal Cost			$ 73,200,000
Programmed Construction		$ 72,964,000	
Cash Contribution	13,505,000		
Other Costs	59,459,000		
Estimated Non-Federal Cost			
Unprogrammed Construction		$236,000	
Cash Contributions	236,000		
Other Costs	0		
Total Estimated Programmed Construction Cost			156,939,000
Total Estimated Unprogrammed Construction Cost			761,000
Total Estimated project Cost			$157,700,000

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable

TOTAL BENEFIT-COST RATIO: Not applicable

1515

SUMMARIZED FINANCIAL DATA (Continued)

West Palm Beach Canal

Estimated Federal Cost (CoE)			$167,214,000
Programmed Construction		167,214,000	
Unprogrammed Construction		0	
Estimated Federal Cost (OFA)			$47,685,000
Programmed Construction		47,685,000	
Unprogrammed Construction		0	
Estimated Non-Federal Cost			$ 25,519,000
Programmed Construction		25,519,000	
Cash Contributions	12,707,000		
Other Costs	12,812,000		
Estimated Non-Federal Cost			
Unprogrammed Construction	0		
Cash Contributions	0		
Other Costs	0		
Total Estimated Programmed Construction Cost			240,418,000
Total Estimated Unprogrammed Construction Cost			0
Total Estimated Project Cost			$240,418,000

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable

TOTAL BENEFIT-COST RATIO: Not applicable

1516

SUMMARIZED FINANCIAL DATA (Continued)

Manatee Pass-Through Gates

Estimated Federal Cost			$10,094,000
Programmed Construction		10,094,000	
Unprogrammed Construction		0	
Estimated Non-Federal Cost			$2,067,000
Programmed Construction		2,067,000	
Cash Contributions	2,067,000		
Other Costs	0		
Estimated Non-Federal Cost			
Unprogrammed Construction		0	
Cash Contributions	0		
Other Costs	0		
Total Estimated Programmed Construction Cost			12,161,000
Total Estimated unprogrammed Construction Cost			0
Total Estimated Project Cost			$12,161,000

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable.

TOTAL BENEFIT-COST RATIO: Not applicable.

1517

SUMMARIZED FINANCIAL DATA (Continued)

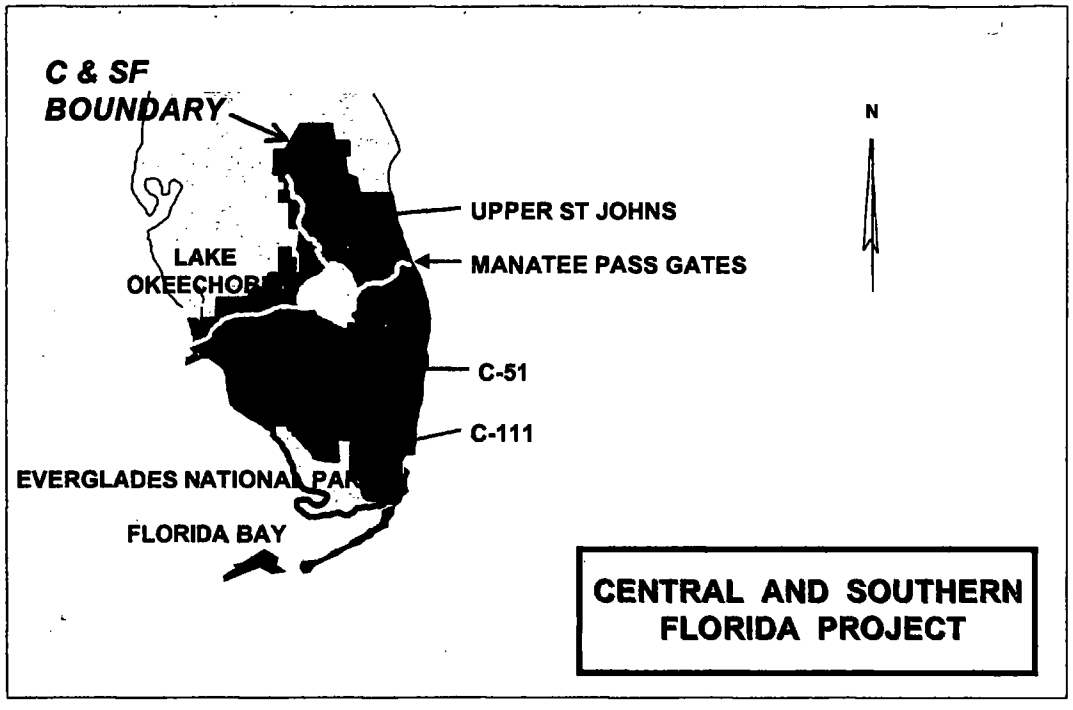
Comprehensive Everglades Restoration Plan

Estimated Federal Cost			$875,243,000
Programmed Construction		875,243,000	
Unprogrammed Construction		0	
Estimated Non-Federal Cost			$ 872,498,000
Programmed Construction		872,498,000	
Cash Contributions	403,476,000		
Other Costs	469,022,000		
Estimated Non-Federal Cost			
Unprogrammed Construction		0	
Cash Contributions	0		
Other Costs	0		
Total Estimated Programmed Construction Cost			1,747,741,000
Total Estimated Unprogrammed Construction Cost			0
Total Estimated Project Cost			$1,747,741,000

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable.

TOTAL BENEFIT-COST RATIO: Not applicable.

1518


C & SF
BOUNDARY
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UPPER ST JOHNS
MANATEE PASS GATES
LAKE
OKEECHOBEE
C-51
C-111
EVERGLADES NATIONAL PARK
FLORIDA BAY
CENTRAL AND SOUTHERN
FLORIDA PROJECT

APPROPRIATION TITLE: Construction, General - Environmental Restoration

PROJECT: Everglades and South Florida Ecosystem Restoration, Florida (Continuing)

LOCATION: The project will be within the boundaries of the Central and Southern Florida (C&SF) Project and near shore waters. The project is located in the southeasterly 18 counties of the State of Florida. Principle areas are the Kissimmee River Basin, Lake Okeechobee-Everglades Area, and East Coast-Everglades Area.

DESCRIPTION: Critical Restoration Projects must meet the following criteria: provide immediate, independent, and substantial ecosystem restoration, protection, and preservation benefits; cost less than $50 million; be consistent with the Governor's Commission's Conceptual Plan; and have a local sponsor to contribute 50% of the total project cost. The South Florida Ecosystem Restoration Working Group developed a list of candidate projects, evaluating their applicability to the authority, and prioritizing the applicable projects.

AUTHORIZATION: Water Resources Development Act of 1996 (as amended by WRDA 1999)

REMAINING BENEFIT - REMAINING COST RATIO: Each project will be justified based on its ecosystem restoration, preservation, or protection benefits.

TOTAL BENEFIT - COST RATIO: Each project will be justified based on its ecosystem restoration, preservation, or protection benefits.

BASIS OF BENEFIT - COST RATIO: Each project will be justified based on its ecosystem restoration, preservation, or protection benefits.

1520

SUMMARIZED FINANCIAL DATA				ACCUM. PCT OF EST FED COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimate Federal Cost			$74,792,000		Total Project	2	To be determined
Programmed Construction		74,792,000					
Unprogrammed Construction		0					
Estimated Non-Federal Cost			$ 74,793,000				
Programmed Construction		74,793,000					
Cash Contributions	50,426,000						
Other Costs	24,367,000						
Estimated Non-Federal Cost							
Unprogrammed Construction		0					
Cash Contributions	0						
Other Costs	0						
Total Estimated Programmed Construction Cost			$149,585,000				
Total Estimated Unprogrammed Construction Cost			0				
Total Estimated Project Cost			$149,585,000				
Allocations to 30 September 1999			5,817,000				
Conference Allowance for FY 2000			20,000,000	1/			
Allocation for FY 2000			8,534,000				
Allocations through FY 2000			14,351,000	20			
Allocation Requested for FY 2001			20,525,000	47			
Programmed Balance to Complete after FY 2001			39,916,000				
Unprogrammed Balance to Complete after FY 2001			0				

1/ Reflects $2,848,000 reduction assigned as savings and slippage and $8,618,000 reprogrammed from the project.

1521

PHYSICAL DATA

Pumping Plants (Number)	3
Canals (Number)	3

JUSTIFICATION: The C&SF Project has successfully provided flood control, water supply benefits, recreation, and navigation in accordance with its authorized purposes. However, there have been substantial degradation in the regions natural resources associated with the water management system. Furthermore, development in the project area has far surpassed projections in the initial design of the comprehensive plan for the C&SF Project in 1948. The C&SF Project Comprehensive Review Feasibility Study was authorized in WRDA 1992, amended in WRDA 1996, and submitted to Congress in July 1999. WRDA 1996 also authorized implementation of Critical Projects that will provide immediate, independent, and substantial restoration benefits. The projects will be justified on the basis of ecosystem restoration, protection, or preservation benefits.

FISCAL YEAR 2001: The requested amount of $20,525,000 will be applied as follows:

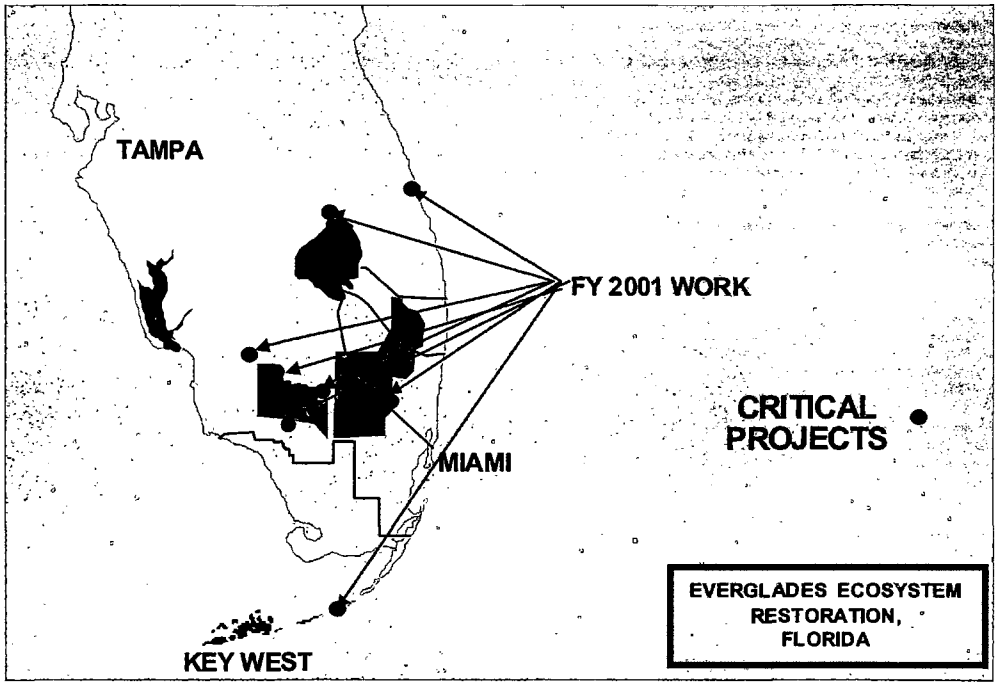
Initiate construction of channels and canals	$18,034,000
Planning, Engineering and Design	1,383,000
Construction Management	1,108,000
Total	$20,525,000

NON-FEDERAL COST: The Non-Federal project sponsor(s) will provide at least 50% of the total project cost. The Non-Federal contribution can be through in-kind services, cash contributions, or any combination that is approved in the Project Cooperation Agreement.

STATUS OF LOCAL COOPERATION: A Project Cooperation Agreement (PCA) for the Florida Carrying Capacity Study was executed with the Florida Department of Community Affairs in December 1998. PCA's were executed 07 January 2000 for East Coast Canal Structures, Tamiami Trail Culverts, Western C-11, Big, Southern Crew, Lake Okeechobee Water Retention, 10-Mile Creek, and Lake Trafford with the South Florida Water Management District, and for Seminole Big Cypress with the Seminole Tribe of Florida.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: Appropriate NEPA documents were prepared and finalized prior to execution of the PCA's.

OTHER INFORMATION: WRDA 1996 authorized appropriations up to $75 million. FY 1998 and 1999 funds were used to complete letter reports and negotiate PCA's.


TAMPA
FY 2001 WORK
CRITICAL PROJECTS
MIAMI
KEY WEST
EVERGLADES ECOSYSTEM RESTORATION, FLORIDA

1523

APPROPRIATION TITLE: Construction, General - Local Protection

PROJECT: Kissimmee River, Florida (Continuing)

LOCATION: The Kissimmee River basin is approximately 3,000 square miles in size. It stretches from the southern Orlando area southward to Lake Okeechobee in central Florida. The project to restore the Kissimmee River has two component parts; the upper basin, referred to as the Headwaters Revitalization, and the lower basin, referred to as the Kissimmee River Restoration. The upper basin is generally located in south-central Florida north of State Road 60 with the lower basin generally located south of the outlet from lakes Kissimmee and Hatchineha and Cypress Lake. The project was authorized in the Water Resources Development Acts of 1988 and 1992.

DESCRIPTION: The upper basin portion of the project consists of water regulation schedule modifications, canal and structure improvements, and land acquisition. This will result in environmental benefits in the upper chain of lakes and in the lower basin. More natural fluctuations of water levels will enhance the peripheral marshes of the lakes. Reestablishing a more natural timing of flows to the lower basin will result in restoration or enhancement of the Kissimmee River ecosystem. Structural improvements will include enlargements of existing canals and existing water control structures. The Kissimmee River project is addressing restoration of natural flooding of the floodplain to reestablish historic wetland conditions. Construction will include backfilling approximately 22 miles of the C-38 canal, excavating approximately 9 miles of new river channel, and the removing 2 water control structures and locks in the backfilled sections. The project will also include acquisition of fee title for lands within the 5-year-floodplain and acquisition of flowage easements for lands between the five-year-flood line and the 100-year-flood line.

AUTHORIZATION: Water Resources Development Acts of 1988 (Section 46) and 1992 (Section 101).

REMAINING BENEFIT - REMAINING COST RATIO: Not applicable

TOTAL BENEFIT - COST RATIO: Not applicable

INITIAL BENEFIT - COST RATIO: Not applicable

BASIS OF BENEFIT - COST RATIO: Not applicable

SUMMARIZED FINANCIAL DATA				ACCUM. PCT. OF EST. FED COST	STATUS (1Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost			$224,800,000		Lands and Damages	42	Sep 2001
Programmed Construction		224,800,000			Relocations - Bridges	0	Sep 2003
Unprogrammed Construction		0			Channels and Canals	2	Sep 2009
					Flood Control Structures	20	Sep
2002							
Estimated Non-Federal Cost			$293,200,000				
Programmed Construction		261,711,000			Entire Project	21	To be determined
Cash Contributions	74,363,000						
Other Costs	218,837,000						
Estimated Non-Federal Cost							
Unprogrammed Construction		31,489,000					
Cash Contributions	0						
Locally Preferred Plan	31,489,000						
Total Estimated programmed Construction Cost			$486,511,000				
Total Estimated Unprogrammed Construction Cost			31,489,000				
Total Estimated Project Cost			$518,000,000				
Allocations to 30 September 1999			40,527,000				
Conference Allowance for FY 2000			28,100,000				
Allocation for FY 2000			23,773,000	1/			
Allocations through FY 2000			64,625,000	29			
Allocation Requested for FY 2001			20,000,000	38			
Programmed Balance to Complete After FY 2001			140,500,000				
Unprogrammed Balance to Complete After FY 2001			0				

1/ Reflects $4,002,000 reduction assigned as savings and slippage and $325,000 reprogrammed from the project.

1525

PHYSICAL DATA

Relocations - (Bridges)	2	
Canals - Miles Backfilled		22
Canals - New River Channel	9	
Water Control Structures Removal	2	

JUSTIFICATION: Local water resource development of the Kissimmee River began in the late 1800's. In the 1960's, the river was channelized as part of the comprehensive Central and Southern Florida Project. Although the project has provided continuing navigation and effective flood control, it also resulted in long-term degradation of the natural ecosystem. The 103 mile river that historically meandered across and inundated about 35,000 acres of wetlands over a broad flood plain was reduced to a 56 mile canal that has successfully contained almost all flows since its completion. The channelization coupled with the modifications of the Lower Basin tributary watersheds and efficient control of flood waters and regulation of inflows from the Upper Basin significantly altered hydrologic characteristics of the ecosystem.

Project formulation and scoping was not based on traditional economic benefit-cost analyses and net benefit optimization; rather the plan was based on the most cost effective plan which would meet fish and wildlife resources objectives for restoring ecological integrity. As a result, project construction will result in the restoration of 52 miles of river; 27,000 acres of wetlands; improved water quality characteristics for the Kissimmee River; and restored conditions for over 300 fish and wildlife species.

FISCAL YEAR 2001: The requested amount of $20,000,000 will be applied as follows:

Continue construction of channels, canals, and floodway control structures	$ 12,414,000
Planning, Engineering, and Design	6,436,000
Construction Management	1,150,000
Total	$ 20,000,000

1526

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the authorizing legislation, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction, and Reimbursements	Annual Operation, Maintenance, Repair Rehabilitation, and Replacement Costs
Provide; with credit toward the non-Federal 50 percent share of project costs; all lands, easements, rights of way, and excavated or dredged material disposal areas.	$ 172,596,000	
Modify or relocate; with credit toward the non-Federal 50 percent share of project costs; utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	12,102,000	
Pay 50 percent of the costs allocated to environmental restoration, and pay all costs of operation, maintenance, repair, rehabilitation, and replacement.	74,363,000	
Pay 100 percent of the locally-preferred features, and pay all costs of operation, maintenance, and replacement of flood control facilities.	34,139,000	
Total Non-Federal Costs	$ 293,200,000	

STATUS OF LOCAL COOPERATION: A Project Cooperation Agreement reflecting the cost sharing outlined in House Document 102-286 dated April 7, 1992 was executed with the South Florida Water Management District (SFWMD) in March 1994. The local sponsor will be required to provide a cash contribution of 11.4% (reflecting credit for lands, easements, rights of way, relocations, and disposal areas) of construction costs.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps) cost estimate of $224,800,000 is a decrease of $18,700,000 from the latest estimate ($243,500,000) submitted to Congress (FY 2000). This change includes the following items.

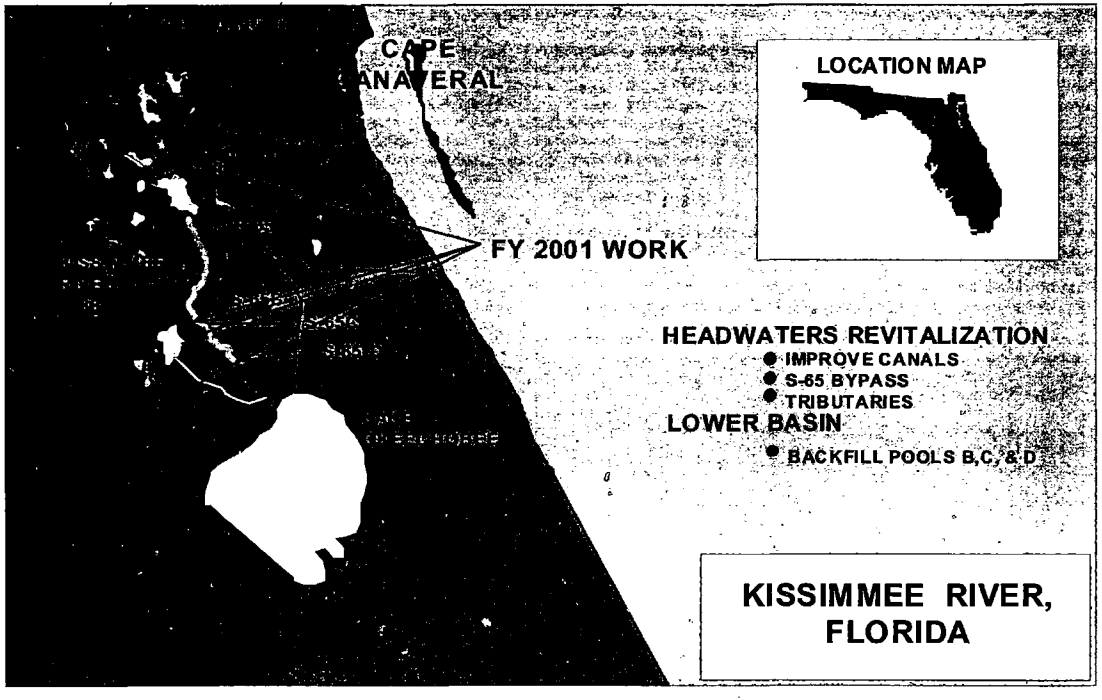
Item	Amount
Price Escalation on Construction Features	$ 1,587,000
Post Contract Award and Other Estimating Adjustments (including contingency adj)	-20,287,000
Total	$ - 18,700,000

1527

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed with CEQ on April 5, 1992. A supplement to the Environmental Impact Statement was integrated into the Kissimmee River Headwaters Project Final Integrated Project Modification Report in April 1996.

OTHER INFORMATION: Funds to initiate preconstruction planning were allocated in Fiscal Year 1992. Funds to initiate construction were allocated in Fiscal Year 1997.

1528


CAPE
ANAVERAL
LOCATION MAP
FY 2001 WORK
HEADWATERS REVITALIZATION
IMPROVE CANALS
S-65 BYPASS
TRIBUTARIES
LOWER BASIN
BACKFILL POOLS B,C,&D
KISSIMMEE RIVER,
FLORIDA

APPROPRIATION: Construction, General - Multipurpose Project

PROJECT: Walter F. George Powerhouse and Dam, AL and GA (Major Rehabilitation), (Continuing)

LOCATION: Walter F. George Lock and Dam is located at mile 181.5 on the Chattahoochee River, 50 miles south of Columbus, Georgia, and about 84 miles southeast of Montgomery, AL. The navigation lock and gated spillway are located on the right bank of the river. The powerhouse is on the left bank, across the river from the lock, adjacent to the gated spillway.

DESCRIPTION: The plan of improvement is to construct a concrete, cutoff wall upstream of the dam (powerhouse and spillway sections).

AUTHORIZATION: Section 2 of the River and Harbor Act of 1945, further modified by the River and Harbor Act of 1946.

REMAINING BENEFIT-REMAINING COST RATIO: 2.5 to 1 at 7 1/8 percent.

TOTAL BENEFIT-COST RATIO: 2.5 to 1 at 7 1/8 percent.

INITIAL BENEFIT-COST RATIO: 3.5 to 1 at 7 1/8 percent (FY 2000)

BASIS OF BENEFIT-COST RATIO: Benefits are from the Major Rehabilitation Evaluation Report - Prevention of Potential Structural Failure approved in July 1997 at October 1996 price levels.

SUMMARIZED FINANCIAL

					ACCUM. PCT. OF EST.FED. COST
Estimated Total Appropriation Requirement		$38,700,000	Allocations to 30 September 1999	0	
Future Non-Federal Reimbursement		$21,571,380	Conference Allowance for FY 2000	750,000	
Estimated Federal Cost (Ultimate)		$17,128,620	Allocation for FY 200	643,000 1/	
2			Allocation through FY 2000	643,000	
Estimated Non-Federal Cost		$21,571,380	Allocation Requested for FY 2001	3,000,000	9
Cash Contributions	$ 0		Programmed Balance to Complete after FY 2001	35,057,000	
100					
Other Costs	$ 0		Unprogrammed Balance to Complete after FY 2001	0	
Reimbursements	$ 21,571,380				
Power	$ 21,571,380				
Total Estimated Project Cost		$38,700,000			

1/ Reflects $107,000 reduction assigned as savings and slippage.

1530

SUMMARIZED FINANCIAL DATA (Continued)

STATUS: (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Construction not started	0	Being determined

PHYSICAL DATA: Construct a 2040-linear foot, concrete, cutoff wall above dam (powerhouse and spillway).

JUSTIFICATION: The Walter F. George Project has a chronic underground seepage problem which could impact the integrity of the dam (powerhouse and spillway). Numerous attempts to plug up the sinkholes as they appear using Operation and Maintenance funds have been unsuccessful or marginally successful. The potential for structural failure requires the construction of the cutoff wall to prevent further undermining and failure of the project structures. Average annual benefits are as follows:

Annual Benefits	Amount
Non-recreation	$ 3,675,000
Recreation	$ 4,605,000
Total	$ 8,280,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate Construction	$2,600,000
Planning, Engineering, & Design	60,000
Construction Management	340,000
Total	$3,000,000

1531

NON-FEDERAL COST: The costs allocable to power are reimbursable, and will be reviewed and adjusted based on construction costs when the project becomes operational.

	Payments During Construction and Reimbursements	Annual Operation, Maintenance, and Replacement Costs
Requirements of Local Cooperation		
Capital Cost allocated to power	$21,571,380	$ 0
Total Non-Federal Costs	$21,571,380	$ 0

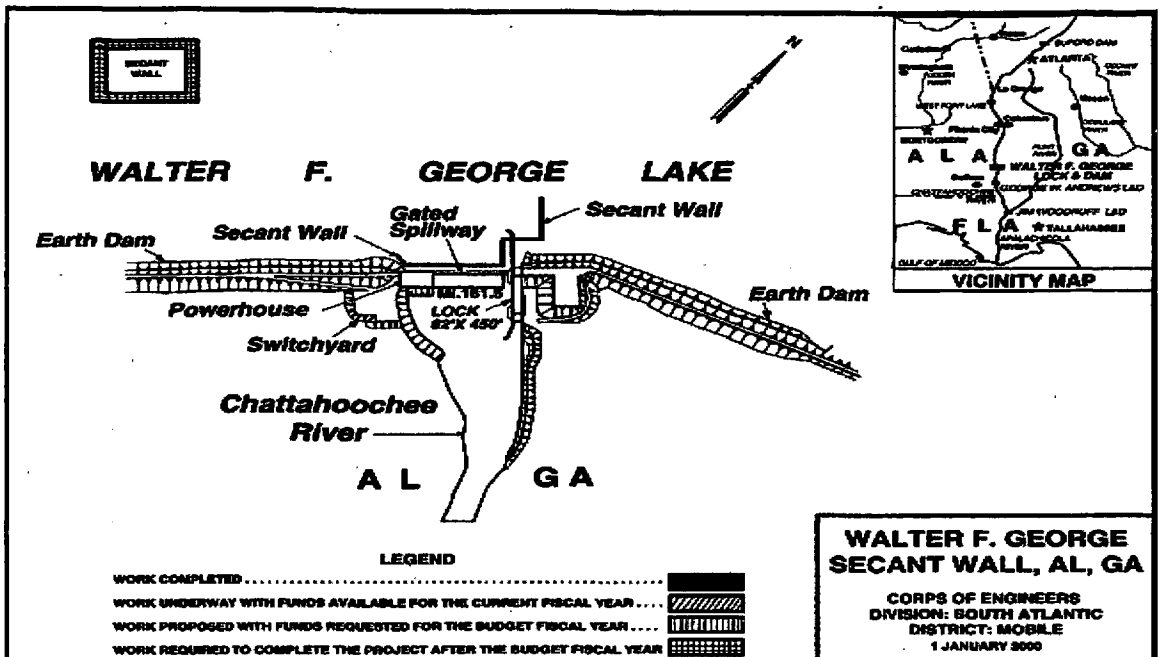
STATUS OF LOCAL COOPERATION : Responsibility for repayment of hydropower costs rests with the Southeastern Power Administration pursuant to Federal law.

COMPARISON OF FEDERAL COST ESTIMATE: The current Federal (Corps) cost estimate of $38,700,000 is an increase of $1,700,000 from the latest estimate of $37,000,000 presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	+$1,700,000
Total	+$1,700,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An Environmental Assessment (EA) was prepared which addressed the expected impacts of the recommended alternative as well as other potential alternatives under consideration. The EA concluded with a Finding of No Significant Impact (FONSI). The EA and FONSI were fully coordinated with the public and State and Federal agencies. The commenting agencies/public concurred with the FONSI for the recommended alternative discussed in the environmental documentation. Agency/public comments were then incorporated into the final EA and FONSI, which were signed on 7 March 1997. To provide for a wider review of the document, an additional 30 day comment period was afforded the public (via legal notices placed in local newspapers) starting on 17 March and ending on 18 April 1997. No comments were received during this period.

OTHER INFORMATION: Funds to initiate construction were appropriated in FY 2000.


SECANT WALL
WALTER F. GEORGE LAKE
Earth Dam
Secant Wall
Gated Spillway
Secant Wall
Powerhouse
Switchyard
LOCK 82'X 450'
Earth Dam
Chattahoochee River
A L
G A
N
VICINITY MAP
A L A
G A
F L A
WALTER F. GEORGE LOCK & DAM
LEGEND
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR
WALTER F. GEORGE
SECANT WALL, AL, GA
CORPS OF ENGINEERS
DIVISION: SOUTH ATLANTIC
DISTRICT: MOBILE
1 JANUARY 2000

1533

APPROPRIATION: Construction, General - Multiple Purpose Power

PROJECT: Walter F. George Powerplant, Alabama and Georgia (Major Rehabilitation), (Continuing)

LOCATION: Walter F. George Lock and Dam is located at mile 181.5 on the Chattahoochee River, 50 miles south of Columbus, Georgia, and about 84 miles southeast of Montgomery, AL. The navigation lock and gated spillway are located on the right bank of the river. The powerhouse is on the left bank, across the river from the lock, adjacent to the gated spillway.

DESCRIPTION: The plan of improvement is to refurbish the four turbines, replace exciters with solid state (static) exciters and rewind the four generators.

AUTHORIZATION: Section 2 of the River and Harbor Act of 1945, further modified by the River and Harbor Act of 1946.

REMAINING BENEFIT-REMAINING COST RATIO: 1.1 to 1 at 7 3/4 percent.

TOTAL BENEFIT-COST RATIO: 1.06 to 1 at 7 3/4 percent.

INITIAL BENEFIT-COST RATIO: 1.3 to 1 at 7 3/4 percent (FY 1997).

BASIS OF BENEFIT-COST RATIO: Benefits are from the Major Rehabilitation Evaluation Report approved in August 1995 at October 1994 price levels.

SUMMARIZED FINANCIAL DATA

					ACCUM. PCT. OF EST.FED. COST
Estimated Total Appropriation Requirement		$31,200,000	Allocations to 30 September 1999	$ 3,572,000	
Future Non-Federal Reimbursement		$31,200,000	Conference Allowance for FY 2000	3,600,000	
Estimated Federal Cost (Ultimate)		0	Allocation for FY 2000	2,826,000 1/	
Estimated Non-Federal Cost		$31,200,000	Allocation through FY 2000	6,398,000	21
Cash Contributions	$ 0		Allocation Requested for FY 2001	2,500,000	29
Other Costs	$ 0		Programmed Balance to Complete after FY 2001	22,302,000	100
Reimbursements	$31,200,000		Unprogrammed Balance to Complete after FY 2001	0	
Power	$31,200,000				
Total Estimated Project Cost		$31,200,000			

1/ Reflects $513,000 reduction assigned as savings and slippage and $261,000 reprogrammed from the project.

1534

62-630 00 – 49

STATUS: (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire project	11	Being determined

PHYSICAL DATA:

Rewind 4 generators
Replace exciters for 4 generators
Refurbish 4 turbines

JUSTIFICATION: The Walter F. George Powerhouse has experienced notable wear and deterioration levels since the early 1970's. The reliability has degraded faster than expected because of increased recurring cavitation problems as well as partial failure of generator coils as they approach 31 years of their 35-year life expectancy. Engineering analysis shows that these problems along with increasing generating outages can be expected to continue into the future. The result of these increased outages, as well as the reduced plant efficiencies, will be increased operation and maintenance costs, increased production costs and loss of generating revenues to the treasury. Average annual benefits for the major rehabilitation project are $3,051,000.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Construction	$ 2,150,000
Planning, Engineering, & Design	130,000
Construction Management	220,000
TOTAL	$ 2,500,000

1535

NON-FEDERAL COST: The costs allocable to power are reimbursable, and will be reviewed and adjusted based on construction costs when the project becomes operational.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual, Operation, Maintenance, and Replacement Costs
Capital Cost allocated to power	$31,200,000	$ 0
Total Non-Federal Costs	$31,200,000	$ 0

STATUS OF LOCAL COOPERATION: Responsibility for repayment of hydropower costs rests with the Southeastern Power Administration pursuant to Federal law.

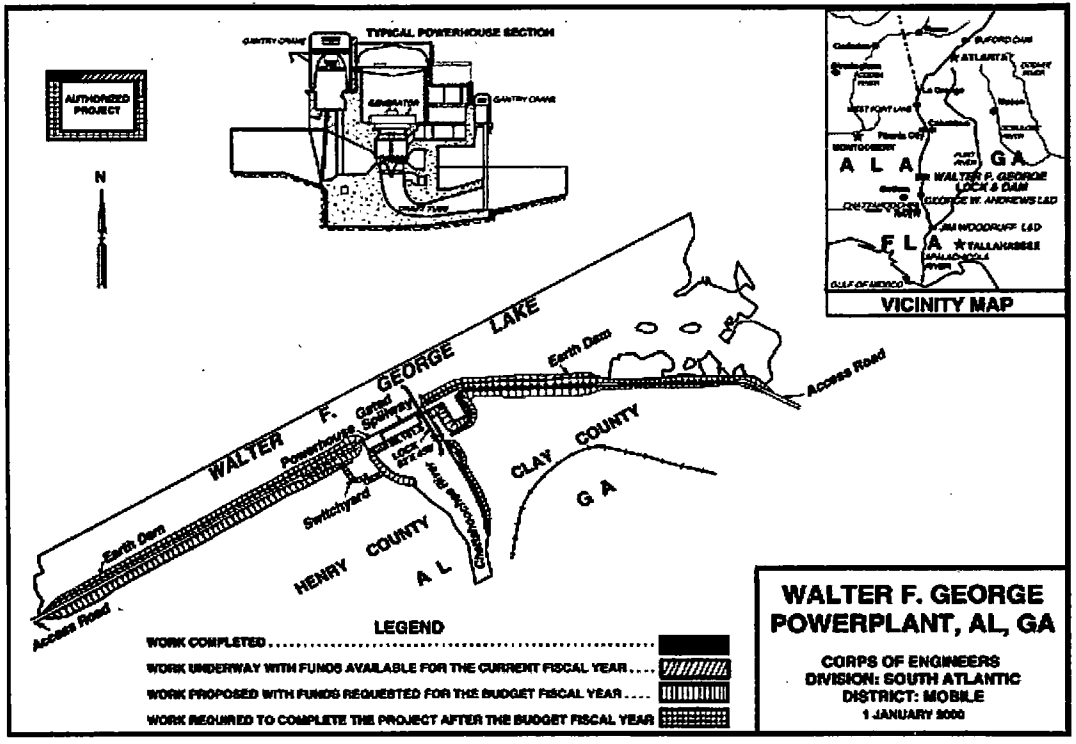
COMPARISON OF FEDERAL COST ESTIMATE: The current Federal (Corps) cost estimate of $31,200,000 is an increase of $400,000 from the latest estimate ($30,800,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	+$400,000
Total	+$400,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An Environmental Assessment (EA) was prepared which addressed the expected impacts of the recommended alternative as well as other potential alternatives under consideration. The EA concluded with a Finding of No Significant Impact (FONSI). The EA and FONSI were fully coordinated with the public and State and Federal agencies. The commenting agencies concurred with the FONSI for the recommended alternative discussed in the environmental documentation. Agency comments were then incorporated into the final EA and FONSI, which was signed on 1 March 1995.

OTHER INFORMATION: Funds to initiate construction were appropriated in Fiscal Year 1997. Walter F. George has a chronic underground seepage problem which could impact the integrity of the dam and powerhouse. Numerous attempts over the last few years to solve the problem using O&M funds have been unsuccessful. A major rehabilitation report was prepared which included a detailed analysis of alternatives developed by a panel of independent consultants. Recommendations resulted in a separate major rehabilitation project.

1536


TYPICAL POWERHOUSE SECTION
AUTHORIZED PROJECT
N
VICINITY MAP
WALTER F. GEORGE LAKE
Earth Dam
Gated Spillway
Powerhouse
Switchyard
Lock
Access Road
CLAY COUNTY
G A
HENRY COUNTY
A L
LEGEND
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR
WALTER F. GEORGE POWERPLANT, AL, GA
CORPS OF ENGINEERS
DIVISION: SOUTH ATLANTIC
DISTRICT: MOBILE
1 JANUARY 2000

APPROPRIATION: Construction, General - Multiple Purpose Power

PROJECT: Jim Woodruff Powerhouse, FL (Major Rehabilitation) (Continuing)

LOCATION: Jim Woodruff Lock and Dam is located at mile 106.4 on the Apalachicola River, 37 miles northwest of Tallahassee, Florida, in Jackson and Gadsden Counties, Florida. The navigation lock and fixed crest spillway are located on the right bank of the river. The powerhouse is on the left bank, across the river from the lock, adjacent to the gated spillway.

DESCRIPTION: The plan of improvement is to replace the three turbines and rewind the three generators. The plan also includes the replacement of several peripheral electrical components, most notably the transformers.

AUTHORIZATION: Section 2 of the River and Harbor Act of 1945, further modified by the River and Harbor Act of 1946.

REMAINING BENEFIT-REMAINING COST RATIO: 1.8 to 1 at 8 percent.

TOTAL BENEFIT-COST RATIO: 1.5 to 1 at 8 percent.

INITIAL BENEFIT-COST RATIO: 1.4 to 1 at 8 percent (FY 1996).

BASIS OF BENEFIT-COST RATIO: Benefits are from the Major Rehabilitation Evaluation Report approved in August 1993 at October 1993 price levels.

SUMMARIZED FINANCIAL DATA

	EST.FED.	
Estimated Total Appropriation Requirement		$30,600,000
Future Non-Federal Reimbursement		$30,600,000
Estimated Federal Cost (Ultimate)		0
Estimated Non-Federal Cost		$30,600,000
Cash Contributions	$ 0	
Other Costs	$ 0	
Reimbursements	$30,600,000	
Power	$30,600,000	
Total Estimated Project Cost		$30,600,000

		ACCUM. PCT.OF COST
Allocations to 30 September 1999	10,120,000	
Conference Allowance for FY 2000	6,000,000	
Allocation for FY 2000	5,146,000 1/	
Allocation through FY 2000	15,266,000	50
Allocation Requested for FY 2001	4,500,000	65
Programmed Balance to Complete After FY 2001	10,834,000	100
Unprogrammed Balance to Complete After FY 2001		0

1/Reflects $854,000 reduction assigned as savings and slippage.

1538

SUMMARIZED FINANCED DATA (Continued)

STATUS: (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project	32	Being determined

PHYSICAL DATA:

Replace main transformers
Rewind 3 generators
Replace 3 turbines including items listed below:
Runner
Shaft
Wicket gate bushings
Governor
Piping

JUSTIFICATION: The Jim Woodruff Powerhouse has experienced a decaying reliability level since the early 1970's. Contributing factors in the reliability decline are welded turbine blades, age and tailwater degradation that has increased hydraulic head and decreased submergence on the turbines. Engineering analysis shows that these problems along with increasing generating outages can be expected to continue into the future. The result of these increased outages, as well as the reduced plant efficiencies, will be increased operation and maintenance costs, increased production costs and loss of generating revenues to the treasury. Continued operation of Jim Woodruff powerhouse in its deteriorated state without rehabilitation, has an impact on total power production costs in North Florida amounting to $3.5 million per year. Average annual benefits for the major rehabilitation project are $3,541,000.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Construction	$4,080,000
Planning, Engineering, & Design	20,000
Construction Management	400,000
TOTAL	$4,500,000

1539

NON-FEDERAL COST: The costs allocable to power are reimbursable, and will be reviewed and adjusted based on construction costs when the project becomes operational.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual, Operation, Maintenance, and Replacement Costs
Capital Cost allocated to power	$30,600,000	$ 0
Total Non-Federal Costs	$30,600,000	$ 0

STATUS OF LOCAL COOPERATION: Responsibility for repayment of hydropower costs rests with the Southeastern Power Administration pursuant to Federal law.

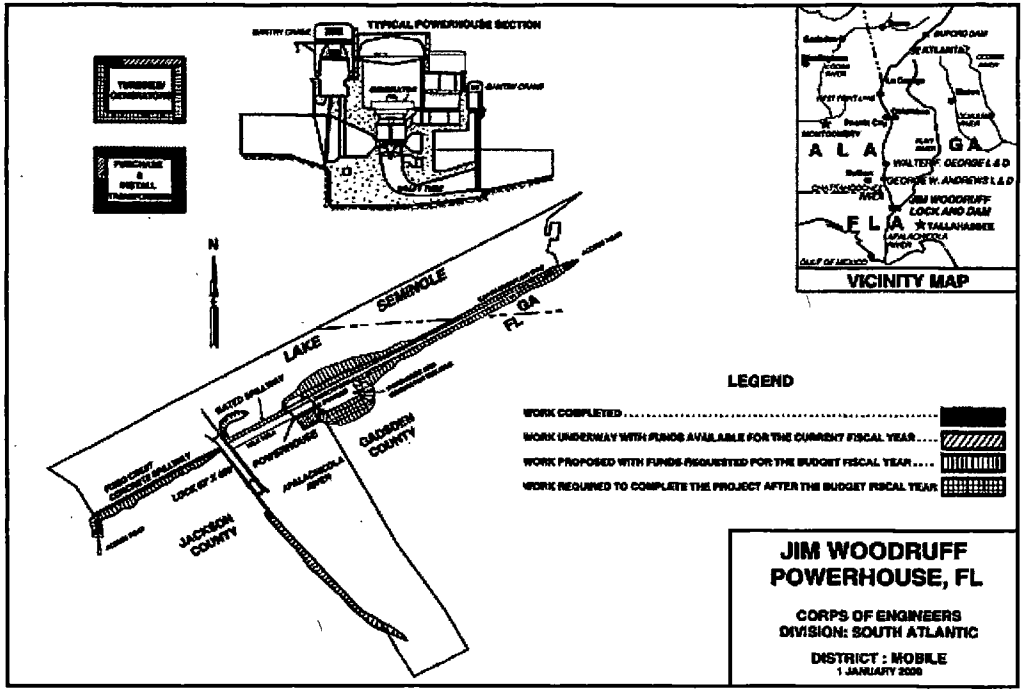
COMPARISON OF FEDERAL COST ESTIMATE: The current Federal (Corps) cost estimate of $30,600,000 is a decrease of $5,000,000 from the latest estimate ($35,600,000) presented to Congress (FY 2000). This change includes the following items.

Item	Amount
Post Contract Award and Other Estimating Adjustments	-$5,000,000
Total	-$5,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: A draft Environmental Assessment (EA) was prepared which addressed the expected impacts of the recommended alternative as well as other potential alternatives under consideration. The draft EA contained a biological assessment (BA), as required under the Endangered Species Act of 1973, which concluded with a determination of no adverse effect on the Gulf of Mexico sturgeon, a threatened species which occurs in the tailrace area. The draft EA, containing the BA, concluded with a Finding of No Significant Impact (FONSI). The Draft EA and FONSI were fully coordinated with the public and State and Federal agencies. The U.S. Fish and Wildlife Service (USFWS) concurred with the BA determination of no adverse effect on the sturgeon. The State of Florida determined the project to be consistent with the State Coastal Zone Management Program. The commenting agencies concurred with the FONSI for the recommended alternative discussed in the draft environmental documentation. Agency comments were then incorporated into the final EA and FONSI, which was signed on 1 March 1993.

OTHER INFORMATION: Funds to initiate construction were appropriated in Fiscal Year 1996.

1540


TYPICAL POWERHOUSE SECTION
TRASHRACK ARRANGEMENT
PENSTOCKS & PISTONS
N
SEMINOLE
LAKE
FL
GA
GADSDEN COUNTY
JACKSON COUNTY
POWERHOUSE
APALACHICOLA RIVER
LEGEND
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR
JIM WOODRUFF POWERHOUSE, FL
CORPS OF ENGINEERS
DIVISION: SOUTH ATLANTIC
DISTRICT : MOBILE
1 JANUARY 2000
A L A
GA
FL A
WALTER F. GEORGE L & D
GEORGE W. ANDREWS L & D
JIM WOODRUFF LOCK AND DAM
TALLAHASSEE
VICINITY MAP

1541

APPROPRIATION: Construction, General - Hydropower (Major Rehabilitation)

PROJECT: Buford Powerhouse, Georgia (Major Rehabilitation), (Continuing)

LOCATION: The Buford Dam is located at mile 455 on the Chattahoochee River, 50 miles northeast of Atlanta, Georgia. Buford is a multiple purpose project for flood control, hydropower, recreation, and water supply. Power installation consists of two units of 40,000 kilowatts each and one small unit of 6,000 kilowatts (86,000 kw total).

DESCRIPTION: The plan of improvement is to replace the three turbines and the exciters, and rewind the three generators.

AUTHORIZATION: Section 2 of the River and Harbor Act of 1945, further modified by the River and Harbor Act of 1946.

REMAINING BENEFIT-REMAINING COST RATIO: 1.2 to 1 at 7 5/8 percent.

TOTAL BENEFIT-COST RATIO: 1.2 to 1 at 7 5/8 percent.

INITIAL BENEFIT-COST RATIO: 1.2 to 1 at 7 5/8 percent.

BASIS OF BENEFIT-COST RATIO: Benefits are from the Major Rehabilitation Evaluation Report approved in July 1996 at October 1995 price levels.

SUMMARIZED FINANCIAL DATA

Estimated Total Appropriation Requirement		$33,700,000
Future Non-Federal Reimbursement		$33,700,000
Estimated Federal Cost (Ultimate)		0
Estimated Non-Federal Cost		$33,700,000
Cash Contributions	$ 0	
Other Costs	$ 0	
Reimbursements	$33,700,000	
Power	$33,700,000	
Total Estimated Project Cost		$33,700,000

		ACCUM. PCT. OF EST.FED. COST
Allocations to 30 September 1999	$ 1,799,000	
Conference Allowance for FY 2000	3,350,000	
Allocation for FY 2000	1,225,000 1/	
Allocation through FY 2000	3,024,000	9
Allocation Requested for FY 2001	2,455,000	16
Programmed Balance to Complete After FY 2001	28,221,000	100
Unprogrammed Balance to Complete after FY 2001	0	

1/ Reflects $477,000 reduction assigned as savings and slippage and $1,648,000 reprogrammed from the project.

1542

SUMMARIZED FINANCIAL DATA (Continued)

STATUS: (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Construction not started	0	Being determined

PHYSICAL DATA:

Rewind 3 generators
Replace exciters with static exciters
Replace 3 turbines with redesigned turbines based on current hydrology

JUSTIFICATION: The Buford Powerhouse units are 38 years old and exhibit the deterioration and wear normally expected for units of such age. Contributing factors in the reliability decline in addition to age of the units are that the generator stator coils in the two main units have decayed greatly, and the turbines are experiencing both increased recurring and progressive cavitation problems. These assessments of the Buford units, which have surpassed the mean life expectancy of 35 years, support the concern that the end of their useful life is eminent. Engineering analysis shows that these problems along with increasing generating outages can be expected to continue into the future. The result of these increased outages, as well as the reduced plant efficiencies, will be increased operation and maintenance costs, increased production costs and loss of generating revenues to the treasury. Average annual benefits to the major rehabilitation project are $2,894,000.

FISCAL YEAR 2001: The requested amount will be applied in FY 2001 as follows.

Continue Construction	$ 2,055,000
Planning, Engineering, & Design	200,000
Construction Management	200,000
TOTAL	$ 2,455,000

1543

NON-FEDERAL COST: The costs allocable to power are reimbursable, and will be reviewed and adjusted based on construction costs when the project becomes operational.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual, Operation, Maintenance, and Replacement Costs
Capital Cost allocated to power	$33,700,000	$ 0
Total Non-Federal Costs	$33,700,000	$ 0

STATUS OF LOCAL COOPERATION: Responsibility for repayment of hydropower costs rests with the Southeastern Power Administration pursuant to Federal law.

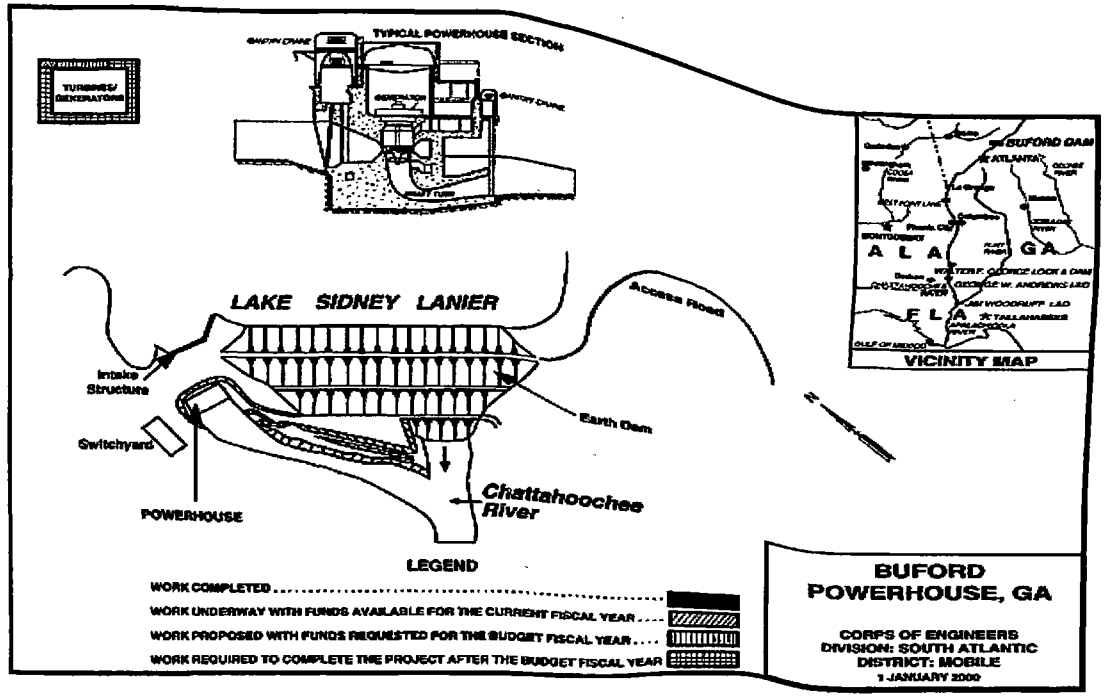
COMPARISON OF FEDERAL COST ESTIMATE: The current Federal (Corps) cost estimate of $33,700,000 is an increase of $800,000 from the latest estimate ($32,900,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	+$800,000
Total	+$800,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An Environmental Assessment (EA) was prepared which addressed the expected impacts of the recommended alternative as well as other potential alternatives under consideration. The EA concluded with a Finding of No Significant Impact (FONSI). The EA and FONSI were fully coordinated with the public and State and Federal agencies. The commenting agencies concurred with the FONSI for the recommended alternative discussed in the environmental documentation. Agency comments were then incorporated into the final EA and FONSI, which was signed on 7 March 1996.

OTHER INFORMATION: Funds to initiate construction were appropriated in Fiscal Year 1998.

1544



Division: South Atlantic

District: Mobile

Buford Powerhouse, GA

7 February 2000

APPROPRIATION TITLE: Construction General - Multiple Purpose Power

PROJECT: Thurmond Lake Powerhouse, Georgia and South Carolina (Major Rehabilitation), (Continuing)

LOCATION: The Thurmond Lake Powerhouse is located on the Savannah River, 22 miles north of Augusta, GA and 216 miles north of the mouth of the river.

DESCRIPTION: The recommended plan involves the rewinding of seven generator units, the replacement of the turbine rotating parts, and the refurbishment or replacement of key peripheral equipment in order to improve the overall reliability of the project, to reduce operation and maintenance costs, to reduce unscheduled repair costs, and to provide additional hydropower capacity, power revenues and environmental improvements. All work is programmed.

AUTHORIZATION: Flood Control Act of 1944.

REMAINING BENEFIT-REMAINING COST RATIO: 2.0 to 1 at 8 percent.

TOTAL BENEFIT-COST RATIO: 1.3 to 1 at 8 percent.

INITIAL BENEFIT-COST RATIO: 1.3 to 1 at 8 percent (FY 1996).

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available Evaluation Report for New Major Rehabilitation Project forwarded to HQUSACE in March 1994, at February 1994 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM. PCT. OF EST. FED COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Total Appropriation Requirement		$69,700,000		Entire Project	18	Being determined
Future Non-Federal Reimbursement		$69,700,000				
Estimated Non-Federal Cost (Ultimate)		$ 0		PHYSICAL DATA		
Cash Contributions	$ 0					
Other Costs	$ 0			Rewind Generators	7	
Reimbursements	$69,700,000			Replace Turbines	7	
Power $69,700,000				Replace Peripherals	7	
Total Estimated Project Cost	$69,700,000					

1546

SUMMARIZED FINANCIAL DATA (Continued)

Allocations to 30 September FY 1999	$17,275,000	
Conference Allowance for FY 2000	$ 7,500,000	
Allocation for FY 2000	$ 6,432,000	1/
Allocations through FY 2000	$23,707,000	34
Allocation Requested for FY 2001	$ 5,000,000	41
Programmed Balance to Complete after FY 2001	$40,993,000	
Unprogrammed Balance to Complete after FY 2001	$ 0	

1/ Reflects $1,068,000 reduction assigned as savings and slippage.

JUSTIFICATION: The J. Strom Thurmond Powerplant, which was initially placed into operation in 1954, is showing signs of excessive wear of the generators, the peripheral equipment and the turbines. This has resulted in a loss of efficiency, reduced reliability of the units and lost power output for the units. The proposed plan of improvement calls for rewinding the generators to maximum capacity, replacement of the turbine runner, and the replacement or refurbishment of key electrical/mechanical peripheral equipment. The plan of improvement will arrest the further degradation of the hydroelectric units, decrease operation and maintenance costs, improve the powerplant's overall reliability, and increase the power generation capability and partially restore some of the environmental impacts of the dam and powerplant. Average annual benefits for hydroelectric power are $7,890,000.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Rehabilitation of Power Plant	$4,060,000
Planning, Engineering, and Design	140,000
Construction Management	800,000
Total	$5,000,000

1547

NON-FEDERAL COST: The costs allocable to power are reimbursable, and will be reviewed and adjusted based on construction costs when the project becomes operational.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance Repair, Rehabilitation, and Replacement Costs
Pay all costs allocated to hydropower and bear all costs of operation, maintenance, repair, rehabilitation and replacement of hydropower facilities.	$69,700,000	$ 485,000

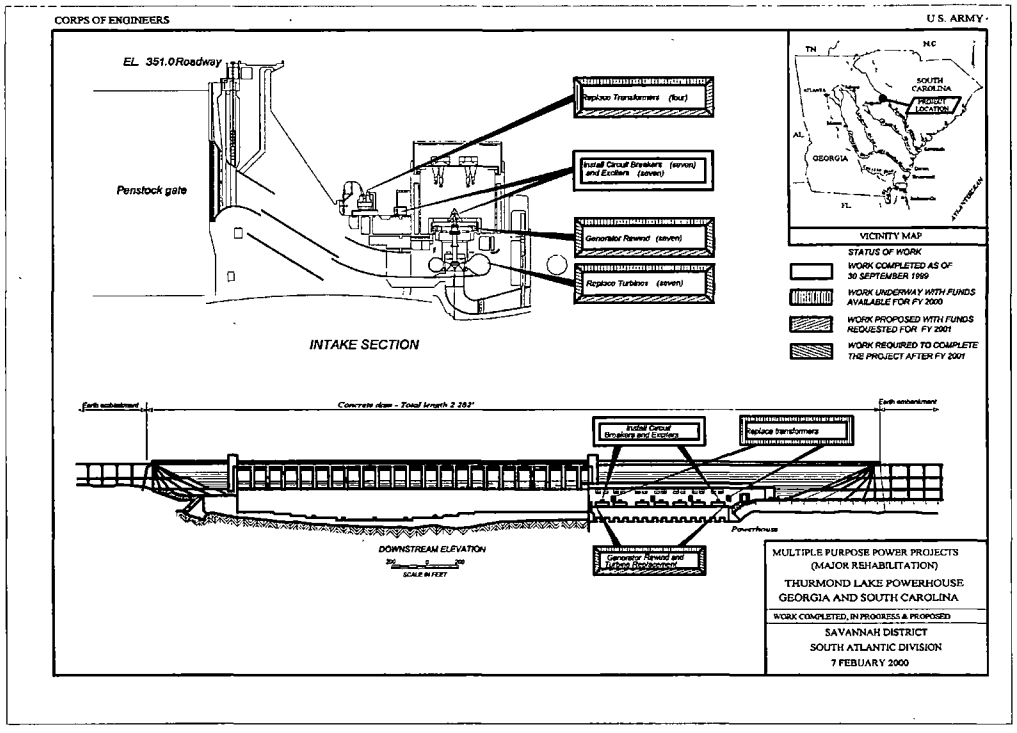
STATUS OF LOCAL COOPERATION: Responsibility for repayment of hydropower cost rests with the Southeastern Power Administration pursuant to Federal laws.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $69,700,000 is the same as the latest estimate presented to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: Based on the environmental analysis contained in the Evaluation Report dated March 1994, an Environmental Assessment with a FONSI has been completed and is contained in the FY 1996 Major Rehab Program, J. Strom Thurmond Powerplant Evaluation Report.

OTHER INFORMATION: Funds to initiate construction were appropriated in Fiscal Year 1996.

1548


CORPS OF ENGINEERS
U.S. ARMY
EL. 351.0 Roadway
Penstock gate
Replace Transformers (four)
Install Circuit Breakers (seven) and Exciters (seven)
Generator Rewind (seven)
Replace Turbines (seven)
INTAKE SECTION
TN
NC
SOUTH CAROLINA
PROJECT LOCATION
AL
GEORGIA
FL
ATLANTIC
VICINITY MAP
STATUS OF WORK
WORK COMPLETED AS OF 30 SEPTEMBER 1999
WORK UNDERWAY WITH FUNDS AVAILABLE FOR FY 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER FY 2001
Earth embankment
Concrete dam - Total length 2,282'
Earth embankment
Install Circuit Breakers and Exciters
Replace transformers
Powerhouse
DOWNSTREAM ELEVATION
SCALE IN FEET
Generator Rewind and Turbine Replacement
MULTIPLE PURPOSE POWER PROJECTS
(MAJOR REHABILITATION)
THURMOND LAKE POWERHOUSE
GEORGIA AND SOUTH CAROLINA
WORK COMPLETED, IN PROGRESS & PROPOSED
SAVANNAH DISTRICT
SOUTH ATLANTIC DIVISION
7 FEBUARY 2000

1549

APPROPRIATION TITLE: Construction, General - Multiple Purpose Power

PROJECT: John H. Kerr Dam and Reservoir, Virginia and North Carolina (Major Rehab)

LOCATION: The Kerr Powerhouse is located on the Roanoke River in Mecklenburg County, Virginia, 7 miles east of Boydton, Virginia, 80 air miles southwest of Richmond, Virginia, and 60 air miles north of Raleigh, North Carolina.

DESCRIPTION: The recommended plan involves the rewinding of seven generator units to maximum capacity, refurbishment of the turbines, replacement of the main power transformers, and the replacement or refurbishment of key electrical and mechanical peripheral equipment in order to improve the overall reliability of the project, reduce operation and maintenance costs, reduce unscheduled repair costs, and provide additional hydropower capacity and power revenues.

AUTHORIZATION: Flood Control Act of 1944.

REMAINING BENEFIT-REMAINING COST RATIO: 1.4 to 1 at 7 1/8 percent.

TOTAL BENEFIT-COST RATIO: 1.4 to 1 at 7 1/8 percent.

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluations contained in the Major Rehabilitation Evaluation Report addendum and transmittal memorandum dated June 1997, at October 1996 price levels.

SUMMARIZED FINANCIAL DATA			STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Total Appropriation Requirement		$62,300,000	Entire Project	0	Being Determined
Future Non-Federal Reimbursement		$62,300,000			
Estimated Non-Federal Cost (Ultimate)		$ 0			
Cash Contribution	$ 0				
Other Costs	$ 0				
Reimbursements	$62,300,000				
Power	$62,300,000				
Total Estimated Project Cost		$62,300,000			

1550

SUMMARIZED FINANCIAL DATA (Continued)

		ACCUM. PCT. OF EST. FED COST
Allocations to 30 September 1999	$ 0	
Conference Allowance for FY 2000	1,400,000	
Allocation for FY 2000	1,201,000 1/	
Allocations through FY 2000	1,201,000	2
Allocation Requested for FY 2001	$ 4,000,000	8
Programmed Balance to Complete after FY 2001	57,099,000	
Unprogrammed Balance to Complete after FY 2001	0	

1/Reflects $199,000 reduction assigned as savings and slippage

PHYSICAL DATA

Rewind Generators 7

JUSTIFICATION: The John H. Kerr Powerplant, which was initially placed into operation in 1953, is showing signs of excessive wear of the generators, the peripheral equipment and the turbines. This has resulted in a loss of efficiency, reduced reliability of the units and lost power output for the units. The recommended plan of improvement calls for rewinding the generators to maximum capacity, refurbishment of the turbines, replacement of the main power transformers, and replacement or refurbishment of key electrical/mechanical peripheral equipment. The recommended plan will improve the powerplant's overall reliability, reduce further degradation of the hydroelectric units, decrease operation and maintenance costs, and increase the power generation capability. There is growing concern with project reliability due to recent malfunctions of oil circuit breakers in the switchyard, for which repair parts are no longer available and must be custom fabricated; frequent leaks in the raw water piping system, which is in extremely poor condition throughout; and the extremely heavy cavitation observed in the runner, stay ring and discharge ring of unit #5. Average annual benefits for hydroelectric power are $6,633,700.

FISCAL YEAR 2001: The requested amount of $4,000,000 will be applied as follows:

Rehabilitation of power plant	$ 2,420,000
Planning, Engineering and Design	1,015,000
Construction Management	565,000
Total	$ 4,000,000

NON-FEDERAL COST: The costs allocable to power are reimbursable, and will be reviewed and adjusted based on construction costs when the project becomes operational.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance Repair, Rehabilitation, and Replacement Cost
Pay all costs allocated to hydropower and bear all costs of operation, maintenance, repair, rehabilitation and replacement of hydropower facilities	$62,300,000	$ 4,143,000

STATUS OF LOCAL COOPERATION: Pursuant to Federal Laws responsibility for repayment of hydropower costs rests with the power marketing agency, the Southeast Power Administration.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $62,300,000 is an increase of $2,700,000 from the latest estimate ($59,600,000) presented to Congress (FY 2000). This change includes the following items.

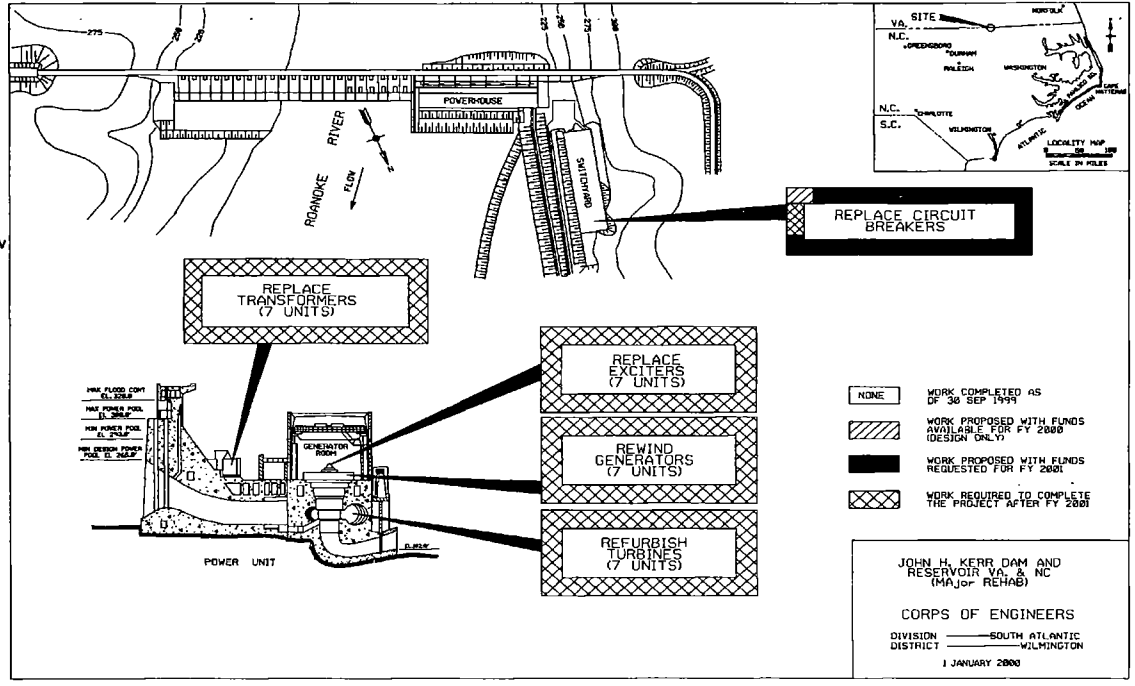
Item	Amount
Price Escalation on Construction Features	$2,700,000
Total	$2,700,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An Environmental Assessment and Finding of No Significant Impact was prepared and distributed in December 1996 for public comment. The Finding of No Significant Impact was signed by the District Engineer on 7 February 1997.

OTHER INFORMATION: None.

1552

Div


POWERHOUSE
RIVER
ROANOKE
FLOW
SWITCHYARD
SITE
VA.
N.C.
S.C.
GREENSBORO
DURHAM
RALEIGH
WASHINGTON
CAPE HATTERAS
CHARLOTTE
WILMINGTON
ATLANTIC
LOCALITY MAP
SCALE IN MILES
REPLACE CIRCUIT BREAKERS
REPLACE TRANSFORMERS (7 UNITS)
REPLACE EXCITERS (7 UNITS)
REWIND GENERATORS (7 UNITS)
REFURBISH TURBINES (7 UNITS)
GENERATOR ROOM
POWER UNIT
NONE
WORK COMPLETED AS OF 30 SEP 1999
WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2000 (DESIGN ONLY)
WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER FY 2001
JOHN H. KERR DAM AND RESERVOIR VA. & NC
(MAJor REHAB)
CORPS OF ENGINEERS
DIVISION ——— SOUTH ATLANTIC
DISTRICT ——— WILMINGTON
1 JANUARY 2000

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. Navigation

a. **Channels and Harbors.** The program estimate of $148,112,000 provides for essential operation and maintenance work on 49 channel and harbor projects named in the list which follows. The work to be accomplished under this activity consists of operating and maintaining the coastal navigation channels, harbors and anchorages by means of dredging, constructing bulkheads and spoil disposal areas, snagging and repairing channel stabilization works, navigation structures, and harbor jetties, all as authorized in the laws pertaining to river and harbor projects.

State/Project Name	ESTIMATED OBLIGATIONS FY 2000 ($)	FY 2001 ($)	Reason for Change and Major Maintenance Items
	Total (Operations) (Maintenance)	Total (Operations) (Maintenance)	1. Reason for Change in Operations from FY 00 to FY 01 (10%+/-). 2. Major Maintenance Items Budgeted in FY 01 (Threshold $500,000).
ALABAMA			
Bayou La Batre	10,000	1,999,000	
	(10,000)	(105,000)	1. Increase in environmental compliance.
	(0)	(1,894,000)	2. Dredging.
Dauphin Island Bay	0	60,000	
	(0)	(60,000)	1. Increase in environmental studies and monitoring.
	(0)	(0)	2. None.
Dog and Fowl Rivers	0	66,000	
	(0)	(66,000)	1. Increase is environmental compliance.
	(0)	(0)	2. None.
Gulf Intracoastal Waterway (Mobile)	4,000,000	4,734,000	
	(315,000)	(322,000)	1. None.
	(3,685,000)	(4,412,000)	2. Dredging.

1554

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. Navigation (Cont.)

a. Channels and Harbors (Cont.)

State/Project Name	ESTIMATED OBLIGATIONS FY 2000 ($)	FY 2001 ($)	Reason for Change and Major Maintenance Items
	Total (Operations) (Maintenance)	Total (Operations) (Maintenance)	1. Reason for Change in Operations from FY 00 to FY 01 (10%+/-). 2. Major Maintenance Items Budgeted in FY 01 (Threshold $500,000).
Mobile Harbor	17,562,000 (207,000) (17,355,000)	18,665,000 (243,000) (18,422,000)	1. Increase in collection of water control data requirement. 2. Dredging.
FLORIDA			
AIWW (Jacksonville)	30,000 (0) (30,000)	1,660,000 (0) (1,660,000)	1. None. 2. Dredging.
Canaveral Harbor	7,332,000 (596,000) (6,736,000)	7,625,000 (643,000) (6,982,000)	1. None. 2. Dredging.
Escambia-Conecuh Rivers	0 (0) (0)	1,000,000 (0) (1,000,000)	1. None. 2. Dredging
Fernandina Harbor	2,652,000 (60,000) (1,592,000)	2,705,000 (108,000) (2,597,000)	1. Increase in studies and surveys. 2. Dredging.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. Navigation (Cont.)

a. Channels and Harbors (Cont.)

State/Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reason for Change in Operations from FY 00 to FY 01 (10%+/-). 2. Major Maintenance Items Budgeted in FY 01 (Threshold $500,000).
Fort Pierce Harbor	1,023,000	1,051,000	
	(15,000)	(22,000)	1. Increase in real estate management.
	(1,008,000)	(1,029,000)	2. Dredging.
IWW, Caloosahatchee-	50,000	147,000	
Anclote Rivers	(15,000)	(127,000)	1. Increase in studies and surveys.
	(35,000)	(20,000)	2. None.
IWW, Jacksonville	3,286,000	4,035,000	
to Miami	(511,000)	(563,000)	1. Increase in studies and surveys.
	(2,775,000)	(3,472,000)	2. Dredging.
Jacksonville Harbor	7,193,000	7,755,000	
	(140,000)	(120,000)	1. Decrease in studies and surveys.
	(7,053,000)	(7,635,000)	2. Dredging.
Manatee Harbor	2,620,000	3,080,000	
	(120,000)	(120,000)	1. None.
	(2,500,000)	(2,960,000)	2. Dredging.
Miami Harbor	4,200,000	1,323,000	
	(0)	(118,000)	1. Increase in studies and surveys.
	(4,200,000)	(1,205,000)	2. Dredging

1556

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. Navigation (Cont.)

a. Channels and Harbors (Cont.)

State/Project Name	ESTIMATED OBLIGATIONS FY 2000 ($)	FY 2001 ($)	Reason for Change and Major Maintenance Items
	Total (Operations) (Maintenance)	Total (Operations) (Maintenance)	1. Reason for Change in Operations from FY 00 to FY 01 (10%+/-). 2. Major Maintenance Items Budgeted in FY 01 (Threshold $500,000).
Palm Beach Harbor	2,101,000	4,577,000	
	(40,000)	(10,000)	1. Decrease in studies and surveys.
	(2,061,000)	(4,567,000)	2. Dredging.
Panama City Harbor	1,300,000	50,000	
	(20,000)	(50,000)	1. Increase in studies and surveys.
	(1,280,000)	(0)	2. None.
Ponce De Leon Inlet	7,696,000	46,000	
	(30,000)	(39,000)	1. Increase in real estate management.
	(7,666,000)	(7,000)	2. None.
St Peterburg Harbor	0	3,280,000	
	(0)	(0)	1. None.
	(0)	(3,280,000)	2. Dredging
Tampa Harbor	7,041,000	6,308,000	
	(155,000)	(147,000)	1. None.
	(6,886,000)	(6,161,000)	2. Dredging.

1557

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. Navigation (Cont.)

a. Channels and Harbors (Cont.)

State/Project Name	ESTIMATED OBLIGATIONS FY 2000 ($)	FY 2001 ($)	Reason for Change and Major Maintenance Items
	Total (Operations) (Maintenance)	Total (Operations) (Maintenance)	1. Reason for Change in Operations from FY 00 to FY 01 (10%+/-). 2. Major Maintenance Items Budgeted in FY 01 (Threshold $500,000).
Withlacoochee River	34,000	35,000	
	(0)	(1,000)	1. Increase in real estate management.
	(34,000)	(34,000)	2. None.
GEORGIA			
AIWW (Savannah)	2,310,000	2,460,000	
	(251,000)	(252,000)	1. None.
	(2,059,000)	(2,208,000)	2. Dredging.
Brunswick Harbor	6,231,000	5,271,000	
	(525,000)	(420,000)	1. Decrease in studies and surveys.
	(5,706,000)	(4,851,000)	2. Dredging.
Savannah Harbor	13,757,000	13,869,000	
	(760,000)	(1,049,000)	1. Increase in environmental studies and monitoring.
	(12,997,000)	(12,820,000)	2. Dredging.
Savannah River Below Augusta	2,340,000	650,000	
	(125,000)	(119,000)	1. None.
	(2,215,000)	(531,000)	2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. Navigation (Cont.)

a. Channels and Harbors (Cont.)

State/Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reason for Change in Operations from FY 00 to FY 01 (10%+/-). 2. Major Maintenance Items Budgeted in FY 01 (Threshold $500,000).
MISSISSIPPI			
Biloxi Harbor	15,000	801,000	
	(15,000)	(101,000)	1. Increase environmental compliance.
	(0)	(700,000)	2. Dredging.
Gulfport Harbor	2,216,000	2,500,000	
	(211,000)	(323,000)	1. Increase in environmental compliance.
	(2,005,000)	(2,177,000)	2. Dredging.
Pascagoula Harbor	3,417,000	3,406,000	
	(238,000)	(261,000)	1. None.
	(3,179,000)	(3,145,000)	2. Dredging.
NORTH CAROLINA			
AIWW (Wilmington)	5,552,000	5,831,000	
	(917,000)	(999,000)	1. None.
	(4,635,000)	(4,832,000)	2. Dredging.
Beaufort Harbor	0	350,000	
	(0)	(0)	1. None.
	(0)	(350,000)	2. None.

1559

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. Navigation (Cont.)

a. Channels and Harbors (Cont.)

State/Project Name	ESTIMATED OBLIGATIONS FY 2000 ($)	FY 2001 ($)	Reason for Change and Major Maintenance Items
	Total (Operations) (Maintenance)	Total (Operations) (Maintenance)	1. Reason for Change in Operations from FY 00 to FY 01 (10%+/-). 2. Major Maintenance Items Budgeted in FY 01 (Threshold $500,000).
Bogue Inlet and Channels	550,000	627,000	
	(0)	(27,000)	1. Increase in studies and surveys.
	(550,000)	(600,000)	2. Dredging.
Carolina Beach Inlet	1,346,000	1,430,000	
	(0)	(0)	1. None.
	(1,346,000)	(1,430,000)	2. Dredging.
Lockwoods Folly River	380,000	455,000	
	(0)	(0)	1. None.
	(380,000)	(455,000)	2. None.
Manteo (Shallowbag) Bay	4,998,000	4,995,000	
	(183,000)	(183,000)	1. None.
	(4,815,000)	(4,812,000)	2. Dredging.
Masonboro Inlet and Connecting Channel	45,000	45,000	
	(45,000)	(45,000)	1. None.
	(0)	(0)	2. None.
Morehead City Harbor	3,709,000	4,737,000	
	(235,000)	(200,000)	1. Decrease in condition surveys.
	(3,474,000)	(4,537,000)	2. Dredging.

1560

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. Navigation (Cont.)

a. Channels and Harbors (Cont.)

State/Project Name	ESTIMATED OBLIGATIONS FY 2000 ($)	FY 2001 ($)	Reason for Change and Major Maintenance Items
	Total (Operations) (Maintenance)	Total (Operations) (Maintenance)	1. Reason for Change in Operations from FY 00 to FY 01 (10%+/-). 2. Major Maintenance Items Budgeted in FY 01 (Threshold $500,000).
New River Inlet	825,000	825,000	
	(0)	(0)	1. None.
	(825,000)	(825,000)	2. Dredging.
New Topsail Inlet and Connecting Channels	210,000	610,000	
	(0)	(0)	1. None.
	(210,000)	(610,000)	2. Dredging.
Pamlico and Tar Rivers	139,000	139,000	
	(0)	(0)	1. None.
	(139,000)	(139,000)	2. None.
Roanoke River	100,000	100,000	
	(0)	(0)	1. None.
	(100,000)	(100,000)	2. None.
Wilmington Harbor	6,431,000	8,405,000	
	(651,000)	(1,125,000)	1. Increase in environmental studies and surveys.
	(5,780,000)	(7,280,000)	2. Dredging.

1561

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. Navigation (Cont.)

a. Channels and Harbors (Cont.)

State/Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reason for Change in Operations from FY 00 to FY 01 (10%+/-). 2. Major Maintenance Items Budgeted in FY 01 (Threshold $500,000).
SOUTH CAROLINA			
AIWW (Charleston)	3,391,000	3,629,000	
	(184,000)	(142,000)	1. Decrease in environmental studies.
	(3,207,000)	(3,487,000)	2. Dredging.
Charleston Harbor	5,779,000	7,145,000	
	(103,000)	(235,000)	1. Increase in environmental studies.
	(5,676,000)	(6,910,000)	2. Dredging.
Cooper River, Charleston Harbor	3,375,000	3,235,000	
	(2,915,000)	(2,750,000)	1. None.
	(460,000)	(485,000)	2. None.
Folly River	236,000	266,000	
	(0)	(9,000)	1. Increase in studies and surveys.
	(236,000)	(257,000)	2. None.
Georgetown Harbor	4,064,000	5,234,000	
	(133,000)	(318,000)	1. Increase in environmental studies.
	(3,931,000)	(4,916,000)	2. Dredging.

1562

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. Navigation (Cont.)

a. Channels and Harbors (Cont.)

State/Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reason for Change in Operations from FY 00 to FY 01 (10%+/-). 2. Major Maintenance Items Budgeted in FY 01 (Threshold $500,000).
Port Royal Harbor	1,424,000 (0) (1,424,000)	21,000 (21,000) (0)	1. Increase in studies and surveys. 2. None.
Shipyard River	811,000 (21,000) (790,000)	477,000 (15,000) (462,000)	1. Decrease in studies and surveys. 2. Dredging
Town Creek	345,000 (0) (345,000)	398,000 (12,000) (386,000)	1. Increase in studies and surveys. 2. None.
Projects Maintained Periodically	5,142,000 (50,000) (5,092,000)	0 (0) (0)	
TOTAL - Channels and Harbors	147,268,000 (9,796,000) (137,472,000)	148,112,000 (11,470,000) (136,642,000)	

1563

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. Navigation (Cont.)

b. **Locks, Dams, and Canals.** The program request of $59,869,000 provides for the operational requirements of six canalized waterways. Requirements include: operation and ordinary maintenance of project facilities; labor, supplies, materials, and parts for day-to-day functioning; and periodic maintenance, repairs, and replacements.

State/Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reason for Change in Operations from FY 00 to FY 01 (10%+/-). 2. Major Maintenance Items Budgeted in FY 01 (Threshold $500,000).
ALABAMA			
Alabama-Coosa Rivers	5,185,000 (1,285,000) (3,900,000)	5,355,000 (1,381,000) (3,974,000)	1. None. 2. Dredging.
Black Warrior and Tombigbee Rivers	15,917,000 (4,812,000) (11,105,000)	19,204,000 (5,836,000) (13,368,000)	1. Increase in studies and surveys. 2. Dredging.
ALABAMA AND GEORGIA			
Apalachicola, Chattahoochee and Flint Rivers	5,830,000 (1,098,000) (4,732,000)	5,055,000 (1,039,000) (4,016,000)	1. None. 2. Dredging.

1564

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. Navigation (Cont.)

b. Locks, Dams, and Canals (Cont.)

State/Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reason for Change in Operations from FY 00 to FY 01 (10%+/-). 2. Major Maintenance Items Budgeted in FY 01 (Threshold $500,000).
ALABAMA AND MISSISSIPPI			
Tennessee-Tombigbee Waterway	19,999,000 (12,637,000) (7,362,000)	23,547,000 (11,621,000) (11,926,000)	1. None. 2. Dredging.
FLORIDA			
Apalachicola, Chattahoochee and Flint Rivers (see Alabama and Georgia)			
Okeechobee Waterway	4,680,000 (2,329,000) (2,351,000)	5,811,000 (2,503,000) (3,308,000)	1. None. 2. Lock spillway basin and guidewall repairs.

1565

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. Navigation (Cont.)

b. Locks, Dams, and Canals (Cont.)

State/Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reason for Change in Operations from FY 00 to FY 01 (10%+/-). 2. Major Maintenance Items Budgeted in FY 01 (Threshold $500,000).
NORTH CAROLINA			
Cape Fear River above Wilmington	707,000 (492,000) (215,000)	897,000 (513,000) (384,000)	1. None. 2. None.
Project Maintained Periodically	10,000 (10,000) (0)	0 (0) (0)	
TOTAL - Locks, Dams, and Canals	52,328,000 (22,663,000) (29,665,000)	59,869,000 (22,893,000) (36,976,000)	
TOTAL - NAVIGATION	199,596,000 (32,459,000) (167,137,000)	207,981,000 (34,363,000) (173,618,000)	

1566

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. **Flood Control**

a. **Reservoirs: The program request of $6,573,000 provides for operation and maintenance of four reservoirs and for continuing the Alabama-Coosa River Comprehensive Water Study.**

State/Project Name	ESTIMATED FY 2000 ($) Total (Operations) (Maintenance)	OBLIGATIONS FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reason for Change in Operations from FY 00 to FY 01 (10%+/-). 2. Major Maintenance Items Budgeted in FY 01 (Threshold $500,000).
ALABAMA			
Alabama-Coosa River Comprehensive Water Study, AL	3,000,000 (3,000,000) (0)	1,100,000 (1,100,000) (0)	1. Decrease in environmental stewardship requirement. 2. None.
MISSISSIPPI			
Okatibbee Lake	1,620,000 (922,000) (698,000)	955,000 (606,000) (349,000)	1. Decrease in recreation and master plans. 2. None.
NORTH CAROLINA			
B. Everett Jordan Dam and Lake	1,346,000 (950,000) (396,000)	1,500,000 (1,061,000) (439,000)	1. Increase in inspections. 2. None.

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1567

SOUTH ATLANTIC DIVISION
JUSTIFICATION OF ESTIMATE

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. Flood Control (Cont.)

a. Reservoirs (Cont.)

State/Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reason for Change in Operations from FY 00 to FY 01 (10%+/-). 2. Major Maintenance Items Budgeted in FY 01 (Threshold $500,000).
Falls Lake	1,029,000	1,276,000	
	(807,000)	(982,000)	1. Increase in activities to sustain existing natural resources.
	(222,000)	(294,000)	2. None.
W. Kerr Scott Dam and Reservoir	1,660,000	1,742,000	
	(1,164,000)	(1,191,000)	1. None.
	(496,000)	(551,000)	2. None.

1568

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. Flood Control (Cont.)

a. Reservoirs: Scheduling Reservoir Operations. The $170,000 requested in FY2001 supports preparation, review and updating of water control Manuals, real time data collection to monitor hydrologic conditions, and the issuance of gate regulation instructions as necessary at 19 non-Corps dam and reservoir projects at which the Corps is responsible for flood control or navigation.

State/Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reason for Change in Operations from FY 00 to FY 01 (10%+/-). 2. Major Maintenance Items Budgeted in FY 01 (Threshold $500,000).
ALABAMA			
Scheduled Reservoir Operation	95,000 (95,000) (0)	120,000 (120,000) (0)	1. Increase in analysis and studies. 2. None.
FLORIDA			
Scheduled Reservoir Operation	70,000 (70,000) (0)	50,000 (50,000) (0)	1. Decrease in monitoring and water control plan. 2. None.
TOTAL-Reservoirs	8,820,000 (7,008,000) (1,812,000)	6,743,000 (5,110,000) (1,633,000)	

1569

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. Flood Control (Cont.)

b. Channel Improvements, Inspections, and Miscellaneous Maintenance. The request of $10,708,000 provides for the maintenance requirements of two local flood protection projects.

State/Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reason for Change in Operations from FY 00 to FY 01 (10%+/-). 2. Major Maintenance Items Budgeted in FY 01 (Threshold $500,000).
FLORIDA			
Central and Southern Florida	8,470,000 (6,501,000) (1,969,000)	10,558,000 (6,563,000) (3,995,000)	1. None. 2. None.
MISSISSIPPI			
East Fork, Tombigbee River	150,000 (0) (150,000)	150,000 (0) (150,000)	1. None. 2. None.

1570

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. Flood Control (Cont.)

b. **Channel Improvement: Inspection of Completed Works.** The $298,000 requested in FY 2001 supports inspections at flood control projects constructed by the Corps and operated and maintained by non-Federal interests. The inspections are conducted to determine the extent of compliance with legal standards and to advise local interests, as necessary, of corrective measures required to ensure that project structures and facilities will continue to safely provide flood protection benefits. These projects consist of features such as channels, levees, flood walls, drainage structures and pumping plants.

State/Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reason for Change in Operations from FY 00 to FY 01 (10%+/-). 2. Major Maintenance Items Budgeted in FY 01 (Threshold $500,000).
Alabama	40,000	50,000	
Florida	100,000	100,000	
Georgia	41,000	100,000	
North Carolina	22,000	22,000	
South Carolina	26,000	26,000	
Inspection of Completed Works	229,000 (229,000) (0)	298,000 (298,000) (0)	1. Increase in number of projects inspected. 2. None.
TOTAL - Channel Improvements, Inspections, & Misc Maintenance	8,849,000 (6,730,000) (2,119,000)	11,006,000 (6,861,000) (4,145,000)	
TOTAL - FLOOD CONTROL	17,669,000 (13,738,000) (3,931,000)	17,749,000 (11,971,000) (5,778,000)	

1571

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

3. **Multiple Purpose Power.** The program request of $86,198,000 provides for the operation requirements of 13 multiple purpose projects. Requirements include: operation and ordinary maintenance of project facilities; labor, supplies, materials, and parts for day-to-day functioning; and periodic maintenance, repairs and replacements. The requested amount also includes application of special recreation use fees for recreation areas.

State/Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reason for Change in Operations from FY 00 to FY 01 (10%+/-). 2. Major Maintenance Items Budgeted in FY 01 (Threshold $500,000).
ALABAMA			
Millers Ferry Lock and Dam - William "Bill" Dannelly Reservoir	5,560,000 (2,195,000) (3,365,000)	4,999,000 (2,215,000) (2,784,000)	1. None. 2. None.
Robert F. Henry Lock and Dam - R.E. "Bob" Woodruff Lake	6,183,000 (1,998,000) (4,185,000)	4,962,000 (2,143,000) (2,819,000)	1. None. 2. None.
Walter F. George Lock and Dam	7,910,000 (2,895,000) (5,015,000)	7,373,000 (3,032,000) (4,341,000)	1. None. 2. None.

1572

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

3. Multiple Purpose Power (Cont.)

State/Project Name	ESTIMATED OBLIGATIONS FY 2000 ($)	FY 2001 ($)	Reason for Change and Major Maintenance Items
	Total (Operations) (Maintenance)	Total (Operations) (Maintenance)	1. Reason for Change in Operations from FY 00 to FY 01 (10%+/-). 2. Major Maintenance Items Budgeted in FY 01 (Threshold $500,000).
FLORIDA			
Jim Woodruff Lock and Dam	5,699,000 (3,251,000) (2,448,000)	5,855,000 (3,178,000) (2,677,000)	1. None. 2. None.
GEORGIA			
Allatoona Lake	6,328,000 (2,369,000) (3,959,000)	4,520,000 (1,689,000) (2,831,000)	1. Decrease in environmental requirements. 2. None.
Buford Dam - Lake Sidney Lanier	7,000,000 (2,863,000) (4,137,000)	7,275,000 (3,527,000) (3,748,000)	1. Increase in natural resource management. 2. None.
Carters Lake	8,150,000 (2,011,000) (6,139,000)	7,489,000 (2,368,000) (5,121,000)	1. None. 2. Repair of turbines
Hartwell Lake	9,500,000 (5,301,000) (4,199,000)	11,875,000 (5,442,000) (6,433,000)	1. None. 2. None.

1573

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

3. Multiple Purpose Power (Cont.)

State/Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reason for Change in Operations from FY 00 to FY 01 (10%+/-). 2. Major Maintenance Items Budgeted in FY 01 (Threshold $500,000).
J. Strom Thurmond Lake	8,750,000 (5,517,000) (3,233,000)	10,585,000 (5,857,000) (4,728,000)	1. None. 2. None.
Richard B. Russell Dam and Lake	8,000,000 (3,493,000) (4,507,000)	6,190,000 (3,381,000) (2,809,000)	1. None. 2. None.
Walter F. George L & D (see Alabama)			
West Point Lake	6,200,000 (1,884,000) (4,316,000)	3,977,000 (1,977,000) (2,000,000)	1. None. 2. None.
NORTH CAROLINA			
John H. Kerr Dam and Reservoir (see Virginia)			
SOUTH CAROLINA			
Hartwell Lake (see Georgia)			
J. Strom Thurmond Lake (see Georgia)			
Richard B. Russell (see Georgia)			

1574

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

3. Multiple Purpose Power (Cont.)

State/Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reason for Change in Operations from FY 00 to FY 01 (10%+/-). 2. Major Maintenance Items Budgeted in FY 01 (Threshold $500,000).
VIRGINIA			
John H. Kerr Dam and Reservoir	11,190,000 (5,271,000) (5,919,000)	8,041,000 (5,465,000) (2,576,000)	1. None. 2. None.
Philpott Lake	2,252,000 (1,571,000) (681,000)	3,060,000 (1,644,000) (1,416,000)	1. None. 2. None.
TOTAL - Multiple Purpose Projects	92,722,000 (40,619,000) (52,103,000)	86,201,000 (41,918,000) (44,283,000)	

1575

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

4. **Protection of Navigation**.

a. Removal of Aquatic Growth. The program request of $3,340,000 provides for accomplishing the work essential to the eradication of aquatic plant growth for navigable waters in Florida.

State/Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reason for Change in Operations from FY 00 to FY 01 (10%+/-). 2. Major Maintenance Items Budgeted in FY 01 (Threshold $500,000).
Removal of Aquatic Growth	3,130,000 (0) (3,130,000)	3,340,000 (0) (3,340,000)	1. None. 2. Removal of aquatic growth.

1576

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

4. Protection of Navigation

b. **Project Condition Surveys** The $1,074,000 requested in FY2001 supports hydrographic surveys, inspections, and studies to determine the condition of navigation channels that do not have any other maintenance work included in the program request and disseminate the information to users of the projects. For the projects that do not require maintenance, surveys are performed at many of them in order to determine the degree of sedimentation so that users can be advised of channel conditions and future maintenance can be scheduled.

State/Project Name	ESTIMATED OBLIGATIONS FY 2000 ($) Total (Operations) (Maintenance)	FY 2001 ($) Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reason for Change in Operations from FY 00 to FY 01 (10%+/-). 2. Major Maintenance Items Budgeted in FY 01 (Threshold $500,000).
Alabama	300,000	350,000	
Florida	400,000	600,000	
North Carolina	59,000	64,000	
South Carolina	75,000	60,000	
Project Condition	834,000	1,074,000	
Surveys	(834,000)	(1,074,000)	1. None.
	(0)	(0)	2. None.
TOTAL - Protection	3,964,000	4,414,000	
of Navigation	(834,000)	(1,074,000)	
	(3,130,000)	(3,340,000)	
GRAND TOTAL - SOUTH	313,951,000	316,345,000	
ATLANTIC DIVISION	(87,650,000)	(89,326,000)	
	(226,301,000)	(227,019,000)	

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U.S. ARMY CORPS OF ENGINEERS
CIVIL WORKS PROGRAM

CONGRESSIONAL SUBMISSION
FISCAL YEAR 2001

SOUTH PACIFIC DIVISION

Budgetary information will not be released outside the Department of the Army until 7 February 2000

JUSTIFICATION OF ESTIMATES FOR CIVIL FUNCTIONS ACTIVITIES
DEPARTMENT OF THE ARMY, CORPS OF ENGINEERS
FISCAL YEAR 2001

SOUTH PACIFIC DIVISION

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JUSTIFICATION OF ESTIMATE FOR CIVIL FUNCTIONS ACTIVITIES
DEPARTMENT OF THE ARMY, CORPS OF ENGINEERS
FISCAL YEAR 2001

SOUTH PACIFIC DIVISION

Summary

General Investigations	FY 2000 Allocation	FY 2001 Request	Increase or Decrease
Surveys	$ 17,293,000	$ 12,483,000	$ -4,810,000
Preconstruction Engineering and Design	11,834,000	10,017,000	-1,817,000
Subtotal General Investigations	(29,127,000)	(22,500,000)	(-6,627,000)
Construction, General			
Construction	182,712,000	111,447,000	- 71,265,000
Dam Safety Assurance	1,072,000	1,000,000	-72,000
Subtotal Construction, General	(183,784,000)	(112,447,000)	(-71,337,000)
Operations and Maintenance			
Project Operations	47,071,000	41,538,000	-5,533,000
Project Maintenance	58,872,000	56,492,000	-2,380,000
Subtotal Operations and Maintenance	(105,943,000)	(98,030,000)	(-7,913,000)
GRAND TOTAL, SOUTH PACIFIC DIVISION	$318,854,000	$232,977,000	$- 85,877,000

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
1. SURVEYS - NEW					
a. Navigation Studies: None					
b. Flood Damage Prevention Studies: None					
c. Shoreline Protection Studies: None					
d. Special Studies: None					
e. Comprehensive Studies: The amount of $500,000 is requested to initiate one cost shared survey in Fiscal Year 2001.					
Colorado					
Rio Grande Basin, CO, NM and TX Albuquerque, Fort Worth, and Galveston Districts	2,000,000	0	0	500,000	1,500,000

The study will address the water resources needs of the Rio Grande River Basin, pursuant to Section 729 of the Water Resources Development Act of 1986. The Rio Grande Basin is located in the states of Colorado, New Mexico and Texas, and encompasses an area of over 160,000 square miles, from the headwaters of the Rio Grande in central Colorado to its mouth on the Gulf of Mexico near Brownsville, Texas. Water conveyance and delivery, ecosystem degradation, and flooding are major issues in the basin. River flow regulation by nine major dams on the main stem and tributaries for flood control and water delivery has changed the historical flow regime in the Rio Grande. Water is diverted for irrigation, industrial and residential uses. Changes in hydrology, channel configuration, land use activities, and the spread of exotic vegetation have adversely impacted the native riverine ecosystem to the extent that the Rio Grande Silvery Minnow and the Southwestern Willow Flycatcher are now listed as endangered under the Endangered Species Act. This listing is impacting existing flood control and water delivery operations. Another critical issue is the ongoing loss of water supply storage at Elephant Butte Reservoir and Lake Amistad to sedimentation and flood storage reserve. Unless these losses are addressed, the Rio Grande basin may lose at least one full year of its drought contingency potential by the year 2050. Many border cities in Texas

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

e. Comprehensive Studies: Rio Grande Basin, CO, NM and TX (Cont'd)

and Mexico depend on the Rio Grande for water supply. Under international agreements, 60 percent of the Rio Grande water rights below Fort Quitman, Texas belong to Mexico. As a shared resource, it would benefit all users to address regional concerns. Some of the border cities also have rudimentary or non-existent water and wastewater treatment systems, further contributing to the degradation of the environment. The study will evaluate current conditions and make recommendations for improving water management on the Rio Grande in order to improve environmental quality, prevent flooding, and protect the water deliveries required by the Rio Grande Compact and international treaty obligations. Additionally, there is a need to improve reliability of future municipal and industrial and agricultural water supplies and a need to dedicate water (e.g., low flow releases) for environmental purposes such as fish and wildlife restoration and endangered species. Because water supply and flood control in the Rio Grande basin fall under the management jurisdiction of an international treaty and several Federal, State, and local agencies, the study will identify ways to integrate the programs, policies, and resources of all concerned agencies into a multi-objective water resources plan. This study will be closely coordinated with the stakeholder members of the Consortium of the Rio Grande in accordance with the Memorandum of Agreement signed with Federal agencies and the CoRio as part of the American Heritage Rivers Initiative. Potential sponsors include the state of New Mexico, the state of Texas through the Texas Water Development Board, and the United States International Boundary and Water Commission. The preliminary estimated cost of the study is $2,670,000, which will be shared on a 75-25 percent basis by Federal and non-Federal interests. All of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,670,000
Federal Share	2,000,000
Non-Federal Share	670,000

A completion date is being determined for this study.

TOTAL COMPREHENSIVE STUDIES	2,000,000	0	0	500,000	1,500,000

f. Project Review Studies: None

TOTAL SURVEYS, NEW	2,000,000	0	0	500,000	1,500,000

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
2. SURVEYS - CONTINUING:					
a. Navigation Studies: The amount of $1,175,000 is requested to continue five studies in Fiscal Year 2001.					
California					
Port of Stockton Sacramento District	1,350,000	100,000	25,000	150,000	1,075,000

The study area is located on the navigation channels that extend from Avon to the Port of Stockton, through Contra Costa, Solano, Sacramento, and San Joaquin Counties, California. The Corps of Engineers deepened these channels from 30 to 35 feet with construction completing in 1987, resulting in an increase in vessel and barge traffic as well as an increase of approximately 1 million tons of cargo through the port. However, even with the 35-foot channel depth the port can still only receive 70 percent of the world's bulk fleet. Deepening the channels to 40+ feet would allow the port to receive 90 percent of the world's bulk fleet including fully-loaded Panamax size vessels. The port's annual tonnage could increase by about 1 to 2 million tons and area transportation costs would be reduced. The port has a significant economic impact on the city of Stockton and surrounding counties. Stockton is a major hub of rail, highway and waterborne transportation routes linking the San Francisco Bay Area and central California. Currently about 4 million tons of cargo move through the port annually; 60 percent of which is agriculturally based. In addition, the port generates over 500 jobs directly, and another 3,000 jobs indirectly, with related annual payrolls of approximately 50 million. Deepening of the channels would increase the agricultural and economic benefits the port provides to the region. Currently, channel depths allow 45-foot draft vessels to access San Francisco Bay ports. This study will investigate the economic benefits of deepening the Avon to Stockton channels to various depths down to the depth of the downstream navigation channels. In conjunction with deepening, the study will investigate using dredged material to restore or create wetland and upland habitat. The Port of Stockton, the local sponsor, expressed support for the study in March 1992, understands the two-phase planning process, and is willing to participate in 50-50 cost sharing of feasibility phase studies. Additional interest has also been expressed by Contra Costa County. The Feasibility Cost Sharing Agreement is scheduled to be signed in March 2000.

Fiscal Year 2000 funds are being used to initiate the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The estimated cost of the feasibility phase is $2,500,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

a. Navigation Studies: Port of Stockton (Cont'd)

may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,600,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,250,000
Feasibility Phase (Non-Federal)	1,250,000

The reconnaissance phase is scheduled for completion in March 2000. A completion date is being determined for this feasibility study.

Redwood City Harbor San Francisco District	1,610,000	110,000	86,000	250,000	1,164,000

Redwood City Harbor is located in San Mateo County, California, on the west side of San Francisco Bay, about 20 miles south of San Francisco at the mouth of Redwood Creek. An existing deep draft navigation project was completed in 1965 and is maintained by the Corps of Engineers. It consists of inner and outer turning basins and three channels, all used extensively for deep draft commercial vessel traffic, including petroleum and chemical tonnage. The study will address deepening the project to greater than the authorized depth of 30 feet. New larger vessels, which currently call on the port, require more than the authorized depth. These vessels are forced to light load and top off at other ports, significantly adding to the cost of calling on the port. The Port of Redwood City, the local sponsor, expressed support for the study in April 1997, understands the two-phase planning process and is willing to participate in 50-50 cost sharing of the feasibility study phase. A Feasibility Cost Sharing Agreement is scheduled to be signed in February 2000.

Fiscal Year 2000 funds are being used to initiate the feasibility phase of the study. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase. The preliminary estimated cost of the feasibility phase is $3,000,000 which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

a. Navigation Studies: Redwood City Harbor (Cont'd)

Total Estimated Study Cost	$3,110,000
Reconnaissance Phase (Federal)	110,000
Feasibility Phase (Federal)	1,500,000
Feasibility Phase (Non-Federal)	1,500,000

The reconnaissance phase is scheduled for completion in February 2000. A completion date is being determined for this feasibility study.

San Diego Harbor, National City Los Angeles District	1,600,000	100,000	43,000	125,000	1,332,000

The study area is located on the Pacific Coast of the city of San Diego, just north of the Mexican Border and approximately 100 miles south of the Ports of Los Angeles and Long Beach, California. The existing Federal navigation channel at San Diego Harbor provides for controlling depth of 35 feet for the South Bay channel. The study will investigate modifications to the Federal deep draft navigation project including deepening the existing channel, turning basin and other navigation improvements required for port expansion. The Port of San Diego is interested in a deeper channel to existing facilities and a new container facility is being considered at the National City Marine Terminal. Consideration is also being given to expanding harbor operations, which include restoring railroad service and on-dock rail facilities for container movement through the port. Shipping interests have indicated that deeper channels would allow the use of larger vessels and load existing vessels deeper to reduce transportation costs of the cargo presently being moved through the port. The Port of San Diego, the local sponsor, expressed support for the study in July 1998, understands the two-phase planning process, and is willing to participate in 50-50 cost sharing of feasibility phase study. The Feasibility Cost Sharing Agreement is scheduled to be signed in August 2000.

If the reconnaissance report is certified to be in accord with policy, Fiscal Year 2000 funds will be used to continue into the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $3,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

a. Navigation Studies: San Diego Harbor, National City (Cont'd)

summary of the study cost sharing is as follows:

Total Estimated Study Cost	$3,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,500,000
Feasibility Phase (non-Federal)	1,500,000

The reconnaissance phase is scheduled for completion in August 2000. A completion date is being determined for this feasibility study.

San Francisco Bay San Francisco District	1,110,000	110,000	516,000	250,000	234,000

The study area is located in central San Francisco Bay, California. Navigational safety in San Francisco Bay is currently impaired due to submerged rocks and shoals which border existing navigation channels. The proximity to the channels and the shallow depth of the rocks, up to 33 feet in depth, have created concern with local and federal agencies for the safety of vessels with drafts up to 50 feet, which transit the channels carrying international and domestic cargos, including petroleum, containers, bulk and breakbulk goods and military cargos. The study will determine if there is Federal interest in removing navigation hazards that could cause catastrophic accidents. Many of the vessels transport petroleum products. An oil spill in October 1996 caused over $3 million in damages. A number of local agencies and groups are interested in assuring that this does not reoccur. The California State Lands Commission, the local sponsor, expressed support for the study in July 1999, understands the two-phase planning process and is willing to participate in 50-50 cost sharing of the feasibility study phase. A Feasibility Cost Sharing Agreement is scheduled to be signed in February 2000.

Fiscal Year 2000 funds are being used to initiate the feasibility phase of the study. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase. The preliminary estimated cost of the feasibility phase is $2,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
a. Navigation Studies: San Francisco Bay (Cont'd)					
Total Estimated Study Cost		$2,110,000			
Reconnaissance Phase (Federal)		110,000			
Feasibility Phase (Federal)		1,000,000			
Feasibility Phase (Non-Federal)		1,000,000			

The reconnaissance phase is scheduled for completion in February 2000. A completion date is being determined for this feasibility study.

Ventura Harbor Sand Bypass Los Angeles District	1,300,000	200,000	162,000	400,000	538,000

The study area is located on the Pacific Coast of the city of Buenaventura in Ventura County, about 60 miles northwest of Los Angeles. The existing Federal navigation project at Ventura Harbor consists of jetties, entrance channels, breakwaters, and sand trap. The Federal Government is presently responsible for maintaining old navigation improvements at recent Federal cost averaging $2 million a year. The Ventura Port District operates all harbor facilities. The Harbor District is interested in development of a sand-bypass system to maintain harbor channels which may be less costly than traditional dredging of the sand trap and channels every year or two. The sand-bypass system may also have beneficial impacts to adjacent shorelines and environmental areas by providing a more frequent movement of material to nourish the downcoast littoral system. The study will assess circulation and sediment transport pattern within the sand bypass by temporarily closing the gap between the North Jetty and detached breakwater. The Ventura Port District, the local sponsor, signed the Feasibility Cost Sharing Agreement in November 1999.

Fiscal Year 2000 funds are being used to initiate the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $2,200,000 which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
a. Navigation Studies: Ventura Harbor Sand Bypass (Cont'd)					
Total Estimated Study Cost		$2,400,000			
Reconnaissance Phase (Federal)		200,000 1/			
Feasibility Phase (Federal)		1,100,000			
Feasibility Phase (Non-Federal)		1,100,000			
TOTAL NAVIGATION STUDIES	6,970,000	620,000	832,000	1,175,000	4,343,000

1/Includes $100,000 for additional reconnaissance phase study effort as directed in the Energy and Water Development Appropriations Act, 1998.

The reconnaissance phase was completed in November 1999. A completion date is being determined for this feasibility study.

b. Flood Damage Prevention Studies: The amount of $3,860,000 is requested to continue twenty-two studies and complete two studies in Fiscal Year 2001.

Arizona					
Gila River, Northeast Phoenix Drainage Area Los Angeles District	1,985,000	1,429,000	294,000	212,000	50,000

The majority of the study area is located in the northeast Phoenix metropolitan area in Maricopa County, Arizona. This investigation, which is specifically addressing the flooding problems of the Northeast Phoenix Drainage Area, was initially funded in the feasibility phase as the Gila River, North Scottsdale Drainage Area, as provided in the Energy and Water Development Appropriations Act, 1995. The watershed affecting the study area eventually drains into the Central Arizona Project Canal to the south. The canal also separates the area into upper and lower watersheds. In the upper watershed, frequent storm events cause damage to several large residential subdivisions and public improvements. As many as 1,000 homes, with an average price of more than $200,000, are estimated to be located within the designated high-hazard flood zones in the study area. The upper watershed consists primarily of low capacity washes that spread over alluvial fan floodplains. These floodplains are hazardous areas because they have unpredictable floodflow patterns, and the natural channels are typically capable of containing only two- to five-year flood events. Floodflows have the potential of moving

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Damage Prevention Studies: Gila River, Northeast Phoenix Drainage Area (Cont'd)

across these fan areas swiftly and impose a threat to life and property. The Federal Emergency Management Agency has designated a large portion of the remaining undeveloped land as high-hazard zones. The study area is experiencing problems with rapid development and expansion in these floodplains. Special restrictions and constraints, such as mandatory flood insurance, have been placed on future development in these designated high-hazard zones. There is an urgent need for a floodplain management plan to reduce the flood hazard and the danger these conditions impose. The study is evaluating the potential of managing peak flows, reducing inundation damages, integrating flood control with planned land-use change and transportation, and maximizing public benefits including environmental, recreational and cultural values. The City of Phoenix and the Flood Control District of Maricopa County, the local sponsors, signed the Feasibility Cost Sharing Agreement in March 1998.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The cost estimate of the feasibility phase is $2,420,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$3,195,000
Reconnaissance Phase (Federal)	775,000
Feasibility Phase (Federal)	1,210,000
Feasibility Phase (Non-Federal)	1,210,000

The reconnaissance phase was completed in March 1998. A completion date is being determined for this feasibility study.

Rio Salado Phoenix Reach (Este) Los Angeles District	800,000	0	100,000	175,000	525,000

The study area is located in the city of Phoenix, Arizona, along 5 miles of the Salt River from 56th street to Interstate 10, upstream (east or este) of the ongoing Rio Salado project. The Rio Salado, Salt River, reconnaissance study, determined a Federal interest in restoration of riparian habitat in conjunction with water quality along 30 miles of the river. The

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Damage Prevention Studies: Rio Salado Phoenix Reach (Este) (Cont'd)

feasibility phase of this study will address this specific 5 mile portion of the river between 56th Street to the Interstate 10, in the city of Phoenix. The study will examine restoration of riparian habitat, in conjunction with flood control, water quality and recreation purposes in and along the Salt River. The study area, which has experienced degradation of wetlands and riparian vegetation within the river, is located in an arid and urban environment. The population growth of Maricopa County has continued to increase the demand for water supply, water quality, environmental quality, water-related recreation and flood protection. The City of Phoenix, the local sponsor, expressed support for the study in November 1999, understands the two-phase planning process, and is willing to participate in 50-50 cost sharing of feasibility phase studies. The Feasibility Cost Sharing Agreement is scheduled to be signed in October 2000.

Fiscal Year 2000 funds are being used to fully fund the reconnaissance phase at full Federal expense. If the reconnaissance report is certified to be in accord with policy, the funds requested for Fiscal Year 2001 will be used to continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $1,400,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost-sharing is as follows:

Total Estimated Study Cost	$1,500,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	700,000
Feasibility Phase (Non-Federal)	700,000

The reconnaissance phase is scheduled for completion in October 2000. A completion date is being determined for this feasibility study.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
b. Flood Damage Prevention Studies: (Cont'd)					
Rio Salado Phoenix Reach (Oeste) Los Angeles District	800,000	0	100,000	175,000	525,000

The study area is located in the city of Phoenix, Arizona, along 8 miles of the Salt River from 19th Avenue to 83rd Avenue, downstream (west or oeste) of the ongoing Rio Salado project. The Rio Salado, Salt River, reconnaissance study, determined a Federal interest in restoration of riparian habitat in conjunction with water quality along 30 miles of the river. The feasibility phase of this study will address this specific 8 mile portion of the river between 19th Avenue and 83rd Avenue in the city of Phoenix. The study will examine restoration of riparian habitat, in conjunction with flood control, water quality and recreation purposes in and along the Salt River. The study area, which has experienced degradation of wetlands and riparian vegetation within the river, is located in an arid and urban environment. The population growth of Maricopa County has continued to increase the demand for water supply, water quality, environmental quality, water-related recreation and flood protection. The City of Phoenix, the local sponsor, expressed support for the study in November 1999, understands the two-phase planning process, and is willing to participate in 50-50 cost sharing of feasibility phase studies. The Feasibility Cost Sharing Agreement is scheduled to be signed in October 2000.

Fiscal Year 2000 funds are being used to fully fund the reconnaissance phase at full Federal expense. If the reconnaissance report is certified to be in accord with policy, the funds requested for Fiscal Year 2001 will be used to continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $1,400,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost-sharing is as follows:

Total Estimated Study Cost	$1,500,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	700,000
Feasibility Phase (Non-Federal)	700,000

The reconnaissance phase is scheduled for completion in October 2000. A completion date is being determined for this feasibility study.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
b. Flood Damage Prevention Studies: (Cont'd)					
California					
City of San Bernardino Los Angeles District	1,000,000	0	75,000	175,000	750,000

The study area is located in San Bernardino County, California and includes a series of alluvial fans of the San Bernardino and San Gabriel Mountains. The city and the surrounding areas have been experiencing high ground water levels causing flooding of buildings and public facilities which in some cases have rendered these facilities unusable. In addition, water quality problems and the continuing high water table has resulted in degradation of local habitat. The study will examine flooding problems and environmental restoration opportunities. The City of San Bernardino, the local sponsor, expressed support for the study in October 1999, understands the two-phase planning process, and is willing to participate in 50-50 cost sharing of a feasibility phase study. The Feasibility Cost Sharing Agreement is scheduled to be signed in April 2001.

Fiscal Year 2000 funds are being used to initiate the reconnaissance phase. Funds requested for Fiscal Year 2001 will be used to complete the reconnaissance phase, and if the reconnaissance report is certified to be in accord with policy, continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $1,800,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,900,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	900,000
Feasibility Phase (Non-Federal)	900,000

The reconnaissance phase is scheduled for completion in April 2001. A completion date is being determined for this feasibility study.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
b. Flood Damage Prevention Studies: (Cont'd)					
Northern California Streams, Dry Creek (Middletown) Sacramento District	400,000	104,000	25,000	150,000	121,000

The study area is located in Lake and Napa Counties, about 100 miles northeast of San Francisco, California. It is approximately 17 miles northwest of Lake Berryessa and 12 miles south of Clear Lake. Several communities are located in the study area, the largest of which is Middletown and vicinity, with an estimated population of 4,400. Flooding problems occur primarily in the Coyote and Collayomi Valleys in the Middletown vicinity where urban and highly productive agricultural lands are subject to flooding and erosion from Dry Creek and tributaries of Putah Creek. An additional local concern is the deteriorating quality and supply of water. Flood control on local creeks and tributaries would most likely be accomplished by combinations of levee and channel improvements or a multipurpose reservoir. Prior studies of the area, completed in the mid-1970's, identified basinwide non-structural and several structural alternatives to complement upstream storage projects including West Sacramento Canal Unit of the Central Valley Project, proposed by the Bureau of Reclamation. The structural alternatives that were proposed included multi-purpose and single-purpose (flood control) reservoirs (Dry Creek and Upper Putah Creek), and basinwide channel modifications. The Bureau did not construct the project and a single purpose Corps flood control project was never pursued. Since growth and development have continued at a high rate, a significant need remains for flood control/multipurpose storage. East Lake Resource Conservation District, the local sponsor, expressed support for the study in May 1999, understands the two phase planning process, and is willing to participate in 50-50 cost-sharing of feasibility phase studies. The Feasibility Cost Sharing Agreement is scheduled to be signed in February 2000.

Fiscal Year 1999 funds together with Fiscal Year 2000 funds are being used to continue into the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $600,000 which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Damage Prevention Studies: Northern California Streams, Dry Creek (Middletown) (Cont'd)

Total Estimated Study Cost	$700,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	300,000
Feasibility Phase (Non-Federal)	300,000

The reconnaissance phase is scheduled for completion in February 2000. A completion date is being determined for this feasibility study.

Northern California Streams, Lower Cache Creek, Yolo County, Woodland and Vicinity Sacramento District	1,970,000	695,000	50,000	300,000	925,000

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The study area is located about 15 miles northwest of Sacramento, California and includes Clear Lake, the largest freshwater lake in the state. The outlet of Clear Lake is the origin of Cache Creek, which flows generally southeast through the Capay Valley into the Cache Creek Settling Basin and then into the Yolo Bypass. The lake and creek drain about 1,150 square miles. Flooding in the Cache Creek basin is principally caused by runoff of high-intensity rainstorms during the winter and spring. The flood threat in the area is enhanced by the raised bed of Interstate 5 that diverts flood flows into Woodland and a levee system that inadvertently conducts increased flows into the city of Woodland. The Cache Creek levees, which protect the cities of Woodland and Yolo, were designed for approximately a 10-year level of flood protection. The Corps completed two reconnaissance studies, Westside Tributaries to Yolo Bypass and Northern California Streams, Cache Creek Environmental Restoration in June 1994 and December 1995, respectively, which addressed increasing flood protection in the area. The local sponsors, the City of Woodland and Yolo County chose not to proceed with feasibility studies because Woodland never experienced flooding from Cache Creek. Consequently, the reconnaissance studies were discontinued. However, the Federal Emergency Management Agency has proposed revised flood plain maps which increase the size of the flood plain by 600 percent to include nearly half of Woodland. As a result, local interests renewed their support for the study and funds were provided in the Energy and Water Development Appropriations Act, 2000 to conduct a feasibility study. The feasibility study will address flood protection alternatives, including improvement of existing levees, new levees or floodwalls, a bypass channel and deepening and widening of the channel. The State of California, the local sponsor,

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Damage Prevention Studies: Northern California Streams, Lower Cache Creek, Yolo County, Woodland and Vicinity (Cont'd)

expressed support for the study in December 1999, and is willing to participate in 50-50 cost sharing of feasibility phase studies. The Feasibility Cost Sharing Agreement is scheduled to be signed in February 2000.

Fiscal Year 2000 funds are being used to complete the reconnaissance phase and continue into the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The estimated cost of the feasibility phase is $2,500,000 to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$3,220,000
Reconnaissance Phase (Federal)	720,000
Feasibility Phase (Federal)	1,250,000
Feasibility Phase (Non-Federal)	1,250,000

The reconnaissance phase is scheduled for completion in February 2000. A completion date is being determined for this feasibility study.

Poso Creek Sacramento District	1,050,000	32,000	30,000	150,000	838,000

The White River, Poso and Deer Creeks reconnaissance phase study, which was initially funded in the Energy and Water Development Appropriations Acts of 1999 and 2000, recommended that the studies continue into the feasibility phase as two separate studies, one as White River and Deer Creek and the second as Poso Creek. The study area is in Kern County in central California along Poso Creek. In January 1981 the Corps prepared a reconnaissance-level report that determined flood control measures for this area to be economically infeasible. However, during the past 20 years, frequency of flooding has greatly increased and extensive land development and improvements have occurred in the area. As a result of the January 1997 floods, State Highway 99, a major artery linking Northern and Southern California, was closed for over a week and flood damage occurred in the town of McFarland. This was the fifth time in 40 years that flooding occurred in the area. The reconnaissance study addresses the economic benefits of various alternatives including detention facilities, levees and

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Damage Prevention Studies: Poso Creek (Cont'd)

channels, and floodproofing. The feasibility study will investigate the economic, environmental, social and engineering feasibility of the alternative plans. Cawelo Water District, the potential sponsor, expressed support for the study in September 1999, understands the two-phase planning process, and is willing to participate in 50-50 cost sharing of feasibility phase studies. The Feasibility Cost Sharing Agreement is scheduled to be signed in July 2000.

Fiscal Year 2000 funds are being used to complete the reconnaissance phase and, if the reconnaissance report is certified to be in accord with policy, continue into the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $2,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,050,000
Reconnaissance Phase (Federal)	50,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

The reconnaissance phase is scheduled for completion in July 2000. A completion date is being determined for this feasibility study.

San Antonio Creek Los Angeles District	800,000	0	75,000	125,000	600,000

San Antonio Creek is located in the city of Los Alamos in Santa Barbara County, California. San Antonio Creek flows along the north edge of Los Alamos and the city has a significant flood threat from the creek due to inadequate capacity. Severe flooding occurred in the vicinity in 1983 with lesser floods occurring in 1995 and 1998. The study will evaluate improvements for flood control including channel improvements, bridge replacement and associated opportunities for environmental restoration. San Barbara County, the local sponsor, expressed support for the study in November 1999, understands the two-phase planning process and is willing to participate in 50-50 cost sharing of feasibility phase study. The Feasibility Cost Sharing Agreement is scheduled to be signed in March 2001.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Damage Prevention Studies: San Antonio Creek (Cont'd)

Fiscal Year 2000 funds are being used to initiate the reconnaissance phase. Funds requested for Fiscal Year 2001 will be used to complete the reconnaissance phase and if the reconnaissance report is certified to be in accord with policy, continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $1,400,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,500,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	700,000
Feasibility Phase (Non-Federal)	700,000

The reconnaissance phase is scheduled for completion in March 2001. A completion date is being determined for this feasibility study.

San Bernardino County Los Angeles District	850,000	80,000	106,000	100,000	564,000

The study area encompasses approximately 500 square miles in San Bernardino County, in southern California, with an estimated population of 2.5 million. Wilson Creek and Lytle Creek originate in the San Bernardino Mountains and flow in a south and southwesterly direction through the cities of Yucaipa, San Bernardino and Colton. The drainage has been altered by urbanization, sand and gravel mining operations resulting in changes to the floodway, sediment movement and habitat. Runoff has increased substantially posing an increased flood risk within the basin. The investigation will evaluate Lytle Creek for potential environmental restoration and Wilson Creek for flood control. The San Bernardino Flood Control District, the local sponsor, expressed support for the study in November 1998, understands the two-phase planning process and is willing to participate in 50-50 cost sharing of feasibility phase study. The Feasibility Cost Sharing Agreement is scheduled to be signed in May 2000.

Fiscal Year 2000 funds are being used to complete the reconnaissance phase, and if the reconnaissance report is certified to be in accord with policy, continue into the feasibility phase of the study. Funds requested for Fiscal Year 2001 will

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Damage Prevention Studies: San Bernardino County (Cont'd)

be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $1,500,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost-sharing is as follows:

Total Estimated Study Cost	$1,600,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	750,000
Feasibility Phase (Non-Federal)	750,000

The reconnaissance report is scheduled to be completed in May 2000. A completion date is being determined for this feasibility study.

San Jacinto River Los Angeles District	1,000,000	0	75,000	225,000	700,000

1604

The San Jacinto watershed encompasses approximately 730 square miles which drains into Lake Elsinore in western Riverside County, California. The only major flood control structure on the river consists of levees constructed in 1961 by the Corps in the city of San Jacinto. Only minor channelization exists in the expansive overflow area of the 30-mile reach of river between Lake Elsinore and the city of San Jacinto. Rapid development and urbanization of the area has increased water supply and recreation demands, flood damages and threatened wildlife habitat along the river. Flooding by the river in February 1980 caused major damage to agricultural areas and rendered Interstate Highway 215 and several local arterial transportation routes impassable. The river is an important resource that provides water supply, wildlife habitat, drainage and recreation values to the region. The study will examine flood control, environmental restoration, water conservation and water supply, and recreation and related purposes along the San Jacinto River. The Riverside County Flood Control and Water Conservation District, the local sponsor, expressed support for the study in February 1997, understands the two-phase planning process, and is willing to consider participation in 50-50 cost sharing of feasibility phase study. The Feasibility Cost Sharing Agreement is scheduled to be signed in April 2001.

Fiscal Year 2000 funds are being used to initiate the reconnaissance phase. Funds requested for Fiscal Year 2001 will be

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Damage Prevention Studies: San Jacinto River (Cont'd)

used to complete the reconnaissance phase, and if the reconnaissance report is certified to be in accord with policy, continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $1,800,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,900,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	900,000
Feasibility Phase (Non-Federal)	900,000

The reconnaissance phase is scheduled to be completed in April 2001. A completed date is being determined for this feasibility study.

San Joaquin River Basin, Corral Hollow Creek Sacramento District	1,100,000	0	60,000	65,000	975,000

The study area is located in southwest San Joaquin County approximately 70 miles south of Sacramento, California. Corral Hollow Creek concentrates flows generated by rainfall on the eastern slope of the foothill mountains, between Alameda and San Joaquin Counties. These flows then proceed in an easterly direction across the agricultural plains to the San Joaquin River. Recent flooding of 1997 and 1998 caused considerable damage to agricultural areas and has impacted the urbanized area of Tracy, key California water conveyance facilities and major transportation corridors. In addition, the Deuel Vocational Institute, a major State Prison, is located at the low end of the floodplain and historically receives significant damage during flood events. The study will investigate the feasibility of improvements for flood control. The San Joaquin Flood Control and Water Conservation District, the local sponsor, expressed support for the study in May 1999, understands the two-phase planning process, and is willing to participate in 50-50 cost sharing of feasibility phase studies. The Feasibility Cost Sharing Agreement is scheduled to be signed in January 2001.

Fiscal Year 2000 funds are being used to initiate the reconnaissance phase of the study. Funds requested for Fiscal Year 2001 will be used to complete the reconnaissance phase and, if the reconnaissance report is certified to be in accord with policy, continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is

1605

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Damage Prevention Studies: San Joaquin River Basin, Corral Hollow Creek (Cont'd)

$2,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

The reconnaissance phase is scheduled for completion in January 2001. A completion date is being determined for this feasibility study.

San Joaquin River Basin, Frazier Creek Sacramento District	1,100,000	0	60,000	65,000	975,000

1606

The study area is located on the western slope of the Sierra Nevada range in Tulare County between the towns of Porterville and Strathmore. Frazier Creek is an uncontrolled stream that once was a tributary of the Tule River. Frazier Creek flows were blocked by the construction of the Friant-Kern Canal, and have the potential to cause flooding to the town of Strathmore. Frazier Creek has flooded valuable agricultural lands numerous times just in this decade, most recently in 1998. County roads become impassable and lives, homes and farms are threatened. In 1998, flooding threatened nearby communities in the area including the community of Strathmore with a population of several thousand. The study will investigate flood control alternatives, including a small dam structure and a permanent channel to an existing canal. Tulare County, the potential local sponsor, has expressed an interest in participating in a 50-50 cost sharing of feasibility phase studies. The Feasibility Cost Sharing Agreement is scheduled to be signed in January 2001.

Fiscal Year 2000 funds are being used to initiate the reconnaissance phase of the study. Funds requested for Fiscal Year 2001 will be used to complete the reconnaissance phase and, if the reconnaissance report is certified to be in accord with policy, continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $2,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Damage Prevention Studies: San Joaquin River Basin, Frazier Creek (Cont'd)

Total Estimated Study Cost	$2,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

The reconnaissance phase is scheduled for completion in January 2001. A completion date is being determined for this feasibility study.

San Joaquin River Basin, Stockton Metropolitan Area Sacramento District	1,611,000	1,231,000	200,000	180,000	0

1607

The study area is located in the city of Stockton and vicinity within portions of Calaveras, San Joaquin and Stanislaus Counties, approximately 40 miles south of Sacramento, California. The study area extends from Bear Creek and its tributaries north of Stockton to the Duck Creek system south of Stockton. After flooding in northern California in 1986, the Federal Emergency Management Agency (FEMA) initiated a restudy of the Stockton area. Draft Flood Insurance Rate Maps were released delineating a larger 100-year flood plain than previously recorded. Approximately 300,000 residents live in the study area. The potential flood damages have increased significantly because of rapid growth and development during the 1980's and 1990's. As a result, the Corps was directed to identify flood problems and provide solutions for the study area. The initial phase of the study is addressing the Stockton urban area while the second phase will address the rural area. Solutions identified in the reconnaissance study include modifications to existing levees and construction of floodwalls. The San Joaquin Area Flood Control Agency is constructing a project providing 100-year FEMA level protection. This local project includes modifications to existing levees and construction of floodwalls and detention basins. The San Joaquin Area Flood Control Agency, under authority of the Water Resources Development Act of 1996 Section 211(f), is requesting credit/reimbursement for local project costs. The San Joaquin Area Flood Control Agency, the local sponsor, signed the Feasibility Cost Sharing Agreement in June 1998.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to complete the feasibility phase of the study. The estimated cost of the feasibility phase is $1,512,000,

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Damage Prevention Studies: San Joaquin River Basin, Stockton Metropolitan Area (Cont'd)

which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,367,000
Reconnaissance Phase (Federal)	855,000
Feasibility Phase (Federal)	756,000
Feasibility Phase (Non-Federal)	756,000

The reconnaissance phase was completed in June 1998. The feasibility study is scheduled for completion in September 2001.

San Joaquin River Basin, Tuolumne River and Tributaries Sacramento District	1,600,000	87,000	38,000	150,000	1,325,000

1608

The study area is located on the western slope of the Sierra Nevada mountain range in Tuolumne and Stanislaus Counties in Northern California. The watershed drains into the San Joaquin River and is bounded on the north by the Stanislaus River watershed and on the south by the Merced River watershed. The city of Modesto is the largest urban community in the study area with a population of 184,600 and is located approximately 80 miles south of Sacramento. The major water resource project located in the study area is Turlock Irrigation District's New Don Pedro Reservoir. It provides storage for flood control, water supply, and hydropower generation. Other non-Federal water supply reservoirs include Hetch Hetchy, Cherry Lake, and La Grange. The Tuolumne River drains an area of about 1,960 square miles from the Sierra Nevada range to the San Joaquin River. Dry Creek is the largest unregulated stream in the basin below New Don Pedro Reservoir and causes significant flood problems in the Modesto area. Dry Creek drains an area of about 196 square miles. Historically, flood waters overflow the defined channels along the Tuolumne River and Dry Creek during significant storms. Floods in January 1997 forced over 1,400 homes to be evacuated and resulted in damages at about $14 million in and around Modesto. The City of Modesto, the local sponsor, expressed support for the study in October 1998, understands the two-phase planning process and is willing to participate in 50-50 cost sharing of feasibility phase studies. Stanislaus County, Turlock Irrigation District, and Modesto Irrigation District have also expressed support for the study. The Feasibility Cost Sharing Agreement

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Damage Prevention Studies: San Joaquin River Basin, Tuolumne River and Tributaries (Cont'd)

is scheduled to be signed in July 2000.

Fiscal Year 2000 funds are being used to complete the reconnaissance phase and, if the reconnaissance report is certified to be in accord with policy, continue into the feasibility phase of the study. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The estimated cost of the feasibility phase is $3,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$3,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,500,000
Feasibility Phase (Non-Federal)	1,500,000

The reconnaissance phase is scheduled for completion in July 2000. A completion date is being determined for this feasibility study.

San Joaquin River Basin, West Stanislaus County Sacramento District	747,000	257,000	277,000	213,000	0

The study area is located in western Stanislaus County, California, including the cities of Newman and Patterson. Flooding in 1995 caused major losses in the city of Newman and surrounding agricultural lands. The city of Patterson suffered losses in 1995, 1983, and 1980. Riparian habitat for the endangered Valley Elderberry Longhorn Beetle has also been affected by flooding in the area. Over the past 50 years, changes to the topography and drainage patterns have occurred with the construction of the Delta Mendota Canal, the California Aqueduct and Interstate 5. These changes have significantly affected hydrology and sediment yields entering the creeks in this area contributing to increased flooding. The purpose of the reconnaissance investigation was to analyze potential solutions for flood control, environmental restoration, and related purposes for Salado Creek. The investigation of measures to control flooding in Newman could also result in environmental restoration of riparian habitat on and near Orestimba Creek. Stanislaus County, the local sponsor, expressed

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Damage Prevention Studies: San Joaquin River Basin, West Stanislaus County (Cont'd)

support for the study in July 1997, understands the two-phase planning process, and is willing to participate in 50-50 cost sharing of feasibility phase studies. The Feasibility Cost Sharing Agreement was signed in September 1998.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to complete the feasibility phase of the study. The estimated cost of the feasibility phase is $1,300,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,397,000
Reconnaissance Phase (Federal)	97,000
Feasibility Phase (Federal)	650,000
Feasibility Phase (Non-Federal)	650,000

The reconnaissance phase was completed in September 1998. The feasibility study is scheduled for completion in September 2001.

San Juan Creek, South Orange County Los Angeles District	1,100,000	0	50,000	50,000	1,000,000

The study area is located in south Orange County, about 40 miles southeast of Los Angeles, California. The watershed covers approximately 176 square miles. This study was previously funded as part of the overall San Juan Creek Watershed Management study as provided in the Energy and Water Development Appropriations Act, 2000. The findings of this study indicate a Federal interest in providing solutions to the flood control problems and severe environmental degradation. It will examine flood control, channel stability, environmental restoration, and recreation along San Juan and Trabuco Creeks in Orange County, California. Moderate stormflows (approximately a 20-year event) in the winter of 1998 nearly caused levee failure. This levee failure was prevented by floodfight efforts by the Corps of Engineers and the County of Orange. Hydrologic and Hydraulic analysis, completed as part of the San Juan Creek Watershed Management Feasibility Study, has indicated that segments of the downstream portions of the San Juan and Trabuco Creek channels have insufficient capacity to contain flood

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Damage Prevention Studies: San Juan Creek, South Orange County (Cont'd)

waters from large flood events. Potential flood inundation, repair, and clean-up equivalent annual costs due to levee overtopping have been estimated to be over $5 million. Additional losses are expected to accrue as a result of levee failure and bridge support damage due to channel instability and downcutting. The County of Orange requested this separate study to address the specific flood control and environmental restoration problems in south Orange County. The County of Orange, the local sponsor, expressed support for the study in September 1999, understands the two-phase planning process, and is willing to participate in 50-50 cost sharing of feasibility phase study. The Feasibility Cost Sharing Agreement is scheduled to be signed in March 2001.

Fiscal Year 2000 funds are being used to initiate the reconnaissance phase of the study. Funds requested for Fiscal Year 2001 will be used to complete the reconnaissance phase of the study. The preliminary estimated cost of the feasibility phase is $2,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind service. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

The reconnaissance phase is scheduled for completion in March 2001. A completion date is being determined for this feasibility study.

San Luis Obispo County Streams Los Angeles District	800,000	0	75,000	170,000	555,000

The study area is located in San Luis Obispo County, California, about 160 miles north of Los Angeles. San Luis Obispo County relies on creeks and streams as natural floodplains. In 1995 and 1998, San Luis Obispo experienced significant damage due to flooding of San Luis Obispo Creek. This study will evaluate opportunities for environmental restoration and enhance flood control along San Luis Obispo Creek. The study will also facilitate permitting and restoration activities

1611

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Damage Prevention Studies: San Luis Obispo County Streams (Cont'd)

along the watershed and avoid future flood damage. The City of San Luis Obispo, the potential local sponsor, expressed support for the study in May 1997, understands the two-phase planning process, and is willing to participate in 50-50 cost sharing of feasibility phase study. The Feasibility Cost Sharing Agreement is scheduled to be signed in March 2001.

Fiscal Year 2000 funds are being used to initiate the reconnaissance phase. Funds requested for Fiscal Year 2001 will be used to complete the reconnaissance phase, and if the reconnaissance report is certified to be in accord with policy, continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $1,400,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,500,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	700,000
Feasibility Phase (Non-Federal)	700,000

The reconnaissance phase is scheduled for completion in March 2001. A completion date is being determined for this feasibility study.

Strong and Chicken Ranch Sloughs Sacramento District	800,000	84,000	41,000	150,000	525,000

The Strong and Chicken Ranch Sloughs are north-side tributaries to the American River, located about 6 miles east of the Sacramento River in Sacramento, California. Together they include a 13.9 square mile watershed. They join at the fore bay of a pumping plant at the north levee of the American River, which was constructed by the Corps of Engineers in 1958 as part of the American River Project. Significant flooding occurs along both creeks, usually during high intensity rainstorms. The dense urban areas adjoining the lower reaches of these two creeks suffered devastating flooding twice in February 1986 and twice in January 1997. Flooding also causes damage at the California Exposition state fairgrounds. The reconnaissance study addresses modifications and improvements to the existing flood control measures. The Sacramento Area Flood Control

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Damage Prevention Studies: Strong and Chicken Ranch Sloughs (Cont'd)

Agency expressed support for the study in September 1999, understands the two-phase planning process and is willing to participate in 50-50 cost sharing of feasibility phase studies. The Feasibility Cost Sharing Agreement is scheduled to be signed in February 2000.

Fiscal Year 2000 funds are being used to complete the reconnaissance phase and continue into the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $1,400,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,500,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	700,000
Feasibility Phase (Non-Federal)	700,000

The reconnaissance phase is scheduled for completion in February 2000. A completion date is being determined for this feasibility study.

Sutter Basin Sacramento District	1,350,000	69,000	56,000	150,000	1,075,000

The study area is located within the boundaries of the Sacramento River Flood Control Project in Sutter County, California and includes the Sacramento, Feather and Bear Rivers, Sutter and Tisdale Bypass, Yuba City and communities of Live Oak, Meridian, Robbins and Nicolaus. Results from levee evaluation studies on the Sacramento Urban Area, Marysville/Yuba City, Mid-Valley, Lower and Upper Sacramento Area levee reconstruction projects indicate that structural problems caused by on-going seepage exist. The Corps is addressing levee reconstruction under these projects. The reconnaissance study will address levee improvements beyond reconstruction in these areas and investigate new areas for flood prevention. As a result of the January 1997 floods, high water caused seepage and boils, and a levee break occurred threatening the town of Meridian. In addition, seepage and boils were identified on the south levee of the Tisdale Bypass. The levee was

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Damage Prevention Studies: Sutter Basin (Cont'd)

stabilized by constructing a stability berm under emergency construction authority. The State of California and Sutter County, the local sponsors, expressed support for the study in December 1999, understand the two-phase planning process, and are willing to participate in 50-50 cost sharing of feasibility phase studies. The Feasibility Cost Sharing Agreement is scheduled to be signed in February 2000.

Fiscal Year 2000 funds are being used to complete the reconnaissance phase and continue into the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The estimated cost of the feasibility phase is $2,500,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,600,000
Reconnaissance Phase (Federal	100,000
Feasibility Phase (Federal)	1,250,000
Feasibility Phase (Non-Federal)	1,250,000

The reconnaissance phase is scheduled for completion in February 2000. A completion date is being determined for this feasibility study.

Upper Penitencia Creek San Francisco District	1,845,000	446,000	215,000	300,000	884,000

The study area, extending along 3.6 miles of Upper Penitencia Creek and its watershed, is located in the northwest portion of Santa Clara County, California, adjacent to the city of San Jose. Flooding has occurred in the watershed from Upper Penitencia Creek flows in 1955, 1958, 1962, 1963, 1973, 1980, 1982 and 1983. The 1982 flood, an approximate 10-year event, resulted in over $2 million in damages. The flood plain contains approximately 1,600 properties, that are subject to flood damage. It is estimated that a 100-year flood event would cause $48 million in damage. A study was initiated by the Soil Conservation Service which developed feasibility level plans for flood damage reduction, but the amount of agricultural benefits identified in the analysis was insufficient to permit Soil Conservation Service participation. The Corps of Engineers was requested by the local sponsor to continue the effort. The improvements

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Damage Prevention Studies: Upper Penitencia Creek (Cont'd)

proposed by the Soil Conservation Service include flood proofing, new levees, floodwalls, bypass channels, channel realignment, grade stabilization and vegetative work in order to provide a 100-year level of flood protection. The reconnaissance study provided a review of the Soil Conservation Service study efforts and identified the remaining tasks to be performed during the feasibility and design phases. The Santa Clara Valley Water District, the local sponsor, signed the Feasibility Cost Sharing Agreement in March 1998.

Fiscal year 2000 funds are being used to continue the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase. The preliminary estimated cost of the feasibility phase is $3,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$3,345,000
Reconnaissance Phase (Federal)	345,000
Feasibility Phase (Federal)	1,500,000
Feasibility Phase (Non-Federal)	1,500,000

The reconnaissance phase was completed in March 1998. A completion date is being determined for this feasibility study.

White River and Deer Creek Sacramento District	1,050,000	32,000	31,000	150,000	837,000

The White River, Poso and Deer Creeks reconnaissance phase study, which was initially funded in the Energy and Water Development Appropriations Acts of 1999 and 2000, recommended that the studies continue into the feasibility phase as two separate studies, one as White River and Deer Creek and the second as Poso Creek. The study area is located near the town of Earlimart in Tulare County in central California, along White River and Deer Creek. In January 1981 the Corps prepared a reconnaissance-level report that determined flood control measures for this area to be economically infeasible. However, during the past 20 years, frequency of flooding has greatly increased and extensive land development and improvements have occurred in the area. As a result of the January 1997 floods, State and Federal disaster assistance was granted to assist

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Damage Prevention Studies: White River and Deer Creek (Cont'd)

the town of Earlimart, which suffered millions of dollars of damage to homes and other structures. State Highway 99, a major artery linking Northern and Southern California, was closed for over a week due to the flooding. This was the fifth time in 40 years that flooding occurred in the area. The reconnaissance study addresses the economic benefits of various alternatives including detention facilities, levees and channels, and floodproofing. The feasibility study will investigate the economic, environmental, social and engineering feasibility of the alternative plans. Tulare County, the potential sponsor, expressed support for the study in November 1999, understands the two-phase planning process, and is willing to participate in 50-50 cost sharing of feasibility phase studies. The Feasibility Cost Sharing Agreement is scheduled to be signed in July 2000.

Fiscal Year 2000 funds are being used to complete the reconnaissance phase and, if the reconnaissance report is certified to be in accord with policy, continue into the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $2,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,050,000
Reconnaissance Phase (Federal)	50,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

The reconnaissance phase is scheduled for completion in July 2000. A completion date is being determined for this feasibility study.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
b. Flood Damage Prevention Studies: (Cont'd)					
New Mexico					
Española Valley, Rio Grande and Tributaries Albuquerque District	920,000	786,000	60,000	50,000	24,000

The Española Valley lies at the confluence of the Rio Grande, Rio Chama, Santa Cruz River, and several lesser streams in north-central New Mexico. Española, the largest community in the valley, is located 85 miles south of the New Mexico - Colorado border and 25 miles north of Santa Fe. Six Indian pueblos are located within the study area. Rapid growth and development along the Rio Grande and its tributaries have increased the potential for flooding in many locations. Eighteen floods, caused by summer rainfall or spring snowmelt, have been recorded within the study area since 1865; the most recent in 1958, 1969, 1970, 1978, 1987 and 1991. The floods of 1969 and 1970 damaged residential and commercial buildings, bridges, crops, and irrigation facilities in Española and surrounding towns and Indian Pueblos, causing damages estimated at $2,100,000 and $1,100,000 (October 1999 prices) respectively. A Feasibility Cost Sharing Agreement was signed and Feasibility studies were initiated in February 1993. An economically justified levee plan was identified with a first cost of approximately $2 million and a benefit cost ratio of 1.8. In September 1996, the feasibility phase was discontinued and reclassified to inactive status due to sponsor difficulties in obtaining real estate assurances from the Santa Clara Indian Nation. Since that time, a new City administration has been successful in coordinating with the Santa Clara Indian Nation and is confident any recommended project can be implemented. The City of Española, the local sponsor, expressed support for resumption of the study in November 1998, and is willing to continue 50-50 cost sharing of feasibility phase studies.

Fiscal Year 2000 funds will be used to resume the feasibility phase. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase. The estimated cost of the feasibility phase is $1,180,000, which is to be cost shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Damage Prevention Studies: Espanola Valley, Rio Grande and Tributaries (Cont'd)

Total Estimated Study Cost	$1,510,000
Reconnaissance Phase (Federal)	330,000
Feasibility Phase (Federal)	590,000
Feasibility Phase (non-Federal)	590,000

The reconnaissance phase was completed in February 1993. A completion date is being determined for this feasibility study.

Texas

Northwest El Paso Albuquerque District	975,000	180,000	250,000	280,000	265,000

The study area is located in the northwest section of El Paso, Texas. El Paso is in far west Texas and has a population of 515,000. The current population in the study area is about 5,000 and is expected to increase to over 40,000 by the year 2015. The study purpose is to determine the Federal interest in providing a flood control project to protect the northwest area of El Paso. The Corps of Engineers completed other flood control improvements for the western portion of the City of El Paso in 1989. Recent rapid development in this area of the City has increased the potential for flooding and related problems. There are approximately 2,000 residences and numerous commercial and industrial structures within the 3,000 acres that are subject to flooding. Intense summer thunderstorms on the west side of the Franklin Mountains cause high flows in several unnamed arroyos that enter the Rio Grande Valley. There is no existing outlet in the valley to convey the flood flows to the Rio Grande. Development has encroached on the arroyos and substantial ponding of flood waters occurs. In September 1987, flows resulting from thunderstorms on the 12.4 square mile drainage area flooded several areas in the northwest section of El Paso and caused over $400,000 damage. The reconnaissance study identified a structural alternative consisting of a levee and pumping plant at the confluence of four arroyos and the Rio Grande at the town of Canutillo. In addition, development along arroyos to the north of Canutillo could impact the project by increasing flows in the Rio Grande. The reconnaissance study identified a Flood Plain Management Plan to be performed during the feasibility phase. To reduce flood flows in this area some potential solutions are expected to include detention dams, diversion structures, and non-structural alternatives. The City of El Paso, the local sponsor, signed the Feasibility Cost Sharing Agreement in December 1998.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Damage Prevention Studies: Northwest El Paso (Cont'd)

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The estimated cost of the feasibility phase is $1,760,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,855,000
Reconnaissance Phase (Federal)	95,000
Feasibility Phase (Federal)	880,000
Feasibility Phase (Non-Federal)	880,000

The reconnaissance phase was completed in December 1998. A completion date is being determined for this feasibility study.

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Utah

Provo and Vicinity Sacramento District	1,495,000	595,000	0	100,000	800,000

The study area is located along the Provo River and adjacent area in Provo, Utah, approximately 45 miles south of Salt Lake City. The city of Provo is located just west of the Wasatch Mountain Range. The city has extensive commercial and residential development in the flood plain and is the location of Brigham Young University. The 1995 population of Provo was approximately 98,000. Flooding in Provo is caused by both snowmelt and cloudburst storms which result in frequent flooding in an urban area of the city. During the past 53 years of record, 7 floods have occurred which have been identified as having frequencies of 10-year or larger. In 1983, floods caused $1.3 million in damages. Advanced preparations and a well coordinated emergency flood fighting effort, estimated at a cost of $887,000 in 1983 and $230,000 in 1984, prevented what would have undoubtedly been very extensive flood damage. Flooding occurred again in 1986, but successful flood fighting activities limited the damages for this event. The most likely plan of improvement for reducing the flood hazard would include detention basins and improved conveyance on streams draining the nearby Wasatch Mountain Range and levee improvements along the Provo River. At the request of the sponsor, the initiation of the feasibility study is deferred to July 2001 due to desire to complete other local improvements first. The City of Provo, the local sponsor, expressed support for the study in February 1998, understands the two-phase planning process, and is willing to participate

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Damage Prevention Studies: Provo and Vicinity (Cont'd)

in 50-50 cost sharing of feasibility phase studies. The Feasibility Cost Sharing Agreement is scheduled to be signed in July 2001.

Funds requested for Fiscal Year 2001 will be used to continue into the feasibility phase of the study. The estimated cost of the feasibility phase is $1,800,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,395,000
Reconnaissance Phase (Federal)	595,000
Feasibility Phase (Federal)	900,000
Feasibility Phase (Non-Federal)	900,000

A reconnaissance report was completed in April 1997. A completion date is being determined for this feasibility study.

TOTAL FLOOD DAMAGE PREVENTION STUDIES	27,148,000	6,107,000	2,343,000	3,860,000	14,838,000

c. Shoreline Protection Studies: None

d. Special Studies: The amount of $6,948,000 is requested to continue thirty studies and complete three studies in Fiscal Year 2001.

Arizona

Little Colorado River Los Angeles District	1,675,000	70,000	80,000	100,000	1,425,000

The study area includes those areas of northeastern Arizona and northwestern New Mexico drained by the Little Colorado River and its tributaries. About 80 percent of the study area is in Arizona and includes parts of Coconino, Navajo and Apache Counties. The remaining portion of the study area is in New Mexico and includes parts of San Juan, McKinley,

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

d. Special Studies: Little Colorado River (Cont'd)

Valencia and Catron Counties. The area is noted for highly erodible soils, long nearly-barren slopes, sediment-laden washes and wind blown sand. Severe erosion is occurring in some of the alluvial valleys and on the valley slopes of the Little Colorado, Puerco, and Zuni Rivers. About 5,300 miles of channel bank are experiencing severe erosion. About 39,000 acres of the watershed basin is cropland, 10.3 million acres is rangeland with either grass or grass-shrub vegetation, and 6 million acres is forest or woodland. About 210,000 acres of the basin consists of urban development or water surface. Annually about 32.4 million tons of soil are lost due to erosion. Past efforts to develop solutions to the flooding problems along this reach of the river have revealed that a multitude of flood-related issues including sedimentation, channel migration, vegetation, structural control of the river profile, and environmental, cultural and economic concerns need to be considered in order to develop workable solutions. Navajo County, the local sponsor, expressed support for the study in October 1997, understands the two-phase planning process, and is willing to participate in 50-50 cost sharing of feasibility phase study. The Feasibility Cost Sharing Agreement is scheduled to be signed in December 2000.

Fiscal Year 2000 funds are being used to continue the reconnaissance phase. Funds requested for Fiscal Year 2001 will be used to complete the reconnaissance phase, and if the reconnaissance report is certified to be in accord with policy, continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $3,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$3,175,000
Reconnaissance Phase (Federal)	175,000
Feasibility Phase (Federal)	1,500,000
Feasibility Phase (Non-Federal)	1,500,000

The reconnaissance phase is scheduled for completion in December 2000. A completion date is being determined for this feasibility study.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
d. Special Studies: (Cont'd)					
Pima County Los Angeles District	1,100,000	0	100,000	75,000	925,000

The study area is located in Pima County and encompasses the metropolitan area of Tucson, the second largest city in Arizona. The study will investigate water resources development opportunities including, environmental programs, incorporation of historical cultural features, flood control, and recreation in Pima County. The study will also address environmentally degraded flood prone areas in conjunction with the Sonoran Desert Conservation Plan completed in October 1998. This plan consists of six elements: ranch conservation, historic and cultural preservation, riparian restoration, mountain parks, habitat, biological and ecological corridor conservation, and critical and sensitive habitat preservation. Organizations such as Defenders of Wildlife, Sierra Club, and civic groups support the conservation plan. Government agencies from local, state and Federal entities are also supportive of this effort. Pima County, the local sponsor, expressed support for the study in June 1999, understands the two-phase planning process, and is willing to participate in 50-50 cost sharing of feasibility phase study. The Feasibility Cost Sharing Agreement is scheduled to be signed in February 2001.

Fiscal Year 2000 funds are being used to fully fund the reconnaissance phase at full Federal expense. If the reconnaissance report is certified to be in accord with policy, the funds requested for Fiscal Year 2001 will be used to continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $2,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

The reconnaissance phase is scheduled for completion in February 2001. A completion date is being determined for this feasibility study.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
d. Special Studies: (Cont'd)					
Rillito River, Pima County Los Angeles District	1,100,000	75,000	75,000	290,000	660,000

The Rillito River is located in southeast Arizona within Pima County and flows through the city of Tucson, the second largest city in Arizona. The study will focus primarily along the river and the vicinity between Craycroft Road and Country Club Road. The study will investigate water resources development opportunities including, environmental programs, incorporation of historical cultural features, flood control, and recreation. Emphasis is to be placed on environmentally-degraded flood-prone areas. Pima County Department of Transportation Flood Control District, the local sponsor, expressed support for the study in February 1999, understands the two-phase planning process, and is willing to participate in 50-50 cost sharing of feasibility phase study. The Feasibility Cost Sharing Agreement is scheduled to be signed in June 2000.

Fiscal Year 2000 funds are being used to complete the reconnaissance phase, and if the reconnaissance report is certified to be in accord with policy, continue into the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $2,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

The reconnaissance phase is scheduled to be completed in June 2000. A completion date is being determined for this feasibility study.

Santa Cruz River (Paseo de las Iglesias) Los Angeles District	1,350,000	80,000	258,000	100,000	912,000

The Santa Cruz River (Paseo de las Iglesias) is located in southeast Arizona, within Pima County. The river flows through

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

d. Special Studies: Santa Cruz River (Paseo de las Iglesias) (Cont'd)

the city of Tucson, which is the second largest city in Arizona. The study will focus primarily along the river and the vicinity between the Tohono Oodham Nation, San Xavier District northern boundary line and downstream to Congress Street. The study will investigate the feasibility of a low-flow bank protection, incorporating historic, cultural, flood control, recreation, water resources and environmental programs. There is a possibility for periodic discharge of Central Arizona Project water into the Santa Cruz River, which may allow for the creation of significant environmental restoration and enhancement of riparian habitat. Pima County Department of Transportation Flood Control District, the local sponsor, expressed support for the study in June 1998, understands the two-phase planning process and is willing to participate in 50-50 cost sharing of feasibility phase study. The Feasibility Cost Sharing Agreement is scheduled to be signed in March 2000.

Fiscal Year 2000 funds are being used to complete the reconnaissance phase, and if the reconnaissance report is certified to be in accord with policy and continue into the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $2,500,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,600,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,250,000
Feasibility Phase (Non-Federal)	1,250,000

The reconnaissance phase is scheduled for completion in March 2000. A completion date is being determined for this feasibility study.

California

Aliso Creek Mainstem Los Angeles District	1,100,000	0	50,000	50,000	1,000,000

The study area is located in south Orange County, about 40 miles southeast of Los Angeles, California. The watershed covers

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

d. Special Studies: Aliso Creek Mainstem (Cont'd)

approximately 36 square miles. This study was previously funded as part of the overall Aliso Creek Watershed Management study as provided in the Energy and Water Development Appropriations Act, 2000. The findings of this study indicate a Federal interest in providing solutions to severe environmental degradation and will further examine channel stability, environmental restoration, and recreation along Aliso Creek and tributaries. Channel degradation and flood damage along the mainstem of Aliso Creek and some of its tributaries has caused severe environmental degradation. This degradation has caused increasing monetary and non-monetary losses to adjacent infrastructure and environmental resources. Infrastructure damage in recent years has exceeded $5 million, and is continuing to grow at an increasing rate. The County of Orange requested this separate study to address the specific environmental degradation problems along the mainstem of Aliso Creek.. The County of Orange, the local sponsor, expressed support for the study in September 1999, understands the two-phase planning process, and is willing to participate in 50-50 cost sharing of feasibility phase study. The Feasibility Cost Sharing Agreement is scheduled to be signed in January 2001.

Fiscal Year 2000 funds are being used to initiate the reconnaissance phase of the study. Funds requested for Fiscal Year 2001 will be used to complete the reconnaissance phase of the study. The preliminary estimated cost of the feasibility phase is $2,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind service. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

The reconnaissance phase is scheduled for completion in January 2001. A completion date is being determined for this feasibility study.

Laguna De Santa Rosa, San Francisco District	1,975,000	100,000	172,000	200,000	1,503,000

The Laguna De Santa Rosa is a tributary to the Russian River and is located approximately 13 miles west of Santa Rosa, California. Historically, this area has served as a 7,000-acre storm detention basin during flooding of the Russian River and is a valuable coastal fresh water wetland. During the past decade, several high floods in the Russian River have

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

d. Special Studies: Laguna De Santa Rosa (Cont'd)

reduced the ability of the Laguna De Santa Rosa to function as a major flood basin, due to suspected siltation. Thousands of acres of wetlands habitat have been lost or degraded. The study will investigate and evaluate solutions to this siltation problem, to restore both the storm detention function and wetland character of the area. The Sonoma County Water Agency, the local sponsor, expressed support for the study in March 1997, understands the two-phase planning process and is willing to participate in 50-50 cost sharing of the feasibility study phase. A Feasibility Cost Sharing Agreement is scheduled to be signed in February 2000.

Fiscal Year 2000 funds are being used to continue into the feasibility phase of the study. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase. The preliminary estimated cost of the feasibility phase is $3,750,000 which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$3,850,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,875,000
Feasibility Phase (non-Federal)	1,875,000

The reconnaissance phase is scheduled for completion in February 2000. A completion date is being determined for this feasibility study.

Los Angeles County Los Angeles District	1,100,000	0	75,000	225,000	800,000

Los Angeles River Estuary (Long Beach), Port of Los Angeles, Port of Long Beach, and Marina del Rey are located within the coastal waters of Los Angeles County. All four areas have a need for the removal and disposal of contaminated dredged sediments. The study will address the need for initiation of maintenance and new dredging activities which have been hampered by the unavailability of disposal sites for contaminated dredged material, resulting in negative impacts to safety, environmental health, and economic development. Los Angeles County, the local sponsor, expressed support for the study in October 1999, understands the two-phase planning process and is willing to participate in 50-50 cost sharing of feasibility phase study. The Feasibility Cost Sharing Agreement is scheduled to be signed in April 2001.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

d. Special Studies: Los Angeles County (Cont'd)

Fiscal Year 2000 funds are being used to initiate the reconnaissance phase. Funds requested for Fiscal Year 2001 will be used to complete the reconnaissance phase, and if the reconnaissance report is certified to be in accord with policy, continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $2,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

The reconnaissance phase is scheduled for completion in April 2001. A completion date is being determined for this feasibility study.

Matilija Dam Los Angeles District	1,100,000	0	75,000	150,000	875,000

The Matilija Dam is located on Matilija Creek, a tributary to the Ventura River, near the town of Ojai, in Ventura County, California. The dam itself is no longer functional as a water supply structure, and is identified as a major impediment to the natural flow the Matilija Creek, which traditionally supported a large population of Steelhead, a migratory fish related to the Salmon, which has recently been placed on the endangered species list. The study will address hydrology, hydraulics, dam safety and removal issues, water allocation, flood control and flood plain management issues, sediment removal, transport and beach nourishment, and environmental restoration. Ventura County, the local sponsor, expressed support for the study in October 1999, understands the two-phase planning process and is willing to participate in 50-50 cost sharing of feasibility phase studies. The Feasibility Cost Sharing Agreement is scheduled to be signed in April 2001.

Fiscal Year 2000 funds are being used to initiate the reconnaissance phase. Funds requested for Fiscal Year 2001 will be used to complete the reconnaissance phase, and if the reconnaissance report is certified to be in accord with policy, continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $2,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

d. Special Studies: Matilija Dam (Cont'd)

Total Estimated Study Cost	$2,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

The reconnaissance phase is scheduled for completion in April 2001. A completion date is being determined for this feasibility study.

Mojave River Forks Dam Los Angeles District	1,100,000	100,000	105,000	200,000	695,000

The study area is located in San Bernardino County, on the Mojave River, about 75 miles northeast of Los Angeles, California. The river flows north 140 miles from the San Bernardino Mountains into the desert communities of Victorville and Barstow and has historically presented a severe flood threat to the desert communities. The river supports rare, vital riparian habitat which provides a high resource value for migratory birds and endangered species. The delicate ecological balance afforded by the Mojave River has become increasingly important as riparian habitats continue to decline and are degraded throughout Southern California. Similarly, the desert communities rely on groundwater, and aquifers have been reduced to historic low levels. Continued overdraft would result in loss of practical storage capacity and could materially affect the quality of life of these communities as well as the riparian habitat. The Mojave River Forks Dam is an ungated facility designed and constructed by the Corps in 1971 for the single purpose of flood control to provide a 200-year level of protection. Since that time, evolving environmental requirements, including Endangered Species and Clean Water Acts implementation, have significantly altered channel conditions. While the dam currently provides nearly the same level of flood protection, these changes continue to reduce the channel's conveyance capacity, significantly diminishing flood protection to private and public property which is currently less than a 100-year level of protection. Flooding in 1978 caused $6.7 million damages at 1999 price levels to agricultural lands, highways and railroad bridges downstream of the dam. Subsequent flooding in 1980 caused $4.2 million in damages and in 1993 flood damages were $5.6 million. This study will address the used of existing facilities and evaluate cost-effective methods to balance the area's environmental, flood control, and water supply needs. The study will evaluate modifying Mojave River Forks Dam operations and outlet works, downstream channel improvements including tributaries and the Victorville and Spring Valley Lakes areas, removing non-native plant species, and acquiring habitat areas. The San Bernardino County Flood Control District, the local sponsor, expressed

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

d. Special Studies: Mojave River Forks Dam (Cont'd)

support for the study in February 1996, understands the two-phase planning process, and is willing to participate in 50-50 cost sharing of feasibility phase study. The Feasibility Cost Sharing Agreement is scheduled to be signed in July 2000.

If the reconnaissance report is certified to be in accord with policy, Fiscal Year 2000 funds will be used to initiate the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $2,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost-sharing is as follows:

Total Estimated Study Cost	$2,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

The reconnaissance phase is scheduled to be completed in July 2000. A completion date is being determined for this feasibility study.

Morro Bay Estuary Los Angeles District	600,000	100,000	86,000	250,000	164,000

The study area is located in a natural embayment on the central coast of California, about 60 miles north of Point Conception, in the city of Morro Bay, San Luis Obispo County, California. Midway between Los Angeles and San Francisco, Morro Bay serves as the only all-weather small craft commercial/recreational harbor. The harbor and associated wetlands also provide valuable habitat for aquatic wildlife and an important refuge for migratory birds and marine animals. The study will evaluate the significant impacts of sedimentation, tidal circulation, and flushing restrictions which are causing the degradation of valuable wetland and aquatic habitat areas along the Morro Bay Estuary. The City of Morro Bay, the local sponsor, expressed support for the study in July 1998, understands the two-phase planning process and is willing to participate in 50-50 cost sharing feasibility phase study. The Feasibility Cost Sharing Agreement is scheduled to be signed June 2000.

If the reconnaissance report is certified to be in accord with policy, Fiscal Year 2000 funds will be used to initiate the

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

d. Special Studies: Morro Bay Estuary (Cont'd)

feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $1,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	500,000
Feasibility Phase (Non-Federal)	500,000

The reconnaissance phase is scheduled for completion in June 2000. A completion date is being determined for this feasibility study.

Mugu Lagoon Los Angeles District	700,000	100,000	162,000	250,000	188,000

The study area is located in Ventura County, California and is within the jurisdiction of the United States Navy and State of California. The lagoon contains several Federal and State endangered and threatened species. The quality of the lagoon has been degraded due to sediment from Calleguas Creek and related drainage of contaminants from surrounding agricultural and other development. Sediment is also causing the fill-in of the lagoon and loss of valuable wetland. Mugu Lagoon is one of the few wetlands remaining in Southern California and there is a strong Federal and local interest. The study will evaluate environmental impacts associated with sediment transport, flood flows, and upstream watershed land-use practices on Mugu Lagoon. The investigation will also include a preliminary evaluation of habitat conditions and causes of degradation, and develop plans and costs of plans to restore and preserve the lagoon area. A preliminary plan consists of debris basins to reduce sediment and contaminant from reaching Mugu Lagoon. Ventura County, the local sponsor, signed the Feasibility Cost Sharing Agreement in November 1999.

Fiscal Year 2000 funds are being used to initiate the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $1,200,000 which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

d. Special Studies: Mugu Lagoon (Cont'd)

Total Estimated Study Cost	$1,300,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	600,000
Feasibility Phase (Non-Federal)	600,000

The reconnaissance phase was completed in November 1999. A completion date is being determined for this feasibility study.

Napa River, Salt Marsh Restoration San Francisco District	1,806,000	1,068,000	151,000	300,000	287,000

The study area is located in the northern portion of San Francisco Bay, California along the lower reach of Napa River, a Corps maintained navigation project. This low-lying floodplain area has experienced a degradation of environmental resources. Human impacts, including dredged material disposal from the Federal channel, have destroyed most of the original wetlands in the area. The degradation of fish and wildlife resources associated with the loss of these historic wetlands around San Francisco Bay has resulted in several species being listed as threatened or endangered. The study will address environmental protection and restoration in the area with emphasis on restoration of wetlands in the interest of providing habitat for estuarine fish, endangered species, migratory waterfowl and other wildlife. The study will also investigate the application of innovative techniques for wetland restoration similar to those being implemented for the Sonoma Baylands Wetlands Demonstration Project. The California State Coastal Conservancy, the local sponsor, signed the Feasibility Cost Sharing Agreement in March 1998.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase. The estimated cost of the feasibility phase is $2,700,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$3,156,000
Reconnaissance Phase (Federal)	456,000
Feasibility Phase (Federal)	1,350,000
Feasibility Phase (Non-Federal)	1,350,000

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
d. Special Studies: Napa River, Salt Marsh Restoration (Cont'd)					
The reconnaissance phase was completed in March 1998. A completion date is being determined for this feasibility study.					
Napa Valley Watershed Management San Francisco District	1,100,000	81,000	19,000	50,000	950,000

The study area, comprised of 426 square miles, is just north of San Pablo Bay and approximately 40 miles northeast of San Francisco, California. Degradation of the watershed has taken place over the years due to natural and human-induced factors. Local state and Federal agencies have formed a workgroup to initiate a planning effort to address this degradation. This study will identify solutions to watershed management issues on the Napa River and tributaries upstream of the city of Napa. The Napa County Flood Control District, the local sponsor, expressed support for the study in May 1999, understands the two-phase planning process, and is willing to participate in 50-50 cost sharing of the feasibility phase studies. A Feasibility Cost Sharing Agreement is scheduled to be signed in August 2000.

Fiscal Year 2000 funds are being used to complete the reconnaissance phase of the study at full Federal expense. If the reconnaissance report is certified to be in accord with policy, funds requested for Fiscal Year 2001 will be used to continue into the feasibility phase. The estimated cost of the feasibility phase is $2,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

The reconnaissance phase is scheduled for completion in August 2000. A completion date is being determined for this feasibility study.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
d. Special Studies: (Cont'd)					
Newport Bay/San Diego Creek Watershed Los Angeles District	1,220,000	120,000	212,000	381,000	507,000

The study area is located about 40 miles southeast of Los Angeles in Orange County, California where the San Diego Creek flows into Upper Newport Bay. The creek is a major contributor of sediment to the bay, and local sediment control efforts have had limited success. Hydrologic changes due to rapid development occurring in the watershed are creating problems ranging from flood damage, environmental degradation, habitat loss, water quality, erosion and deposition of sediment. The County of Orange Environmental Agency, the local sponsor, signed the Feasibility Cost Sharing Agreement in April 1999.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $2,240,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,340,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,120,000
Feasibility Phase (Non-Federal)	1,120,000

The reconnaissance phase was completed in April 1999. A completion date is being determined for this feasibility study.

Northern California Streams, Lower Sacramento River Riparian Revegetation Sacramento District	1,970,000	771,000	50,000	237,000	912,000

The study area is located in northern California and includes the mainstem of the Sacramento River downstream from Verona to Collinsville, and Steamboat and Sutter Sloughs. This study, previously funded as the Northern California Streams, Sacramento River Fish Migration study, has been renamed at the request of the local sponsor. The area under study includes about 88 river miles. The salmon runs in the Sacramento River have declined substantially in recent years. More than 70

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

d. Special Studies: Northern California Streams, Lower Sacramento River Riparian Revegetation (Cont'd)

percent of all salmon caught off the coast of California come from the Sacramento River system. There are four separate runs (spring, fall, late fall, winter) with each run experiencing severe declines in the past 20 years. The winter-run salmon, in particular, has declined nearly 98 percent and is currently listed as endangered under both Federal and State laws. Restoration of shaded riverine aquatic and riparian habitat along the Sacramento River and associated sloughs between Collinsville and American River is the focus of the feasibility study. The State of California, the local sponsor, signed the Feasibility Cost Sharing Agreement in September 1998.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The estimated cost of the feasibility phase is $2,700,000 to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$3,320,000
Reconnaissance Phase (Federal)	620,000
Feasibility Phase (Federal)	1,350,000
Feasibility Phase (Non-Federal)	1,350,000

The reconnaissance phase was completed in September 1998. A completion date is being determined for this feasibility study.

Northern California Streams, Middle Creek Sacramento District	1,095,000	705,000	300,000	90,000	0

Middle Creek is located in Lake County, approximately 80 miles north of San Francisco, California. It is the main tributary into Clear Lake, the largest natural lake entirely within the borders of California. The Middle Creek Flood Control Project, constructed by the Corps between 1958 and 1968 included levee and channel improvements for flood protection for the town of Upper Lake and surrounding agricultural land. Channelization by the Corps and others, and the loss of the natural floodplain have resulted in the transport of substantial quantities of nutrient-rich sediment to Clear Lake degrading the water quality. Large acreage of riparian communities were removed; of approximately 9,000 acres of historic emergent wetlands, approximately 7,500 acres have been lost or severely damaged. Prior to channelization of Middle Creek, flows spread out over a wide floodplain upstream of Clear Lake. This area was a significant wetland that provided natural

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

d. Special Studies: Northern California Streams, Middle Creek (Cont'd)

biologic values including waterfowl habitat, water quality through filtering and trapping of sediments, and natural flood attenuation. The Middle Creek/Clear Lake ecosystem currently has considerable value as wildlife habitat. Restored, however, this ecosystem could have significantly greater value. The Middle Creek study is evaluating alternatives to restore the natural functions of the Middle Creek/Clear Lake ecosystem. Restoration would contribute to the goals of the North American Waterfowl Management Plan. Lake County Flood Control and Water Conservation District, the local sponsor, signed the Feasibility Cost Sharing Agreement in June 1999.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study. The funds requested for Fiscal Year 2001 will be used to complete the feasibility phase of the study. The estimated cost of the feasibility phase is $990,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share will be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,590,000
Reconnaissance Phase (Federal)	600,000
Feasibility Phase (Federal)	495,000
Feasibility Phase (Non-Federal)	495,000

The reconnaissance phase was completed in June 1999. The feasibility study is scheduled for completion in February 2001.

Orange County, Santa Ana River Basin Los Angeles District	1,175,000	80,000	106,000	100,000	889,000

The study area is the Chino Dairy Preserve Area, located about 60 miles east of Los Angeles, California, in Riverside County, upstream of Prado Dam. The 50 square miles of Chino Dairy Preserve area has the largest concentration of dairy cows (more than 325,000) in the world. Currently there is 1.5 million tons of manure on the ground. Floodwaters regularly flow over the area, diminishing the quality of life for 300 dairy families within the area and washing wastes into the Santa Ana River. In February 1998, more than 10,000 cows died as a result of El Nino and lack of flood protection. Losses are estimated over $10.3 million at 1999 price levels. The study will evaluate flooding and the environmental impact to habitat in the Santa Ana River that results from floodwaters containing increased levels of nitrogen and salt from cow manure. The study will also identify other flooding problems and evaluate the environmental impact of hazardous untreated waste being

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

d. Special Studies: Orange County, Santa Ana River Basin (Cont'd)

washed into the Santa Ana River by floodwaters. Orange County, the local sponsor, expressed support for the study in June 1999, understands the two-phase planning process and is willing to participate in 50-50 cost sharing of feasibility phase study. The Feasibility Cost Sharing Agreement is scheduled to be signed in April 2000.

Fiscal Year 2000 funds are being used to fully fund the reconnaissance phase at full Federal expense and, if the reconnaissance report is certified to be in accord with policy, continue into the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $2,150,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,250,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,075,000
Feasibility Phase (Non-Federal)	1,075,000

The reconnaissance phase is scheduled for completion in April 2000. A completion date is being determined for this feasibility study.

Pajaro River Basin San Francisco District	1,100,000	0	100,000	50,000	950,000

The study area encompasses 1,300 square miles in Monterey, San Benito, Santa Clara, and Santa Cruz counties in central California. The basin extends to the Pacific Ocean at Monterey Bay, about 75 miles south of San Francisco. Flooding occurred in 1995, causing an estimated $6 million in damages, displacement of 3,000 people, as well as the deterioration of riparian and aquatic habitat found in the basin. Federal listing of several species, including the steelhead trout, as endangered is pending. Critical habitat has already been identified for these species in the basin. The study will address the need for flood control and water quality improvements in the basin, ecosystem restoration and other related purposes. Santa Cruz County, the City of Watsonville, and the City of Gilroy, the local sponsors, expressed support for the study in April 1999, understand the two-phase planning process, and are willing to participate in 50-50 cost sharing of the feasibility study phase. A Feasibility Cost Sharing Agreement is scheduled to be signed in January 2001.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

d. Special Studies: Pajaro River Basin (Cont'd)

Fiscal Year 2000 funds are being used to initiate and complete the reconnaissance phase of the study at full Federal expense. If the reconnaissance report is certified to be in accord with policy, the funds requested for Fiscal Year 2001 will be used to continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $2,000,000 which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (non-Federal)	1,000,000

The reconnaissance phase is scheduled for completion in January 2001. A completion date is being determined for this feasibility study.

Russian River Watershed San Francisco District	3,677,000	352,000	107,000	200,000	3,018,000

The study area consists of the Russian River, which is 110 miles long and flows into the Pacific Ocean about 55 miles north of the entrance to San Francisco Bay. The Corps constructed two multi-purpose reservoirs in the watershed, Lake Mendocino (Coyote Dam) and Lake Sonoma (Warm Springs Dam), and has also constructed other flood control improvements in the area. Problems reported include a significant drop in the water level of the main stem of the river which has caused tributaries to the river to downcut, undermining bridges and exposing water and sewer lines; a lowering of groundwater levels along the floodplain adjacent to the downcut river channel, causing problems for both local water companies and landowners; and current dam operations are believed to have contributed to bank failure, channel scour, and associated loss of both riparian wetlands and private lands. This loss of habitat has affected several species of anadromous fish, now listed as Federal endangered species. The reconnaissance study addressed the effects of flood control improvements on the watershed, restoration of a sustainable riparian ecosystem and anadromous fish habitat, and other beneficial uses. The State of California, the local sponsor, expressed support for the study in September 1997, understand the two-phase planning process, and is willing to participate in 50-50 cost sharing of feasibility phase studies. A Feasibility Cost Sharing Agreement is scheduled to be signed in March 2000.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

d. Special Studies: Russian River Watershed (Cont'd)

Fiscal year 2000 funds are being used to continue into the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase. The preliminary estimated cost of the feasibility phase is $6,650,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$7,002,000
Reconnaissance Phase (Federal)	352,000
Feasibility Phase (Federal)	3,325,000
Feasibility Phase (Non-Federal)	3,325,000

The reconnaissance phase is scheduled for completion in March 2000. A completion date is being determined for this feasibility study.

Sacramento-San Joaquin Delta Sacramento District	5,940,000	5,204,000	162,000	300,000	274,000

The study area is located in Sacramento, San Joaquin, and Contra Costa Counties, California and extends from Walnut Grove south to Tracy and from the city of Stockton west to Suisun Bay. The area within the Sacramento-San Joaquin Delta consists of about 700,000 acres of land segregated into some 100 tracts and islands, bounded by interconnecting waterways and surrounded by 1,100 miles of levees which normally prevent the lands from being inundated by high tides or high river stages. However, flood protection is inadequate for the islands and tracts within the study area. Over 140 levee failures have occurred in the Delta since 1900. About 30 of these failures have occurred since 1980. Lands within these levees are among the most productive agricultural lands in the State, and failures due to levee instability are becoming more prevalent. The major reasons for this instability are the subsidence of island interiors and poor foundation conditions of existing levees. Also, water quality degradation occurs due to saltwater intrusion resulting from levee failures. Damages from levee failures and costs associated with maintenance work are increasing. The most recent levee failures in the study area were in February 1986, which caused damages estimated at $17 million. The flooding of January 1997 necessitated emergency evacuations of some areas and caused numerous boils, cracks, and seepage problems on several islands and tracts throughout the Delta. Emergency contract repairs in the Delta exceeded $3.5 million. The purpose of the study is to determine a regional plan for flood control, salinity intrusion caused by levee failures, navigation, recreation, fish

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

d. Special Studies: Sacramento-San Joaquin Delta (Cont'd)

and wildlife, and long term management of the complex island/waterway network in the Delta. The State of California, the local sponsor, signed the Feasibility Cost Sharing Agreement in August 1991. The State and the Corps are conducting the cost-shared special study with the goal of producing a regional planning report for flood control, environmental restoration, and navigation. Execution of an amendment to the Feasibility Cost Sharing Agreement in February 1997 initiated Phase 2 activities which included construction of a test levee section to aid in the development of levee design criteria.

Fiscal Year 2000 funds are being used to continue the special study including levee criteria development, geotechnical studies, risk analysis, environmental evaluation, and economic studies. The funds requested for Fiscal Year 2001 will be used to continue the study. The estimated cost of the study is $8,915,000, including $5,950,000 which is to be shared on a 50-50 percent basis by Federal and non-Federal interests and $2,965,000 for earlier studies at full Federal expense. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$8,915,000
Feasibility Phase (Federal)	5,940,000
Feasibility Phase (Non-Federal)	2,975,000

A completion date is being determined for this study.

Sacramento River and San Joaquin River Basins Comprehensive Study Sacramento District	15,500,000	6,533,000	2,380,000	1,500,000	5,087,000

The study area includes the entire Sacramento River Basin and San Joaquin River Basin in northern and central California, respectively. Numerous projects are within the study including the Sacramento River Flood Control Project, Sacramento River Bank Protection Project, Chico Landing to Red Bluff Project, and the Lower San Joaquin River and Tributaries Project. Reconnaissance studies were pursued under Northern California Streams, Sacramento River Watershed Management Plan and San Joaquin River Main Stem and Tributaries. As a result of the floods of 1997, the studies were combined in order to conduct a comprehensive assessment of the entire flood control system. Local, State and Federal water resource agencies support a coordinated multi-objective investigation to balance flood damage prevention, environmental restoration, and other water

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

d. Special Studies: Sacramento River San Joaquin River Basins Comprehensive Study (Cont'd)

resource purposes along the river. The study will provide a long range management program for the Sacramento and San Joaquin Rivers with the objective of improving the flood carrying capacity of the system while restoring and protecting environmental features including wetlands and fish and wildlife habitat. The study will also identify those areas that are generally unsuitable for development. The study will include preparation of a comprehensive post-flood assessment, development of a hydrologic/hydraulic model, and formulation of a comprehensive plan for flood damage reduction and environmental restoration. Once completed, this study will provide a framework for a management plan that can be effectively implemented and supported by local, State and Federal agencies. The State of California, the local sponsor, signed the Feasibility Cost Sharing Agreement in February 1998.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The estimated cost of the feasibility phase is $26,500,000 of which $4,500,000 is at full Federal expense and $22,000,000 is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$26,500,000
Feasibility Phase (Federal)	15,500,000
Feasibility Phase (Non-Federal)	11,000,000

A completion date is being determined for this feasibility study.

San Joaquin River Basin, Cosumnes and Mokelumne Rivers Sacramento District	2,375,000	100,000	50,000	150,000	2,075,000

The study area is located on the western slope of the Sierra Nevada range in Sacramento, San Joaquin, El Dorado, Amador, and Calaveras Counties approximately 15 miles southeast of Sacramento, California and includes the lower 40-mile reach of the Cosumnes River from the bridge crossing of State Highway 16 downstream to the confluence of the Cosumnes and Mokelumne Rivers, and the 40-mile reach of the Mokelumne River from Camanche Reservoir to the downstream end of the McCormack-Williamson Tract. The Cosumnes and Mokelumne River Basins drain into the Sacramento-San Joaquin River. Several reservoirs

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

d. Special Studies: San Joaquin River Basin, Cosumnes and Mokelumne Rivers (Cont'd)

have been constructed in these basins including Camanche Dam and Reservoir on the Mokelumne River and Sly Park Dam located in the upper reaches of the Cosumnes River. Camanche Reservoir was constructed by the East Bay Municipal Utilities District (EBMUD). Flood control operations are as prescribed by the Corps of Engineers. Sly Park Dam is operated for water supply only. There are also non-Federal levee systems along the two rivers. During the January 1997 flood, numerous existing private levees failed causing wide-spread flooding of homes, commercial facilities, and public facilities. There were over 30 levee failures and widespread evacuation of flooded areas. Damages due to failed levees are estimated at over $15 million. Extensive flooding caused both major north-south highways, State Route 99 and Interstate Highway 5, to be closed and rail traffic to be interrupted. Extensive flooding in the area also occurred in 1950, 1955, 1958, and 1986. The lower Cosumnes River basin has been identified as providing excellent wildlife habitat and also provides many ecosystem restoration opportunities. The reconnaissance study is evaluating alternatives for ecosystem restoration and flood damage reduction including flood control, non-structural measures, and environmental restoration opportunities in the basins. The Nature Conservancy and the East Bay Municipal Utilities District expressed support for the study in September 1998. These local sponsors understand the two-phase planning process and are willing to participate in 50-50 cost sharing of feasibility phase studies. The Feasibility Cost Sharing Agreement is scheduled to be signed in April 2000.

Fiscal Year 2000 funds are being used to complete the reconnaissance phase and continue into the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The estimated cost of the feasibility phase is $4,500,000 to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$4,625,000
Reconnaissance Phase (Federal)	125,000
Feasibility Phase (Federal)	2,250,000
Feasibility Phase (Non-Federal)	2,250,000

The reconnaissance phase is scheduled for completion in April 2000. A completion date is being determined for this feasibility study.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
d. Special Studies: (Cont'd)					
San Joaquin River Basin, Stockton Metropolitan Area (Farmington Dam) Sacramento District	804,000	370,000	334,000	100,000	0

The study area includes the Stockton Metropolitan Area and surrounding rural areas in San Joaquin and Stanislaus Counties. Stockton is approximately 40 miles south of Sacramento and 85 miles east of San Francisco, California. Farmington Dam is located approximately 20 miles east of Stockton on South Fork Littlejohns Creek. The dam was constructed in 1951 and is currently operated by the Corps of Engineers exclusively for flood control. The watershed includes the Littlejohns Creek, Shirley Creek, Hoods Creek, and Rock Creek systems and provides drainage for approximately 212 square-miles. Groundwater is the primary water source for San Joaquin County. Approximately 730,000 acre-feet of water is being pumped from the ground-water aquifer annually. The safe-yield of the ground-water basin is about 618,000 acre-feet annually. As a result, ground-water levels have dropped as much as 100 feet over the past 40 years and saline intrusion from the San Joaquin/Sacramento Delta worsens. If this overdrafting continues, the multi-billion dollar agricultural economy in San Joaquin County could suffer serious impacts. Section 411 of the Water Resources Development Act of 1996 directed the Corps of Engineers to complete a conjunctive-use study under the San Joaquin River Basin, Stockton Metropolitan Area reconnaissance study. The conjunctive-use study was completed in December 1997. Feasibility phase studies are based on the findings of the conjunctive-use study. The feasibility study is investigating direct groundwater recharge, restoration of seasonal wetlands, and improvement of flood control in the Farmington Area. The Stockton East Water District, the local sponsor, signed the Feasibility Cost Sharing Agreement in May 1999.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to complete the feasibility phase of the study. The estimated cost of the feasibility phase is $1,168,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,388,000
Reconnaissance Phase (Federal)	220,000
Feasibility Phase (Federal)	584,000
Feasibility Phase (Non-Federal)	584,000

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
d. Special Studies: San Joaquin River Basin, Stockton Metropolitan Area (Farmington Dam) (Cont'd)					
The reconnaissance phase was completed in May 1999. The feasibility study is scheduled for completion in May 2001.					
San Juan Creek Watershed Management Los Angeles District	1,470,000	1,056,000	364,000	50,000	0

The study area is located in south Orange County, about 40 miles southeast of Los Angeles, California. The watershed covers approximately 176 square miles. The San Juan Creek watershed forms a highly important habitat area supporting a variety of Federal and State-listed endangered species populations and riparian areas, as well as a direct link to coastal waters. Significant morphologic change has occurred in response to natural and human-induced factors. Subsequent channel degradation has resulted in major environmental impacts, including riparian zones and wetland degradation, sewer breaks and beach closures. Extensive damages were recorded throughout the watershed due to major floods in January and February of 1969 which caused $1.37 million in flood damages, $7.3 million at 1999 price levels. This is an area which would clearly benefit from a watershed planning effort. There are numerous opportunities for environmental restoration, including wetlands, riparian restoration, and water quality improvements. The study is concentrating on measures to enhance low-flow wetland development, improve water quality, and develop environmental restoration projects. The San Juan and Aliso Creeks reconnaissance phase study recommended that San Juan Creek and Aliso Creek continue into the feasibility phase as two separate studies. The County of Orange, the local sponsor, expressed support for both studies in March 1998. A Feasibility Cost Sharing Agreement was signed in January 1998.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to complete the feasibility phase of the study. The estimated cost of the feasibility phase is $2,260,000 which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind service. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,600,000	
Reconnaissance Phase (Federal)	340,000 1/	1/ Excludes $222,000 for the Aliso Creek Watershed Management reconnaissance phase study.
Feasibility Phase (Federal)	1,130,000	
Feasibility Phase (Non-Federal)	1,130,000	

The reconnaissance phase was completed in January 1998. The feasibility study is scheduled for completion in March 2001.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
d. Special Studies: (Cont'd)					
San Pablo Bay Watershed San Francisco District	2,800,000	113,000	500,000	200,000	1,987,000

The watershed is located within the San Francisco Bay drainage basin in Marin, Sonoma, Napa, Solano and Contra Costa Counties, California. San Pablo Bay is the northern arm of San Francisco Bay. This investigation was initially funded under the authority of Section 503 of the Water Resources Development Act of 1996, as provided in the Energy and Water Development Appropriations Acts of 1998 and 1999. However, based on the desires of the local sponsor, the California Coastal Conservancy, and other interests that support a long term comprehensive plan for management of the watershed, the investigation is now proceeding under the river basin study authority of Northern California Streams as contained in Section 209 of the Flood Control Act of 1962. The California Coastal Conservancy is developing non-regulatory approaches to wetland protection and restoration in conjunction with existing agricultural activities. Within the watershed, there are opportunities to increase the state's wetland acreage by over five percent. Wetlands in the watershed are critically important to migratory waterbirds on the Pacific Flyway and several other endangered species. This study will address potential Federal participation for environmental restoration of the area. The California Coastal Conservancy, the local sponsor, signed the Feasibility Cost Sharing Agreement in June 1999.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study. The funds requested for Fiscal Year 2001 will be used to continue the feasibility phase. The preliminary estimated cost of the feasibility phase is $5,400,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$5,513,000
Reconnaissance Phase (Federal)	113,000
Feasibility Phase (Federal)	2,700,000
Feasibility Phase (Non-Federal)	2,700,000

The reconnaissance phase was completed in June 1999. A completion date is being determined for this feasibility study.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
d. Special Studies: (Cont'd)					
Santa Rosa Creek Ecosystem Restoration San Francisco District	1,216,000	352,000	129,000	300,000	435,000

The study area is located in Sonoma County, California, and includes most of the city of Santa Rosa. The watershed drains approximately 80 square miles, including a variety of agriculture, parks and open space, and urban land uses. Santa Rosa Creek, a tributary to the Russian River, was channelized in the 1960s to provide flood control protection to the surrounding city of Santa Rosa. The existing riparian vegetation was cleared, instream debris and boulders were removed, and riprap was placed to armor the creek's banks. The flood control project resulted in habitat loss from the removal of pools, riffles, large boulders and woody debris, all of which provided shelter for fish and wildlife. Without the shading effects of the once extensive tree canopy, the creek's water temperature has significantly increased thereby affecting salmonid survival. This habitat loss has also negatively affected the Federally listed threatened steelhead trout and endangered California freshwater shrimp. The project area for restoration is approximately 6.5 miles of the creek, extending from Railroad Street to the Laguna de Santa Rosa. The City of Santa Rosa, the local sponsor, signed the Feasibility Cost Sharing Agreement in May 1999.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $1,928,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,180,000
Reconnaissance Phase (Federal)	252,000
Feasibility Phase (Federal)	964,000
Feasibility Phase (Non-Federal)	964,000

The reconnaissance phase was completed in May 1999. A completion date is being determined for this feasibility study.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
d. Special Studies: (Cont'd)					
Suisun Marsh Sacramento District	1,100,000	0	60,000	65,000	975,000

The study area is located approximately 50 miles southwest of Sacramento, California in Solano County. As the most valuable waterfowl habitat in Northern California and an important stop along the Pacific Flyway, the Suisun Marsh supports a significant portion of the sporting and duck hunting community. In recent years, both public and private property in the Marsh has undergone severe, repetitive damage. The study will determine the Federal interest in a levee improvement and maintenance program in the Suisun Marsh to increase flood protection and protect managed wetlands. The program would protect the most sensitive habitat and increase private efforts to protect the marsh.

Fiscal Year 2000 funds are being used to initiate the reconnaissance phase of the study. Funds requested for Fiscal Year 2001 will be used to complete the reconnaissance phase and continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $2,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

The reconnaissance phase is scheduled for completion in February 2001. A completion date is being determined for this feasibility study.

Tahoe Basin, California and Nevada Sacramento District	1,200,000	210,000	25,000	150,000	815,000

The study area includes much of the Lake Tahoe Watershed in Sierra Nevada mountains in both California and Nevada approximately 100 miles east of Sacramento, California and 50 miles south of Reno, Nevada. Three areas (sub-basins) have been identified for initial consideration; Upper Truckee River, California, Edgewood Creek, Nevada, and Third and Incline

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

d. Special Studies: Tahoe Basin, California and Nevada (Cont'd)

Creeks, Nevada. These areas impose the greatest impacts to the lake. The principal purposes of the study are to examine flood control, water quality, wetlands habitat, and other environmental restoration opportunities in the Lake Tahoe Basin, with a priority for making recommendations for the restoration of the Upper Truckee River, Edgewood Creek, and Third and Incline Creek sub-basins. Results of the reconnaissance study recommended proceeding with Snagging and Clearing (Section 208) projects for Ward and Blackwood Creeks and an Aquatic Ecosystem Restoration project (Section 206) for the Upper Truckee River which were initiated in Fiscal Years 1998 and 1999, respectively. These findings are consistent with continuing reconnaissance studies for basin-wide opportunities and specific study needs of the local sponsor. Blackwood Creek project is currently being converted to an Aquatic Ecosystem Restoration project (Section 206). This is more consistent with the ultimate goals of the local sponsor. Work on the Ward Creek project has been stopped due to lack of a local sponsor and marginal flood damage reduction benefits. Throughout the Lake Tahoe Basin, river channels and surrounding riparian and wetland habitats have been substantially altered through construction activities. The basin is highly urbanized with large amounts of concentrated impervious coverage. Riverbed and bank erosion and decreases in flood overflows into the historical flood plains have led to significant losses in water quality, ecosystem diversity, wildlife and fisheries habitat, and endangered and threatened species habitat for species such as the Tahoe Yellow-cress, bald eagle, and the osprey. Study objectives include watershed, river channel, meadow and wetland restoration, and development of recreation access. Potential benefits include reduction of bank and bed erosion, improved water quality in streams and in the lake, reduction of peak flood flows, and improved fish and wildlife habitat. The Lahontan Regional Water Quality Control Board, the local sponsor, expressed support for the study in October 1998, understands the two-phase planning process, and is willing to participate in 50-50 cost sharing of feasibility phase studies. The Feasibility Cost Sharing Agreement is scheduled to be signed in June 2000.

If the reconnaissance report is certified to be in accord with policy, Fiscal Year 1999 funds together with Fiscal Year 2000 funds will be used to continue into the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $2,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,200,000
Reconnaissance Phase (Federal)	200,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
d. Special Studies: Tahoe Basin, California and Nevada (Cont'd)					
The reconnaissance phase is scheduled for completion in June 2000. A completion date is being determined for this feasibility study.					
Tijuana River Valley Los Angeles District	1,100,000	100,000	70,000	205,000	725,000

The study area consists of the 1,700-square-mile Tijuana River Watershed, of which approximately 455 square miles are within the United States, mostly within San Diego County, California. The Tijuana River Valley has historically suffered frequent, and sometimes massive flooding in 1969, 1978, 1980, 1983, and 1995 due to the size of the watershed, the lack of comprehensive flood control, and the difficulty of coordinating flood control activities between the United States and Mexico, where over 1200 square miles of the watershed is located. The Corps has investigated flooding problems of the area, including implementation of the border flow diversion structure at San Ysidro. There are no flood warning systems in place in the watershed at this time. There is an increasing flood threat in the watershed due to the tremendous increase in urbanization occurring south of the U.S. border, and lack of comprehensive planning efforts. The study will examine water resource-related problems, including flood control, environmental restoration, stormwater retention, water conservation and supply, and recreation-related purposes along the Tijuana River and tributaries. The Tijuana Valley County Water District, the local sponsor, expressed support for the study in November 1997, understands the two-phase planning process, and is willing to participate in 50-50 cost sharing of feasibility phase study. The Feasibility Cost Sharing Agreement is scheduled to be signed April 2000.

If the reconnaissance report is certified to be in accord with policy, Fiscal Year 2000 funds will be used to continue into the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $2,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
d. Special Studies: Tijuana River Valley (Cont'd)					

The reconnaissance phase is scheduled to be completed in April 2000. A completion date is being determined for this feasibility study.

Upper Santa Ana River Watershed Los Angeles District	1,100,000	80,000	106,000	100,000	814,000

The Upper Santa Ana River Basin is located in southern California, San Bernardino County and drains approximately 2,255 square miles. The area includes two flood control and water conservation dams, Prado and Seven Oaks. Both San Bernardino and Riverside Counties are fast-growing communities experiencing residential and commercial development. Concerns about potential impacts on the watershed ecosystem, flooding and sedimentation due to the growth and development in these areas has been expressed by local agencies. The study will investigate concerns in the watershed regarding rapid development and impacts on endangered species and habitat, water quality and conservation, flood control, and recreation. San Bernardino Valley Municipal Water District, the local sponsor, expressed support for the study in February 1998, understands the two-phase planning process and is willing to participate in 50-50 cost sharing of feasibility phase study. The Feasibility Cost Sharing Agreement is scheduled to be signed in April 2000.

Fiscal Year 2000 funds are being used to complete the reconnaissance phase, and if the reconnaissance report is certified to be in accord with policy, continue into the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $2,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

The reconnaissance phase is scheduled for completion in April 2000. A completion date is being determined for this feasibility study.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
d. Special Studies: (Cont'd)					
Nevada					
Lower Las Vegas Wash Wetlands Los Angeles District	1,400,000	600,000	500,000	100,000	200,000

The study area consists of an approximate eight-mile-reach of Las Vegas Wash where urban wastewater and stormwaters from Las Vegas are adversely impacting this rare and highly-valuable desert wetlands. Lower Las Vegas Wash Wetlands is located immediately southwest of the city of Las Vegas in Clark County, Nevada. Prior to 1970, the Las Vegas Wash had about 2,000 acres of wetlands. With increased flow due to urbanization, the wash has eroded and deepened, preventing water from reaching the wetlands plants and causing their collapse and demise. Today, a rich and extensive area of marshlands, cattails and abundant wildlife has been reduced from 1,400 to 300 acres of wetlands. With each storm, large amounts of soil continue to be eroded, and the limited wetlands and bankside habitat are also being lost. Erosion control measures are needed to restore the wetlands integrity, enhance riparian habitat values, and begin to recapture the past natural characteristics. Recognizing the urgent need to restore this rich biological area, the Nevada Legislature has approved funds to carry out master planning for wetlands restoration in the wash. The Southern Nevada Water Authority, the potential local sponsor, expressed support for further studies in July 1999, understands the two-phase process, and is willing to consider participating in 50-50 cost sharing of the feasibility phase study. The Feasibility Cost Sharing Agreement is scheduled to be signed in June 2000.

Fiscal Year 2000 funds are being used to complete the reconnaissance phase and, if the reconnaissance report is certified to be in accord with policy, to continue into the feasibility phase of the study. Funds requested for Fiscal year 2001 will be used to continue the feasibility phase. The preliminary estimated cost of the feasibility phase is $1,400,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,100,000	
Reconnaissance Phase (Federal)	700,000 1/	1/Includes $350,000 prior reconnaissance study cost.
Feasibility Phase (Federal)	700,000	
Feasibility Phase(Non-Federal	700,000	

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

d. Special Studies: Lower Las Vegas Wash Wetlands (Cont'd)

The reconnaissance phase is scheduled for completion in June 2000. A completion date is being determined for this feasibility study.

Walker River Basin Sacramento District	1,300,000	300,000	0	100,000	900,000

The study area includes the 4,200 square mile Walker River Basin located in western Nevada on the eastern slope of the Sierra Nevada Range about 50 miles east of Lake Tahoe. During years of higher than average snowfall, spring runoff in the Walker River Basin often results in costly damage in the Smith and Mason Valleys, caused largely by the accumulation of snags and other debris in the main channel of the Walker River. Flooding was experienced in January 1997 due to higher than normal snowfall followed by unseasonably warm rainy weather. Flooding occurred in the town of Yerington, in Lyon County, causing temporary closure to area schools and businesses. Over 300 people were evacuated and damages were sustained to agricultural resources and urban and rural structures. Basin-wide damages were estimated at $40 million. Additionally, Walker Lake is becoming increasingly saline caused largely by lower levels of freshwater inflow from the Walker River into the Lake. Many basin wide activities are contributing to the decline of environmental values in the basin. Walker Lake's Fishery and other environmental resources have declined dramatically over the last several decades. Study efforts will focus on the overall basin to identify water resources problems and potential solutions to the flood risk and decline of environmental resources. At the request of the local sponsor initiation of the feasibility study has been deferred to July 2001, at which time local sponsor funds will be secured. The State of Nevada, Department of Conservation and Natural Resources, the local sponsor, expressed support for the study in May 1999, and understands the two-phase planning process, and is willing to participate in 50-50 cost sharing of feasibility phase studies. The Feasibility Cost Sharing Agreement is scheduled to be signed in July 2001.

Fiscal Year 2001 funds will be used to continue into the feasibility phase of the study. The estimated cost of the feasibility phase is $2,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,300,000
Reconnaissance Phase (Federal)	300,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

d. Special Studies: Walker River Basin (Cont'd)

The reconnaissance phase is scheduled for completion in July 2001. A completion date is being determined for this feasibility study.

New Mexico

Southwest Valley Flood Damage Reduction, Albuquerque Albuquerque District	1,450,000	236,000	350,000	330,000	534,000

The study area includes the 17.8 square mile Southwest Valley drainage area within the greater Albuquerque metropolitan area, and the 50 square mile West Mesa contributing area. This investigation was initially funded as the Rio Grande Ecosystem Restoration Study as provided in the Energy and Water Development Appropriations Act, 1998. Findings of that reconnaissance study recommended proceeding into two separate feasibility studies. The Southwest Valley feasibility study focuses on flood damage reduction. Significant growth and development are occurring in the Southwest Valley. The Southwest Valley is subject to flooding from runoff from the West Mesa as well as from rain falling directly in the valley. During high stages on the Rio Grande, flood waters pond in developed areas because they cannot drain by gravity flow. The feasibility study will evaluate current conditions and make recommendations to reduce flood damages and improve environmental quality. The Albuquerque Metropolitan Arroyo Flood Control Authority and Bernalillo County are the local sponsors. A Feasibility Cost Sharing Agreement was signed in March 1999.

Fiscal Year 2000 funds will be used to continue the feasibility phase of the study. Funds requested for Fiscal Year 2001 will be used to continue the feasibility phase of the study. The estimated cost of the feasibility phase is $2,800,000, which is shared on a 50-50 percent basis by Federal and non-Federal interests.

Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

d. Special Studies: Southwest Valley Flood Damage Reduction, Albuquerque (Cont'd)

Total Estimated Study Cost	$2,850,000
Reconnaissance Phase (Federal)	50,000
Feasibility Phase (Federal)	1,400,000
Feasibility Phase (non-Federal)	1,400,000

The reconnaissance phase was completed in March 1999. A completion date is being determined for this feasibility study.

TOTAL SPECIAL STUDIES	64,798,000	19,056,000	7,313,000	6,948,000	31,481,000

e. Comprehensive Studies: None

f. Project Review Studies: None

TOTAL SURVEYS CONTINUING	98,916,000	25,783,000	10,488,000	11,983,000	50,662,000
TOTAL SURVEYS	100,916,000	25,783,000	10,488,000	12,483,000	52,162,000

3. PRECONSTRUCTION ENGINEERING AND DESIGN ACTIVITIES (PED), NEW: None

4. PRECONSTRUCTION ENGINEERING AND DESIGN ACTIVITIES (PED), CONTINUING:

a. Navigation: The amount of $725,000 is requested to continue two PED activities in Fiscal Year 2001.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
a. Navigation: (Cont'd)					
California					
Los Angeles Harbor Main Channel Deepening Los Angeles District	750,000	0	0	375,000	375,000

The project is located at the Port of Los Angeles on the coast of southern California in San Pedro Bay, approximately 25 miles south of downtown Los Angeles. The Port of Los Angeles is utilizing Section 203 of the Water Resources Development Act of 1986 to expedite the feasibility study, scheduled to be completed in March 2000, to deepen its main channel from the current depth of 45 feet to 55 feet. Deepening the channel will accommodate international maritime vessels with drafts that extend beyond the current limit. The Port of Los Angeles, the local sponsor, expressed support for the project in July 1999 and understands project cost sharing requirements. Preconstruction engineering and design will ultimately be cost shared at the rate for the project to be constructed, but will be financed through the preconstruction engineering and design period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$1,000,000	Total Estimated Preconstruction Engineering and Design Costs	$1,000,000
Initial Federal Share	750,000	Ultimate Federal Share	500,000
Initial Non-Federal Share	250,000	Ultimate Non-Federal Share	500,000

In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, local interests will be required to provide lands, easements, rights-of-way, and dredged material disposal areas, modify or relocate utilities, roads, bridges except railroad bridges, and other facilities, where necessary for the construction of the project; pay 50 percent of the cost of construction of the project which has a depth in excess of 45 feet; and pay an additional 10 percent of the costs allocated to navigation within a period of 30 years following completion (if not offset by a credit allowed for lands, easements, rights-of-way, relocations, and dredged material disposal areas).

The project is not yet authorized for construction. Fiscal Year 2001 funds will be used to initiate preconstruction engineering and design. A completion date is being determined for preconstruction engineering and design.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
a. Navigation: (Cont'd)					
Newport Bay Harbor Los Angeles District	750,000	0	120,000	350,000	280,000

The project area is located on the coast of Southern California in Orange County, about 40 miles southeast of Los Angeles. The existing Federal navigation project in lower Newport Bay includes jetties forming the entrance, navigation channels, anchorage areas, and a turning basin. The upper Newport Bay area consists of small marinas and a 752 acre State Ecological Reserve that contains Federal and State threatened and endangered species. Excessive sedimentation from upstream runoff has resulted in continual degradation of valuable wetland areas in the Upper Bay. Shoaling in navigation channels has resulted in vessel groundings. Two in-bay sediment basins, constructed in the mid-1980's, have filled to capacity and require dredging. The recommended project is estimated to cost $15 million with an estimated Federal cost of $9.75 million and an estimated non-Federal cost of $5.25 million. Maintenance is estimated at $9 million every 12 years. Benefit will accrue from wildlife restoration. The alternative plan includes the dredging of sedimentation basins and channels in the Upper Bay. The feasibility report is scheduled for completion in June 2000. Orange County, the local sponsor, expressed support for the project and understands project cost sharing requirements. Preconstruction engineering and design will ultimately be cost shared at the rate for the project to be constructed, but will be financed through the preconstruction engineering and design period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$1,000,000	Total Estimated Preconstruction Engineering and Design Costs	$1,000,000
Initial Federal Share	750,000	Ultimate Federal Share	650,000
Initial Non-Federal Share	250,000	Ultimate Non-Federal Share	350,000

In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, local interests will be required to provide lands, easements, rights-of-way, and dredged material disposal areas, if necessary in the construction of the project; modify or relocate buildings, utilities, roads, and other facilities, except railroad bridges, if necessary in the construction of the project; 25 percent of the cost of construction which has a depth in excess of 20 feet but not in excess of 45 feet; plus 50 percent of the cost of construction of the portion of the project which has a depth in excess of 45 feet; and pay an additional 10 percent of the costs allocated to navigation within a period of 30 years following completion (if not offset by a credit allowed for lands, easements, rights-of-way, relocations, and dredged material disposal areas).

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
a. Navigation: Newport Bay Harbor (Cont'd)					
The project is not yet authorized for construction. Fiscal Year 2000 funds are being utilized to initiate preconstruction engineering and design. Fiscal Year 2001 funds will be used to continue preconstruction engineering and design. A completion date is being determined for preconstruction engineering and design.					
TOTAL NAVIGATION	1,500,000	0	120,000	725,000	655,000
b. Flood Control: The amount of $9,292,000 is requested to continue eighteen PED activities and complete one PED activity in Fiscal Year 2001.					
Arizona					
Rio de Flag Los Angeles District	2,100,000	0	129,000	250,000	1,721,000
Rio de Flag is located partly within the city of Flagstaff and entirely within Coconino County, Arizona. The area is subject to flooding from Rio de Flag and Clay Avenue Wash. The plan will address flood damage prevention and recreation. Approximately 1400 structures valued at $500 million (October 1999 prices), are subject to flood damages. Major portions of the City of Flagstaff, including downtown, and the university would be affected. Residential, commercial, industries and public property would be damaged from a major flood. A feasibility report is scheduled for completion in February 2000. The recommended project, estimated to cost $28 million with an estimated Federal cost of $18.2 million and an estimated non-Federal cost of $9.8 million, includes a channel and two detention basins. The average annual benefit amounts to $2.6 million, all for flood control. The benefit-cost ratio is 1.3 to 1 based upon the latest economic analysis dated May 1999. The City of Flagstaff, the local sponsor, expressed support for the project in September 1997 and understands project cost sharing requirements. Preconstruction engineering and design will ultimately be cost shared at the rate for the project to be constructed, but will be financed through the preconstruction engineering and design period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.					

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Control: Rio de Flag (Cont'd)

Total Estimated Preconstruction Engineering and Design Costs	$2,800,000	Total Estimated Preconstruction Engineering and Design Costs	$2,800,000
Initial Federal Share	2,100,000	Ultimate Federal Share	1,820,000
Initial Non-Federal Share	700,000	Ultimate Non-Federal Share	980,000

This project is not yet authorized for construction. The cost sharing for construction of the project will be 65 percent Federal and 35 percent non-Federal in accordance with the Water Resources Development Act of 1996. Fiscal Year 2000 funds are being used to initiate preconstruction engineering and design. Fiscal Year 2001 funds will be used to continue preconstruction engineering and design. A completion date is being determined for preconstruction engineering and design.

Tres Rios Los Angeles District	6,375,000	0	43,000	250,000	6,082,000

Tres Rios is located within the Phoenix metropolitan area of Maricopa County, Arizona and includes a six-mile reach of the Salt and Gila Rivers beginning at 91st Avenue and continuing downstream to the confluence with the Agua Fria River. Several water resource issues occur at Tres Rios, including flood control, water quality, riparian habitat restoration, threatened and endangered species (Yuma Clapper Rail, Willow Flycatcher and Razorback Sucker), and recreation. Since 1978, the study area has been subjected to five floods in excess of 100,000 cubic feet per second. The most recent flood occurred in January 1993 and caused damage to infrastructures, businesses and private residences. Riparian habitat effected by upstream federal water projects and outfall from regional wastewater treatment facility. A feasibility report is scheduled for completion in February 2000. The recommended project is estimated to cost $20 million with an estimated Federal cost of $13 million and an estimated non-Federal cost of $7 million. The benefits of environmental restoration would be the potential for 1,200 acres of riparian and wetland habitats to be restored. The City of Phoenix and the Sub Regional Operating Group, the local sponsors, expressed support for the project in January 2000 and understand project cost sharing requirements. Preconstruction engineering and design will ultimately be cost shared at the rate for the project to be constructed, but will be financed through the preconstruction engineering and design period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
b. Flood Control: Tres Rios (Cont'd)					
Total Estimated Preconstruction Engineering and Design Costs		$8,500,000	Total Estimated Preconstruction Engineering and Design Costs		$8,500,000
Initial Federal Share		6,375,000	Ultimate Federal Share		5,525,000
Initial Non-Federal Share		2,125,000	Ultimate Non-Federal Share		2,975,000

This project is not yet authorized for construction. The cost sharing for construction of the project will be 65 percent Federal and 35 percent non-Federal in accordance with the Water Resources Development Act of 1996. Fiscal Year 2000 funds are being used to initiate preconstruction engineering and design. Fiscal Year 2001 funds will be used to continue preconstruction engineering and design. A completion date is being determined for preconstruction engineering and design.

Tucson Drainage Area Los Angeles District	1,032,000	180,000	420,000	432,000	0

The project is located in the city of Tucson, in eastern Pima County, Arizona. Floods on Tucson Arroyo and Arroyo Chico, its principal tributary, have caused serious damage annually to urban properties within the city of Tucson, the second largest city in Arizona. The 1990 Flood Insurance Study maps identify significant flooding problems in several areas, including Tucson Arroyo and Arroyo Chico Wash, which drain through central and downtown Tucson. Increased urbanization has changed the characteristics of runoff conditions and has left the current drainage systems for this watershed inadequate. Over 1,000 structures occupy the 100-year floodplain today. Extensive damages were recorded throughout the urban area due to a major flood in October 1983 which caused $50 million in flood damages and destroyed over 12 acres of valuable desert riparian habitat, $75.5 million at October 1999 price levels. A revised feasibility report was completed in January 1998. The recommended project, estimated to cost $30 million with an estimated Federal cost of $19.4 million and estimated non-Federal cost of $10.6 million, includes construction of a flood control system consisting of two detention basin complexes - one on Arroyo Chico in the headwaters of the drainage (referred to as Randolph Park), and one on Tucson Arroyo/Arroyo Chico in the approximate center of the watershed (referred to as Park Avenue). The sponsor applied for and received credit under Section 104 in the amount of $12.3 million, for construction of Randolph Park which was completed in March 1996. The Park Avenue construction consists of a combination of four basins, inlet improvements, limited channel improvements, environmental restoration, environmental mitigation, and recreation components. The environmental restoration will restore approximately 10 acres of desert riparian ecosystem and 2 acres of shorebird wading ponds. Environmental mitigation includes 6.4 acres of desert riparian. The recreation consists of using access roads and ramps for biking/hiking and 2 acres of open-grassed areas for bird watching, picnicking and other passive recreation. Estimated average annual benefits

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Control: Tucson Drainage Area (Cont'd)

are $2.8 million, which consists of flood damage prevention and recreation. The benefit-cost ratio is 1.3 to 1 based upon the latest economic analysis dated October 1997. Pima County Flood Control District, the local sponsor, understands project cost-sharing requirements. The preconstruction engineering and design cost sharing agreement was signed in May 1999. Preconstruction engineering and design will ultimately be cost shared at the rate for the project to be constructed, but will be financed through the preconstruction engineering and design period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$1,375,000	Total Estimated Preconstruction Engineering and Design Costs	$1,375,000
Initial Federal Share	1,032,000	Ultimate Federal Share	895,000
Initial Non-Federal Share	343,000	Ultimate Non-Federal Share	480,000

The project was authorized for construction in Water Resources Development Act of 1999. The cost sharing for construction of the project will be 65 percent Federal and 35 percent non-Federal in accordance with the Water Resources Development Act of 1996. Costs assigned to recreation during construction shall be cost shared 50 percent Federal and 50 percent non-Federal. Fiscal Year 2000 funds are being used to continue preconstruction engineering and design. Fiscal Year 2001 funds will be used for completion of preconstruction engineering and design in September 2001.

California

American River Watershed Sacramento District	28,600,000	14,896,000	4,000,000	3,285,000	6,419,000

The American River Watershed drains about 2,100 square miles of mostly mountainous area along the westward face of the Sierra Nevada in northern California counties of Placer, El Dorado and Sacramento. It is comprised of three principal streams which are the North Fork, Middle Fork, and South Fork of the American River that flow generally westward into Folsom Lake, through the city of Sacramento and into the Sacramento River. Folsom Lake and levees along the lower American River, Sacramento River, and tributary streams and channels provide flood protection to the highly urbanized Sacramento area. Potentially flooded areas during rare flood events could have an impact on approximately 410,000 people and an estimated $37 billion in property value. Recent evaluations indicate that the level of flood protection along much of the American

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Control: American River Watershed (Cont'd)

River and in the Natomas area is less than the 100-year level. The February 1986 storms filled Folsom Lake and necessitated record releases in excess of design flows downstream. Because of the significant threat, 500 people were put on levee watch as these record flows passed through the city of Sacramento. Due to the 1986 storms, an extensive flood fighting effort was made by the Corps at a cost of $3 million and an additional $10 million was required for post flood repair work. The storms of January 1997 again filled Folsom Lake and releases reached design flows. A levee watch was issued as lower American River levees were significantly stressed. The Feasibility Report for the American River Watershed Investigation was completed in December 1991 and the Division Engineer's Report was issued in February 1992. The Natomas feature of the American River Watershed Project was authorized by the Defense Appropriations Act for Fiscal Year 1993, and the local sponsor, Sacramento Area Flood Control Agency, has essentially completed construction of the Natomas flood control project. Federal Construction General funds were appropriated in Fiscal Year 1998 to initiate reimbursement to the local sponsor for the Federal share of the project. The Defense Appropriations Act for Fiscal Year 1993 also directed the Corps to reevaluate the other features recommended in the Feasibility Report; in accordance with this direction, a Supplemental Information Report was completed in March 1996. The plan of improvement recommended in the Supplemental Information Report provides greater than 500-year level of flood protection and includes a detention dam near Auburn, stabilizing or modifying existing downstream levees on the lower American and Sacramento Rivers, implementing an upgraded telemetered flood warning system; levee work in the Natomas area, and restoring flood control storage space in Folsom Reservoir to a fixed 400,000 acre-feet. The Chief of Engineer's Report deferred recommendation of the detention dam plan but recommended implementation of elements common to the final candidate plans presented in the Supplemental Information Report. These common elements were authorized for construction in the Water Resources Development Act of 1996 and Federal Construction General funds were appropriated in Fiscal Year 1998 for initiation of construction. The Common Elements, as modified by the Water Resources Development Act of 1999, include levee improvements on 21.5 miles of the lower American River and 12 miles along the Sacramento River; levee raising along 1.5 miles of the American River, 10.4 miles of the Sacramento River, and 10 miles of Natomas Cross Canal; stream flow gauges upstream of Folsom Reservoir; and an improved flood warning system along the lower American River.

The Water Resources Development Act of 1999 authorized construction of the Folsom Dam Modification project described in the Supplemental Information Report, as modified by the Sacramento Area Flood Control Agency's Folsom Dam Modification Report, New Outlets Plan, dated March 1998. The estimated cost, as authorized, is $150,000,000, with an estimated Federal cost of $97,500,000 and an estimated non-Federal cost of $52,500,000.

Section 566 of the Water Resources Development Act of 1999 authorized additional flood control studies for (a) increasing surcharge flood control storage at Folsom Dam and Reservoir and (b) increased flood protection through levee modifications

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Control: American River Watershed (Cont'd)

on the American and Sacramento Rivers and directed the Corps to submit a report to Congress by March 2000 documenting the results of the studies.

Preconstruction engineering and design will ultimately be cost shared at the rate for the project to be constructed but will be financed through the preconstruction engineering and design period at full Federal expense. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Folsom Modifications Design and Long-Term Plan for Flood Control

Total Estimated Preconstruction Engineering and Design Cost	28,600,000	Total Estimated Preconstruction Engineering and Design Cost	28,600,000
Initial Federal Share	28,600,000	Ultimate Federal Share	18,600,000
Initial Non-Federal Share	0	Ultimate non-Federal Share	10,000,000

The cost sharing for construction is estimated to be 65 percent Federal and 35 percent non-Federal in accordance with the Water Resources Development Act of 1996.

Fiscal Year 2000 funds are being used to complete preconstruction engineering and design for Folsom Dam modifications, and continue preconstruction engineering and design for the long-term plan for flood control. As part of the long-term study for flood control, an interim information report is being prepared providing results of studies authorized in Section 566 of the Water Resources Development Act of 1999. This report will be submitted to Congress by March 2000. Funds requested for Fiscal Year 2001 will be used to continue preconstruction engineering and design on the long-term plan. A completion date is being determined for preconstruction engineering and design.

Arroyo Pasajero Sacramento District	4,500,000	0	100,000	500,000	3,900,000

The project area is located near the town of Coalinga, in central California and is about 50 miles southwest of the city of Fresno. Arroyo Pasajero is an ephemeral stream that flows from the Coast Range and has formed an alluvial fan along the west side of the San Joaquin Valley. Floodwaters overflow the defined channel of the stream during significant storms and

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Control: Arroyo Pasajero (Cont'd)

spread overland. In 1967 the California Aqueduct was built and flood protection facilities were constructed consisting of a shallow retention basin, a gated evacuation culvert beneath the Aqueduct, and an inlet into the Aqueduct for Arroyo Pasajero. Existing flood protection facilities have proven inadequate. Updated hydrologic and sedimentation studies indicate that both the estimated average annual sediment loads and 100-year storm volumes are several times greater than original design estimates. Floodflows threaten the structural integrity of the Aqueduct as well as cause significant damage to agriculture and public facilities in the community of Coalinga (population 10,400) and the Lemoore Naval Air Station. In March 1995 heavy rain caused catastrophic flooding in the area. Seven lives were lost following the collapse of an Interstate Highway 5 bridge crossing. A levee breach also caused water contamination in the California Aqueduct. Damage to canal lining from the flooding was repaired under an emergency construction contract, and aqueduct facilities were unavailable for water service until the repairs were made. Agricultural losses in the surrounding area amounted to $5 to $10 million. The feasibility study is scheduled for completion in June 2000. The recommended project is estimated to cost $244.7 million with an estimated Federal cost of $159.6 million and an estimated non-Federal cost of $85.1 million for enlargement of an existing retention basin. Additional alternatives being considered include an Aqueduct overchute crossing to convey floodwaters over the Aqueduct and a retention basin and dam at Pasajero Gap. The average annual benefits amount to $35,800,000, all flood control. The benefit-cost ratio is 1.75 to 1 at 6 7/8 percent based upon the latest economic analysis dated March 1999 (October 1998 price levels). The California Department of Water Resources, the local sponsor, expressed support for the project in October 1997, understands the cost sharing requirements during preconstruction engineering and design and is prepared to execute a cost sharing agreement upon completion of the feasibility study. Preconstruction engineering and design will ultimately be cost shared at the rate for the project to be constructed, but will be financed through the preconstruction engineering and design period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$6,000,000	Total Estimated Preconstruction Engineering and Design Costs	$6,000,000
Initial Federal Share	4,500,000	Ultimate Federal Share	3,900,000
Initial Non-Federal Share	1,500,000	Ultimate Non-Federal Share	2,100,000

The project is not yet authorized for construction. The cost sharing for construction of the project will be 65 percent Federal and 35 percent non-Federal in accordance with the Water Resources Development Act of 1996.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
b. Flood Control: Arroyo Pasajero (Cont'd)					

Fiscal Year 2000 funds are being used to initiate preconstruction engineering and design. Fiscal Year 2001 will be used to continue preconstruction engineering and design. A completion date is being determined for preconstruction engineering and design.

Bolinas Lagoon, Ecosystem Restoration San Francisco District	1,500,000	0	0	300,000	1,200,000

Bolinas Lagoon is located 15 miles northwest of San Francisco on the Pacific coastline of Marin County, California, between the towns of Stinson Beach and Bolinas. Most of the lagoon, up to the "high tide line," is part of the Gulf of the Farallones National Marine Sanctuary managed by the National Oceanographic and Atmospheric Administration. The lagoon, a vital part of an essentially intact ecosystem, is experiencing a continued loss of estuarine habitat and the diversity and abundance of lagoon life as sub-tidal and inter-tidal habitats are being lost through sedimentation. The study is evaluating the potential for lagoon closure and alternatives that would restore and maintain a natural tidal prism configuration and tidal circulation in the lagoon. Potential solutions include watershed erosion control measures, fill removal, and dredging. A feasibility report is scheduled for completion in December 2000. The recommended project, estimated to cost $15 million, with an estimated Federal cost of $11.3 million, and non-Federal cost of $3.7 million includes construction to restore the Bolinas Lagoon Ecosystem. Marin County, the local sponsor, expressed support for the project and understands project cost-sharing requirements. Preconstruction engineering and design will ultimately be cost shared at the rate for the project to be constructed but will be financed through the preconstruction engineering and design period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$2,000,000	Total Estimated Preconstruction Engineering and Design Costs	$2,000,000
Initial Federal Share	1,500,000	Ultimate Federal Share	1,000,000
Initial non-Federal Share	500,000	Ultimate non-Federal Share	1,000,000

The project is not yet authorized for construction. Fiscal Year 2001 funds will be used to initiate preconstruction engineering and design. A completion date is being determined for preconstruction engineering and design.

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Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
b. Flood Control: (Cont'd)					
Llagas Creek San Francisco District	750,000	0	250,000	240,000	260,000

The project is located in southern Santa Clara County, California, in the vicinity of the communities of Morgan Hill, San Martin, and Gilroy. The project was initiated in 1954 by the Soil Conservation Service (Natural Resources Conservation Service) under its Public Law 566 Small Watershed Program and was subsequently suspended in 1973 because of environmental considerations. The maximum flood of record, that of October 1969, would have caused an estimated $5.5 million damages to this area under October 1999 prices and conditions of development. The recommended project, estimated to cost $45 million with an estimated Federal cost of $22.5 million and an estimated non-Federal cost of $22.5 million, includes channel improvements and construction of a diversion structure which will provide a 100-year level of flood protection to urban areas and 10-year protection to agricultural areas. The Santa Clara Valley Water District, the local sponsor, expressed its support for the project in October 1998 and understands project cost sharing requirements. Preconstruction engineering and design will ultimately be cost shared at the rate for the project to be constructed, but will be financed through the preconstruction engineering and design period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$1,000,000	Total Estimated Preconstruction Engineering and Design Cost	$1,000,000
Initial Federal Share	750,000	Ultimate Federal Share	500,000
Initial Non-Federal Share	250,000	Ultimate Non-Federal Share	500,000

The Corps was authorized to assume construction of this project in Section 501 of the Water Resources Development Act of 1999. Fiscal Year 2000 funds are being used to initiate engineering and design. Fiscal Year 2001 funds will be used to continue preconstruction engineering and design. A completion date is being determined for preconstruction engineering and design.

Lower Mission Creek Los Angeles District	1,125,000	0	212,000	325,000	588,000

The project area is located approximately 100 miles northwest of Los Angeles, California. Lower Mission Creek drains into an area of 12.2 square miles and flows from the south slope of the Santa Ynez Mountains through heavily developed portions

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Control: Lower Mission Creek (Cont'd)

of the city into a tidal estuary neighboring the Pacific Ocean. Floods of 1978 and 1980 damaged residential and commercial property and closed State Highway 101, a major transportation route between Los Angeles and the northern California coastal cities of San Jose and San Francisco. This resulted in a demand for flood protection along Mission Creek, the greatest unsolved flood hazard of any stream in the county. The urban portion of Mission Creek floodplain is fully developed and the potential for serious flood damage is high. Since 1960 the population has increased about 40 percent in the Mission Creek area and 117 percent in Santa Barbara County. In January and March of 1995, major flooding again damaged residential and commercial properties estimated at $16.5 million to $22 million at 1999 price levels, cut off rail service to coastal California, and led to a Federal disaster declaration. Environmental conditions have also changed in the study area due to the presence of the Tidewater Goby, an endangered fish species. The feasibility report scheduled for completion in March 2000. The recommended project is estimated to cost $22 million with an estimated Federal cost of $12 million and an estimated non-Federal cost of $10 million. The average annual benefits amount to $1,590,000, all for flood control. The benefit-cost ratio is 1.16 to 1 based upon the latest economic analysis dated June 1999. The City of Santa Barbara and the Santa Barbara County Flood Control and Water Conservation District, the local sponsors, expressed support for the project in September 1996 and understands project cost sharing requirements. Preconstruction engineering and design will ultimately be cost shared at the rate for the project to be constructed, but will be financed through the preconstruction engineering and design period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$1,500,000	Total Estimated Preconstruction Engineering and Design Costs	$1,500,000
Initial Federal Share	1,125,000	Ultimate Federal Share	975,000
Initial Non-Federal Share	375,000	Ultimate Non-Federal Share	525,000

The project is not yet authorized for construction. The cost sharing for construction of the project will be 65 percent Federal and 35 percent non-Federal in accordance with the Water Resources Development Act of 1996. Fiscal Year 2000 funds are being used to initiate preconstruction engineering and design. Fiscal Year 2001 funds will be used to continue preconstruction engineering and design. A completion date is being determined for preconstruction engineering and design.

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
b. Flood Control: (Cont'd)					
Middle Creek Sacramento District	750,000	0	0	160,000	590,000

The project area is located in Lake County, approximately 80 miles north of San Francisco, California. It is the main tributary into Clear Lake, the largest natural lake entirely within the borders of California. The Middle Creek Flood Control Project, constructed by the Corps between 1958 and 1968 included levee and channel improvements for flood protection for the town of Upper Lake and surrounding agricultural land. Channelization by the Corps and others, and the loss of the natural floodplain have resulted in the transport of substantial quantities of nutrient-rich sediment to Clear Lake degrading the water quality. Large acreage of riparian communities were removed; of approximately 9,000 acres of historic emergent wetlands, approximately 7,500 acres have been lost or severely damaged. Prior to channelization of Middle Creek, flows spread out over a wide floodplain upstream of Clear Lake. This area was a significant wetland that provided natural biologic values including waterfowl habitat, water quality through filtering and trapping of sediments, and natural flood attenuation. The Middle Creek/Clear Lake ecosystem currently has considerable value as wildlife habitat. Restored, however, this ecosystem could have significantly greater value. The Middle Creek study is evaluating alternatives to restore the natural functions of the Middle Creek/Clear Lake ecosystem. Restoration would contribute to the goals of the North American Waterfowl Management Plan. A feasibility report is scheduled for completion in February 2001. The project is not yet authorized for construction. Lake County Flood Control and Water Conservation District, the local sponsor, continues to express support for the project, understands the cost sharing requirements during preconstruction engineering and design and is prepared to execute a cost sharing agreement upon completion of the feasibility study. Preconstruction engineering and design will ultimately be cost shared at the rate for the project to be constructed but will be financed through the preconstruction engineering and design period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$1,000,000	Total Estimated Preconstruction Engineering and Design Costs	$1,000,000
Initial Federal Share	750,000	Ultimate Federal Share	650,000
Initial Non-Federal Share	250,000	Ultimate Non-Federal Share	350,000

The cost sharing for construction of the project will be 65 percent Federal and 35 percent non-Federal in accordance with Water Resources Development Act of 1996.

1666

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Control: Middle Creek (Cont'd)

Fiscal Year 2001 funds will be used to initiate preconstruction engineering and design. A completion date is being determined for preconstruction engineering and design.

Murrieta Creek Los Angeles District	1,500,000	0	0	300,000	1,200,000

The project area consists of a 220 square mile along Murrieta Creek within the overall 750 square mile Santa Margarita watershed basin in Riverside and San Diego Counties, California. Severe flooding in January 1993 caused $129.7 million (1999 price levels) in damages throughout the basin area. Much of this damage was in the downstream Camp Pendleton Marine Base. Damages in the cities of Murrieta and Temecula, included downtown flooding and extensive damages to public structures facilities, and infrastructure in addition to private property. As the basin area continues to develop, potential for even greater damages in the future exists. Additional flood damages occurred in 1994 and 1995. The feasibility report is scheduled for completion in August 2000. The recommended project is estimated to cost approximately $30 million with an estimated Federal cost of $19.5 million and an estimated non-Federal cost of $10.5 million. The benefit-cost ratio is 1.11 to 1 based upon the latest economic analysis dated September 1999. The Riverside County Flood Control and Water Conservation District, the local sponsor, expressed support for the project in April 1998 and understands project cost sharing requirements. Preconstruction engineering and design will ultimately be cost-shared at the rate for the project to be constructed, but will be financed through preconstruction engineering and design at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$2,000,000	Total Estimated Preconstruction Engineering and Design Costs	$2,000,000
Initial Federal Share	1,500,000	Ultimate Federal Share	1,300,000
Initial Non-Federal Share	500,000	Ultimate Non-Federal Share	700,000

The project is not yet authorized for construction. The cost sharing for construction of the project will be 65 percent Federal and 35 percent non-Federal in accordance with the Water Resources Development Act of 1996. Fiscal Year 2001 funds will be used to initiate preconstruction engineering and design. A completion date is being determined for preconstruction engineering and design.

1697

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
b. Flood Control: (Cont'd)					
Pajaro River at Watsonville San Francisco District	6,445,000	2,094,000	1,400,000	600,000	2,351,000

The project is located in the city of Watsonville and vicinity, about 100 miles south of San Francisco, California. The city of Watsonville has experienced continued flooding from the Pajaro River and from its tributaries, Corralitos and Salsipuedes Creeks. The construction of levees to provide a 50-year level of flood protection was completed by the Corps of Engineers in June 1949. Project improvements included about 11.8 miles of levee construction on Pajaro River and 2.4 miles on Corralitos Creek. The maximum flood of record, that of December 1955, would have caused an estimated $164 million damages to the Pajaro River under October 1999 prices and conditions of development. The recommended project, estimated to cost $14.4 million with an estimated Federal cost of $9.3 million and an estimated non-Federal cost of $5.1 million, includes construction of floodwalls and/or levees along Salsipuedes and Corralitos Creeks, which will provide a 47-year level of protection. Preconstruction engineering and design studies will also evaluate alternative plans that will provide 50-year flood protection to both urban and agricultural lands along the border of Santa Cruz and Monterey Counties. The average annual benefits amount to $2.5 million, all for flood control. The benefit-cost ratio is 3.4 to 1 based upon the latest economic analysis dated January 1998. The County of Santa Cruz, the local sponsor, expressed support for the project in March 1999 and understands project cost sharing requirements. Preconstruction engineering and design will ultimately be cost shared at the rate for the project to be constructed, but will be financed through the preconstruction engineering and design period at full Federal expense. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$6,445,000	Total Estimated Preconstruction Engineering and Design Cost	$6,445,000
Initial Federal Share	6,445,000	Ultimate Federal Share	4,190,000
Initial Non-Federal Share	0	Ultimate Non-Federal Share	2,255,000

The project is not yet authorized for construction. The cost sharing for construction of the project will be 65 percent Federal and 35 percent non-Federal in accordance with the Water Resources Development Act of 1996. Fiscal Year 2000 funds

1668

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
b. Flood Control: Pajaro River at Watsonville (Cont'd)					
are being used to continue preconstruction engineering and design. Fiscal Year 2001 funds will be used to continue preconstruction engineering and design. A completion date is being determined for preconstruction engineering and design.					
Pine Flat Dam, Fish and Wildlife Habitat Restoration Sacramento District	1,125,000	0	86,000	300,000	739,000

The project area includes the Kings River watershed located east of the city of Fresno in central California. The Kings River drains 1,542 square miles into the Tulare Lakebed via the Kings River South distributary and to the San Joaquin River via the Kings River North (Fresno Slough) distributary. Pine Flat Dam, constructed by the Corps of Engineers in 1954, is located on the Kings River 25 miles east of Fresno. It creates a reservoir with a capacity of 1,000,000 acre-feet for flood control, irrigation, and related purposes. Minimal mitigation features were included to offset significant losses of stream, riparian and upland habitats along the Kings River, and vast wetlands in the Tulare Lake Basin. Consequently, degradation of fish and wildlife habitats still remains. Significant agricultural and suburban developments have occurred in the area affected by the project. A major segment of the Kings River above Pine Flat has been designated a Special Management Area under the Wild and Scenic Rivers Act of 1968. This area is designated primarily for recreational use. It also provides for the preservation of fish and wildlife resources and of natural, scenic and archeological values. The feasibility study is evaluating improvements to habitat and water temperatures for fisheries in the Lower Kings River, and re-establishment of riparian habitat to benefit wildlife. A feasibility report is scheduled for completion in June 2000. The project is not yet authorized for construction. The King's River Conservation District, the local sponsor, which has continued to express support for the project, understands the cost sharing requirements during preconstruction engineering and design and is prepared to execute a cost sharing agreement upon completion of the feasibility study. Preconstruction engineering and design will ultimately be cost shared at the rate for the project to be constructed but will be financed through the preconstruction engineering and design period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

1699

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Control: Pine Flat Dam, Fish and Wildlife Habitat (Cont'd)

Total Estimated Preconstruction Engineering and Design Costs	$1,500,000	Total Estimated Preconstruction Engineering and Design Cost	$1,500,000
Initial Federal Share	1,125,000	Ultimate Federal Share	975,000
Initial Non-Federal Share	375,000	Ultimate Non-Federal Share	525,000

The cost sharing for construction of the project will be 65 percent Federal and 35 percent non-Federal in accordance with Water Resources Development Act of 1996.

Fiscal Year 2000 funds will be used to initiate preconstruction engineering and design. Fiscal Year 2001 funds will be used to continue preconstruction engineering and design. A completion date is being determined for preconstruction engineering and design.

Rancho Palos Verdes Los Angeles District	1,125,000	0	120,000	200,000	805,000

Rancho Palos Verdes is located approximately 20 miles south of Los Angeles, on the Pacific coast between Abalone Cove and Portuguese Bend. Palos Verdes Peninsula is on an active landslide which once moved about 42 feet in one year, causing extensive damage to private and public property improvements. Massive earth slides have occurred over the past 40 years. As a result, 140 homes were destroyed or displaced; mud and rock were deposited in the ocean along 0.8 miles of coastline; over 8.5 million square feet of pristine coastal zone environmental habitat were destroyed or disturbed. Sedimentation and turbidity from erosion of the seaward transport of landslide debris at the shoreline has buried adjacent marine habitat and turbidity has degraded other surrounding sensitive habitat areas including valuable kelp beds and other valuable rocky type of habitat conditions. The City of Rancho Palos Verdes requested Federal assistance to eliminate or reduce the turbidity along the coast. The feasibility report is scheduled for completion in May 2000. The recommended project, the construction of an offshore breakwater/dike, is estimated to cost $25 million with an estimated Federal cost of $16.2 million and an estimated non-Federal cost of $8.8 million. The recommended plan is expected to reduce sediment and turbidity problems and could restore or improve about 300 to 400 acres of pristine rocky habitat. The City of Rancho Palos Verdes, the local sponsor, expressed support for the project in February 1998 and understands project cost sharing requirements. Preconstruction engineering and design will ultimately be cost shared at the rate for the project to be constructed, but will be financed through the preconstruction engineering and design period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the b. Flood Control: Rancho Palos Verdes (Cont'd)

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$1,500,000	Total Estimated Preconstruction Engineering and Design Costs	$1,500,000
Initial Federal Share	1,125,000	Ultimate Federal Share	975,000
Initial Non-Federal Share	375,000	Ultimate Non-Federal Share	525,000

The project is not yet authorized for construction. The cost sharing for construction of the project will be 65 percent Federal and 35 percent non-Federal in accordance with the Water Resources Development Act of 1996. Fiscal Year 2000 funds are being used to initiate preconstruction engineering and design. Fiscal Year 2001 funds will be used to continue preconstruction engineering and design. A completion date is being determined for preconstruction engineering and design.

South Sacramento County Streams Sacramento District	3,750,000	949,000	430,000	200,000	2,171,000

The South Sacramento County Streams drainage basin is located in the southeastern portion of Sacramento County, California. The project area consists of the Morrison Creek Stream Group Basin, approximately 180 square miles in size. The basin includes Morrison, Elder, Unionhouse, Florin, and Laguna Creeks. Significant flooding occurred in 1952, 1955, 1962, 1963, 1967, 1969, 1973, 1982, 1986, 1995, and 1997. Approximately 27,000 homes and 14,000 other structures are within the 500-year floodplain with an estimated value of $5.7 billion. Levees along Morrison Creek and tributaries provide less than a 100-year level of flood protection. Significant development has occurred in the upper basin, in the Elk Grove area, which is increasing the runoff and potential for flooding. The feasibility study, completed in March 1998, addressed flooding on Morrison, Elder, Unionhouse and Laguna Creeks, and the Sacramento Regional Sewage Treatment Plant. Results of the feasibility study indicate the project would include a combination of channel and levee improvements and detention facilities. The project was authorized for construction in the Water Resources Development Act of 1999. The total estimated first cost, as authorized, is $65.5 million, with an estimated Federal cost of $41.2 million and an estimated non-Federal cost of $24.3 million; the total cost updated to current price level is $71.0 million, with an estimated Federal cost of $46.1 million and an estimated non-Federal cost of $24.9 million. Average annual benefits amount to $20.4 million for the total flood control project. The benefit-cost ratio is 3.9 to 1 at 6 7/8 percent based upon the latest economic analysis dated September 1998. The City and County of Sacramento, California Water Commission and the Sacramento Area Flood Control

1671

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Control: South Sacramento County Streams (Cont'd)

Agency expressed support for the project in March 1996. The Sacramento Area Flood Control Agency, the local sponsor, understands the cost sharing requirements during preconstruction engineering and design. The preconstruction engineering and design cost sharing agreement was executed in May 1998. Preconstruction engineering and design will ultimately be cost shared at the rate for the project to be constructed but will be financed through the preconstruction engineering and design period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$5,000,000	Total Estimated Preconstruction Engineering and Design	$5,000,000
Initial Federal Share	3,750,000	Ultimate Federal Share	3,250,000
Initial Non-Federal Share	1,250,000	Ultimate Non-Federal Share	1,750,000

The cost sharing for construction of the project will be 65 percent Federal and 35 percent non-Federal in accordance with the Water Resources Development Act of 1996.

Fiscal Year 2000 funds will be used to continue preconstruction engineering and design. Fiscal Year 2001 funds will be used to continue preconstruction engineering and design. A completion date is being determined for preconstruction engineering and design.

Stockton Metropolitan Area (Farmington Dam) Sacramento District	750,000	0	0	150,000	600,000

The project area includes the Stockton Metropolitan Area and surrounding rural areas in San Joaquin and Stanislaus Counties. Stockton is approximately 40 miles south of Sacramento and 85 miles east of San Francisco, California. Farmington Dam is located approximately 20 miles east of Stockton on South Fork Littlejohns Creek. The dam was constructed in 1951 and is currently operated by the Corps of Engineers exclusively for flood control. The watershed includes the Littlejohns Creek, Shirley Creek, Hoods Creek, and Rock Creek systems and provides drainage for approximately 212 square-miles. Groundwater is the primary water source for San Joaquin County. Approximately 730,000 acre-feet of water is being pumped from the ground-water aquifer annually. The safe-yield of the ground-water basin is about 618,000 acre-feet annually. As a result, ground-water levels have dropped as much as 100 feet over the past 40 years and saline intrusion from the San

1672

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Control: Stockton Metropolitan Area (Farmington Dam) (Cont'd)

Joaquin/Sacramento Delta worsens. If this overdrafting continues, the multi-billion dollar agricultural economy in San Joaquin County could suffer serious impacts. Section 411 of the Water Resources Development Act of 1996 directed the Corps of Engineers to complete a conjunctive-use study under the San Joaquin River Basin, Stockton Metropolitan Area reconnaissance study. The conjunctive-use study was completed in December 1997. Feasibility phase studies are based on the findings of the conjunctive-use study. The feasibility study is investigating direct groundwater recharge, restoration of seasonal wetlands, and improvement of flood control in the Farmington Area. A feasibility report is scheduled for completion in May 2001. The project is not yet authorized for construction. The Stockton East Water District, the local sponsor, continues to express support for the project, understands the cost sharing requirements during preconstruction engineering and design and is prepared to execute a cost sharing agreement upon completion of the feasibility study. Preconstruction engineering and design will ultimately be cost shared at the rate for the project to be constructed but will be financed through the preconstruction engineering and design period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$1,000,000	Total Estimated Preconstruction Engineering and Design Costs	$1,000,000
Initial Federal Share	750,000	Ultimate Federal Share	650,000
Initial Non-Federal Share	250,000	Ultimate Non-Federal Share	350,000

The cost sharing for construction of the project will be 65 percent Federal and 35 percent non-Federal in accordance with Water Resources Development Act of 1996.

Fiscal Year 2001 funds will be used to initiate preconstruction engineering and design. A completion date is being determined for preconstruction engineering and design.

Tule River Sacramento District	1,125,000	30,000	150,000	400,000	545,000

The project area is located within the 12,500 square mile Tulare Lake Basin and located in the southeastern portion of the San Joaquin Valley about 60 miles north of the city of Bakersfield, California. Tule River drains about 390 square miles into Success Lake and flows from the lake onto the valley through the city of Porterville (population 37,000) located 5

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Control: Tule River (Cont'd)

miles downstream and continues another 25 miles westerly through rich agricultural areas, culminating in Tulare Lakebed. Success Lake currently provides 55-year flood control protection to the city of Porterville and irrigation water supply. In December 1966, floodflows caused Success Lake to completely fill and excess floodflows passed over the spillway inundating about 24,800 acres downstream and about 1,500 acres above the dam, resulting in flood damages of about $1.5 million to agricultural, industrial, utilities, and public facilities. At 1998 price levels, flood damages of about $7.6 million would have occurred in the area. In 1983 the lake again filled and excess floodflows caused damages of about $360,000 along Tule River. Flood damages further downstream in the Tulare Lakebed were extremely severe and widespread and damages attributed to the Tule River were nearly $7.5 million. During this flood local interests pumped flood releases into the Friant-Kern Canal to disperse the water through the Kern River-California Aqueduct Intertie. Had this action not occurred, Tulare Lakebed damages would have been greater. The feasibility report was completed in September 1999. The project, estimated to cost $21.0 million with an estimated Federal cost of $14.0 million and an estimated non-Federal cost of $7.0 million, includes raising the gross pool elevation of Success Lake for flood control and irrigation water supply by raising the spillway 10 feet and widening the spillway from the existing 200 feet to 365 feet. The average annual benefits amount to $2,058,000 ($1,843,000 for flood control, $125,000 for irrigation water supply, $53,000 for incidental hydropower, $65,000 for employment benefits, partially offset by a reduction of $28,000 in recreation). The benefit-cost ratio is 1.18 to 1 at 6 7/8 percent based upon the latest economic analysis dated September 1999. The State of California Reclamation Board (Flood Control Sponsor) and the Tule River Association (Agricultural Water Supply Sponsor) expressed support for the project in May 1999 and July 1999 respectively, understands the cost sharing requirements during preconstruction engineering and design and are now prepared to execute a cost sharing agreement upon completion of final negotiations. Preconstruction engineering and design will ultimately be cost shared at the rate for the project to be constructed, but will be financed through preconstruction engineering and design period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$1,500,000	Total Estimated Preconstruction Engineering and Design Costs	$1,500,000
Initial Federal Share	1,125,000	Ultimate Federal Share	975,000
Initial Non-Federal Share	375,000	Ultimate Non-Federal Share	525,000

The project was authorized for construction by the Water Resources Development Act of 1999. The cost sharing for construction of the project will be 65 percent Federal and 35 percent non-Federal in accordance with the Water Resources

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Control: Tule River (Cont'd)

Development Act of 1996.

Fiscal Year 2000 funds are being used to initiate preconstruction engineering and design. Fiscal Year 2001 funds will be used to continue preconstruction engineering and design. A completion date is being determined for preconstruction engineering and design.

Upper Guadalupe River San Francisco District	3,075,000	283,000	1,258,000	500,000	1,034,000

The project area is located along the Upper Guadalupe River, in the city of San Jose, Santa Clara County, California. The reach of river proposed for improvement begins 1,800 feet upstream of the Southern Pacific Railroad, crossing at the edge of downtown San Jose and extends south for about 5.0 miles to Blossom Hill Road. The Guadalupe River, extending from the community of Alviso at the river's mouth upstream for about 21 miles, is one of the major drainage areas in Santa Clara Valley. The maximum flood of record, that of December 1958, would have caused an estimated $90.9 million in damages to the Upper Guadalupe River under October 1999 prices and conditions of development. A feasibility report was completed in January 1998. The recommended project, estimated to cost $140 million, with an estimated Federal cost of $43 million and an estimated non-Federal cost of $97 million, includes channel widening, a bypass channel and construction of levees and floodwalls. The average annual benefits amount to $26.6 million, all for flood control. The benefit-cost ratio is 2.1 to 1 based upon the latest economic analysis dated March 1999. The Santa Clara Valley Water District, the local sponsor, understands project cost sharing requirements. A preconstruction engineering and design cost sharing agreement was signed in February 1999. Preconstruction engineering and design will ultimately be cost shared at the rate for the project to be constructed but will be financed through the preconstruction engineering and design period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$4,100,000	Total Estimated Preconstruction Engineering and Design Costs	$4,100,000
Initial Federal Share	3,075,000	Ultimate Federal Share	2,050,000
Initial non-Federal Share	1,025,000	Ultimate non-Federal Share	2,050,000

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Control: Upper Guadalupe River (Cont'd)

This project was authorized for construction in Water Resources and Development Act, 1999. Fiscal Year 2000 funds are being used to continue preconstruction engineering and design. Fiscal Year 2001 funds will be used to continue preconstruction engineering and design. A completion date is being determined for preconstruction engineering and design.

Yuba River Basin Sacramento District	1,350,000	50,000	150,000	400,000	750,000

The project area is located between the Feather and American River Basins in northern California, primarily in Sutter and Yuba Counties approximately 50 miles north of Sacramento. The principal urban centers within the project area include Marysville and Yuba City with current population of 12,300 and 35,100, respectively. The Marysville and Yuba City area has experienced major floods which include the floods of November 1950, December 1955 and December 1964/January 1965 which were the most widespread and destructive. Record floodflows occurred with the 1955 flood, and resulted in the loss of 37 lives when a levee on the Feather River south of Yuba City failed. Modifications to flood protection facilities in the intervening 10 years, including partial completion of the State's Oroville Dam project, helped to prevent damage during the 1964-65 flood that may well have exceeded that caused by the 1955 flood event. About 100,000 acres of land were inundated in 1955. Despite existing flood protection to the area, it is still vulnerable to catastrophic flooding as demonstrated by the flood in February 1986. During the February 1986 flood, the south levee on the Yuba River failed, inundating the towns of Linda and Olivehurst to depths of about 10 feet. Over 24,000 people were evacuated and damages were estimated at $95 million. During the recent floods of January 1997, a levee break occurred on the Feather River. The levee was stabilized using emergency construction authority, but not before twenty square miles of land were inundated including the Yuba City airport, roughly 800 homes, and two major highways, 65 and 70. About 15,000 people were evacuated and three lives were lost. Total damage was estimated at $82.4 million. The feasibility study was completed in April 1998. The project was authorized for construction in the Water Resources Development Act of 1999. The total estimated first cost, as authorized, is $26.6 million, with an estimated Federal cost of $17.35 million and an estimated non-Federal cost of $9.25 million; the total cost updated to current price level is $29.9 million, with an estimated Federal cost of $22.2 million and an estimated non-Federal cost of $7.7 million. The authrozied project will include levee improvements, installation of slurry walls, constructing landside berms, toe drains, and levee raising along the Yuba and Feather Rivers. The average annual benefits amount to $5,379,000, all for flood control. The benefit-cost ratio is 2.6 to 1 at 6 7/8 percent based upon the latest economic analysis dated April 1998. The California Reclamation Board, the local sponsor, which has continued to express support for proceeding with the 200-year plan, understands the cost sharing requirements during preconstruction engineering and design, and is prepared to execute a cost sharing agreement scheduled for February 2000. Preconstruction engineering

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Control: Yuba River Basin (Cont'd)

and design will ultimately be cost shared at the rate for the project to be constructed but will be financed through the preconstruction engineering and design period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$1,800,000	Total Estimated Preconstruction Engineering and Design Costs	$1,800,000
Initial Federal Share	1,350,000	Ultimate Federal Share	1,170,000
Initial Non-Federal Share	450,000	Ultimate Non-Federal Share	630,000

The cost sharing for construction of the project will be 65 percent Federal and 35 percent non-Federal in accordance with the Water Resources Development Act of 1996.

Fiscal Year 2000 funds will be used to initiate the preconstruction engineering and design phase. Fiscal Year 2001 funds will be used to continue preconstruction engineering and design. A completion date is being determined for preconstruction engineering and design.

Nevada

Truckee Meadows Sacramento District	7,388,000	5,688,000	498,000	500,000	702,000

The Truckee River basin drains an area of 1,067 square miles in eastern California and western Nevada and empties into Pyramid Lake. The Truckee River flood plain encompasses about 8,900 acres of mostly urban development along both banks of the Truckee River. The maximum flood of record, that of January 1997, caused about $500 million in damages. A feasibility report was completed in February 1985. The project as authorized for construction by the Water Resources Development Act of 1988, includes construction of floodwalls, levees and bridge replacements to provide flood protection to 4,880 acres in Truckee Meadows. Fish and wildlife mitigation and recreation facilities are also included. The total estimated first cost as currently authorized and updated to current price level is $78.4 million with an estimated Federal cost of $39.20 million and an estimated non-Federal cost of $39.20 million. Preconstruction engineering and design studies were initiated in Fiscal Year 1988, but were later deferred due to the lack of economic feasibility. In March 1994, the Washoe County Board of Commissioners requested the Corps to reevaluate the project economics for changed conditions. A reconnaissance study,

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $

b. Flood Control: Truckee Meadows (Cont'd)

completed in August 1997, indicates that an economically feasible plan exists and is substantially similar to the authorized project. Resumption of preconstruction engineering and design was initiated in March 1998. A General Reevaluation Report is being prepared to verify the project plan and evaluate updated costs and benefits. Preconstruction engineering and design will ultimately be cost shared at the rate required for construction, but will be financed through the preconstruction engineering and design period at full Federal expense. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$7,388,000	Total Estimated Preconstruction Engineering and Design Costs	$7,388,000
Initial Federal Share	7,388,000	Ultimate Federal Share	3,694,000
Initial Non-Federal Share	0	Ultimate Non-Federal Share	3,694,000

Fiscal Year 2000 funds are being used to continue preconstruction engineering and design. Fiscal Year 2001 funds will be used to continue preconstruction engineering and design. A completion date is being determined for preconstruction engineering and design.

TOTAL FLOOD CONTROL	74,365,000	24,170,000	9,246,000	9,292,000	31,657,000

c. Shoreline Protection: None

d. Multiple Purpose Power: None

TOTAL PRECONSTRUCTION ENGINEERING AND DESIGN ACTIVITIES, CONTINUING	75,865,000	24,170,000	9,366,000	10,017,000	32,312,000
TOTAL PRECONSTRUCTION ENGINEERING AND DESIGN ACTIVITIES	75,865,000	24,170,000	9,366,000	10,017,000	32,312,000

1678

APPROPRIATION TITLE: General Investigations, Fiscal Year 2001 SOUTH PACIFIC DIVISION

Study	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional to Complete After FY 2001 $
GRAND TOTAL - SURVEYS AND PRECONSTRUCTION ENGINEERINGAND DESIGN ACTIVITIES	176,781,000	49,953,000	19,854,000	22,500,000	84,474,000

1679

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: American River Watershed, California (Folsom Dam Modifications) (New)

LOCATION: Folsom Dam and Reservoir, located on the American River, is about 29 miles upstream of the City of Sacramento, California. The American River watershed drains about 2,100 square miles northeast of Sacramento and includes portions of Placer, El Dorado, and Sacramento Counties. Runoff from this basin flows through Folsom Reservoir and passes through Sacramento to the confluence with the Sacramento River.

DESCRIPTION: The existing Folsom Dam has an objective release of 115,000 cubic feet per second (cfs) during flood operations. However, the existing eight outlets limit releases to about 36,000 cfs until approximately one half of the reservoir's flood control space is filled. At this level, the pool elevation is sufficient for spillways to release the full 115,000 cfs. The project will modify the existing outlets to allow releases of roughly 115,000 cfs much earlier. The authorized project features consist of (1) constructing five new river outlets; (2) enlarging the eight existing river outlets; (3) constructing a stilling basin downstream from the emergency spillway; and (4) modifying the dikes and wing dam at Folsom Dam to normalize the use of surcharge storage.

AUTHORIZATION: Water Resources Development Act of 1999.

REMAINING BENEFIT-REMAINING COST RATIO: 3.4 to 1 at 6-7/8 percent.

TOTAL BENEFIT-COST RATIO: 3.4 to 1 at 6-7/8 percent.

BASIS OF BENEFIT-COST RATIO: Benefits are from the American River Watershed Information Paper dated August 1999, based on the Supplemental Information Report approved June 1996 at 1995 price levels. (See OTHER INFORMATION)

SUMMARIZED FINANCIAL DATA			STATUS (1 JAN 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$ 97,500,000	Entire Project	Not Started	Being Determined
Estimated Non-Federal Cost		52,500,000			
Cash Contribution	52,500,000				
Other Costs	0				
Total Estimated Project Cost		150,000,000			

SUMMARIZED FINANCIAL DATA (Continued):

			ACCUM PCT OF EST FED COST
Allocations to 30 September 1999	$ 0		
Conference Allowance for FY 2000	0		
Allocation for FY 2000	2,400,000	1/	
Allocations through FY 2000	2,400,000		2
Allocation Requested for FY 2001	5,000,000		8
Programmed Balance to Complete after FY 2001	90,100,000		
Unprogrammed Balance to Complete after FY 2001	0		

PHYSICAL DATA

Install five new river outlets
Enlarge eight existing river outlets
Construct new stilling basin
Increase surcharge space by additional 24,000 acre-feet

1/ Reflects partial funding within American River Watershed preconstruction, engineering and design.

JUSTIFICATION: Folsom Dam and Reservoir is a key feature in the flood control system protecting Sacramento. Folsom Reservoir has a capacity of 975,000 acre-feet, which includes a minimum of 400,000 acre-feet of space seasonally dedicated to flood control. Currently, Folsom Reservoir is being reoperated to provide additional flood space in some years under an agreement between the United States Bureau of Reclamation and the Sacramento Area Flood Control Agency. The objective release from Folsom Reservoir to the lower American River is 115,000 cfs. The levees along the American River downstream from Folsom Dam are likely to fail at various locations when sustained flows reach between 130,000 cfs and 160,000 cfs. Levee failure along the lower American River could result in flooding of more than 100,000 acres, affecting approximately 410,000 residents. Damages would range from $7 billion to $16 billion depending on the magnitude of the event. The February 1986 storms filled Folsom Lake and necessitated record releases in excess of design flows downstream. Because of the significant threat, 500 people were put on levee watch as these record flows passed through the city of Sacramento. Due to the 1986 storms, an extensive flood fighting effort was made by the Corps of Engineers at a cost of $3 million and an additional $10 million was required for post flood repair work. The storms of January 1997 again filled Folsom Lake and releases reached design flows. A levee watch was issued as lower American River levees were significantly stressed. The project would provide additional flood protection to Sacramento, increasing from a 90-yeal level of protection to about a 140-year level of protection. Average annual benefits amount to $51,000,000, all flood control.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate Construction for New Outlets	$ 1,400,000
Planning, Engineering, and Design	3,500,000
Construction Management	100,000
Total	$ 5,000,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Acts of 1986 and 1999, the non-Federal sponsor must comply with the requirements listed below:

	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Requirements of Local Cooperation		
Provide Lands, easements, rights-of-way, and borrow and excavated or dredged material disposal areas.	$ 0	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities where necessary for the construction of the project.	0	
Pay 35 percent of the costs allocated to flood control, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	52,500,000	$ 29,000
Total Non-Federal Costs	$ 52,500,000	$ 29,000

The non-Federal sponsor has agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The California State Reclamation Board is the non-Federal sponsor. The Sacramento Area Flood Control Agency is the sub-sponsor to the Reclamation Board. The Project Cooperation Agreement is scheduled to be executed in May 2001.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $97,500,000 is the initial estimate presented to Congress for appropriations.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: A Supplemental Environmental Impact Statement/Environmental Impact Report (EIS/EIR) was completed and published in the Supplemental Information Report for American River Watershed Project dated March 1996 (SIR). Additional environmental documentation will be completed prior to initiating construction.

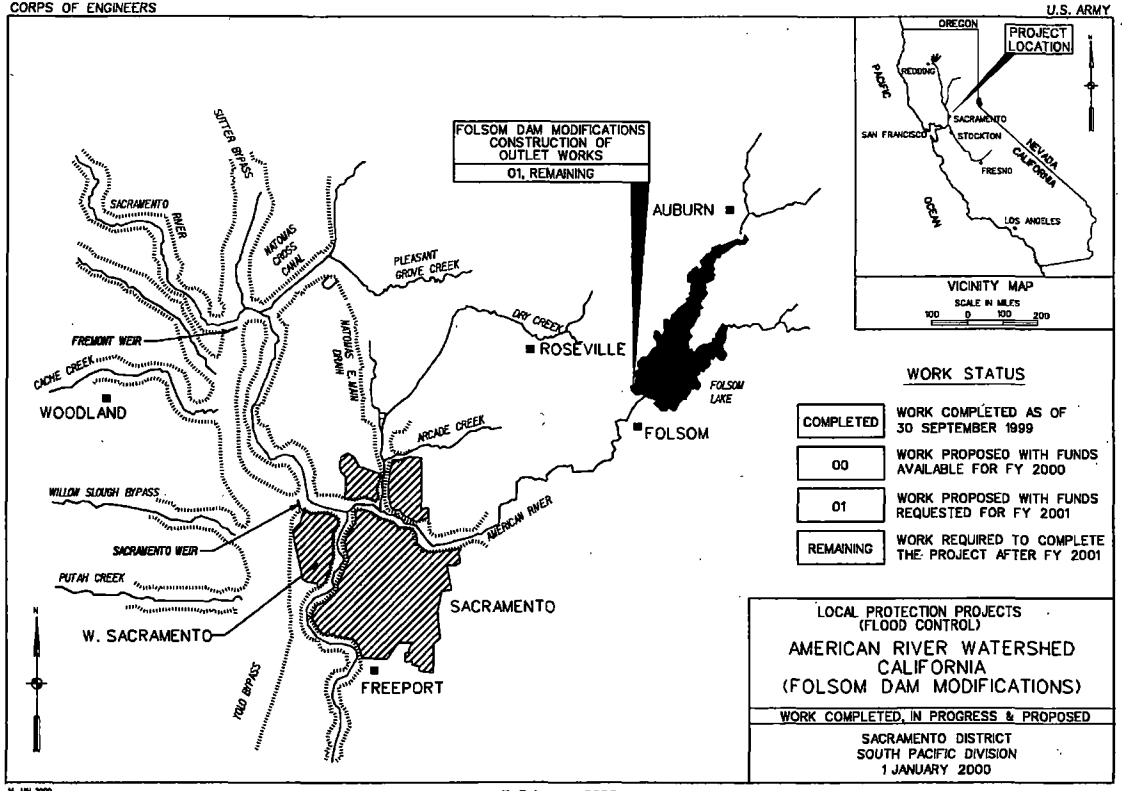
OTHER INFORMATION: Funds used to initiate preconstruction engineering and design of the Folsom Modifications were allocated in Fiscal Year 2000 under the American River Watershed Project, California.

The American River Watershed Feasibility Report was completed in December 1991 and the Supplemental Information Report was completed in March 1996. The Supplemental Information Report identified three candidate plans which would help reduce the flood risk facing Sacramento: modifying Folsom Dam and increasing the dedicated flood space; modifying Folsom Dam and the downstream system to allow increased objective releases; and constructing a detention dam upstream of Folsom Dam. In June 1996, the Chief of Engineers deferred a decision on a comprehensive flood control plan, but recommended that features common to all three plans be authorized as the first component of a comprehensive plan. These elements are being constructed within the American River Watershed (Common Features) Project.

The Sacramento Area Flood Control Agency (SAFCA) prepared the Folsom Dam Modification Report New Outlets Plan dated March 1998 (SAFCA Outlet Report), which identified some proposed changes to the Folsom Modification Plan described in the 1996 Supplemental Information Report. The 1996 Supplemental Information Report as modified by SAFCA Outlet Report was the basis for the project authorized under the Water Resources Development Act of 1999.

CORPS OF ENGINEERS

U.S. ARMY



7 February 2000

1684

APPROPRIATION TITLE: Construction, General - Environmental Mitigation, Restoration, and Protection

PROJECT: Rio Salado, Phoenix and Tempe Reaches, Arizona (New)

LOCATION: The project area consists of two reaches, Phoenix Reach and Tempe Reach. Phoenix Reach is located approximately 5 miles along the Salt River in the city of Phoenix, Maricopa County Arizona. Tempe Reach is located along 1.3 miles on Indian Bend Wash, from McKellips Road bridge downstream to the confluence with the Salt River, 0.5 mile of the Salt River, from McClintock Road to the upstream dam for the Tempe Town Lake, and 0.5 mile downstream to Priest Drive in the city of Tempe, Maricopa County, Arizona.

DESCRIPTION: Phoenix Reach is subdivided into three phases and consists of the construction of a low-flow channel in the river bottom of the Rio Salado River. Phase I is from 19th Avenue to Central Avenue, Phase II is from Central Avenue to 16th Street, and Phase III is from 16th Street to Interstate 10. The project consists of the establishment of riparian and Sonoran desert habitat restoration, acceptable surface and groundwater quality improvements, and incidental recreational opportunities. Recreation development consists of parking lots, restroom facilities, and approximately ten miles of trails.

Tempe Reach consists of riparian, Sonoran desert and aquatic habitat restoration, water supply and distribution system to support the habitat, and limited recreational features. The project will restore valuable and scarce native plan communities including mesquite, cottonwood-willow and aquatic habitat such as wetland marsh. Incidental recreation consists of ramadas, an overlook station, a parking lot, restroom facilities, and trails.

AUTHORIZATION: Water Resources Development Act of 1999.

REMAINING BENEFIT - REMAINING COST RATIO: Not applicable.

TOTAL BENEFIT-COST RATIO: Not applicable.

BASIS OF BENEFIT-COST RATIO: Benefits are evaluated in items of habitat units, not dollars for environmental restoration projects. Benefits were approved in the Report of the Chief of Engineers dated August 20, 1998.

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS (1 JAN 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION
Phoenix Reach:						
Estimated Federal Cost		$ 57,100,000		Phoenix Reach	Not Started	Being Determined
Estimated Non-Federal Cost		32,100,000		Tempe Reach	Not Started	Being Determined
Cash Contributions	3,975,000					
Other Costs	28,125,000			Entire Project	Not Started	Being Determined
Total Phoenix Reach		$ 89,200,000				
Tempe Reach:						
Estimated Federal Cost		$ 4,530,000				
Estimated Non-Federal Cost		2,600,000				
Cash Contributions	1,100,000					
Other Costs	1,500,000					
Total Tempe Reach		$ 7,130,000				
PROJECT SUMMARY:						
Estimated Federal Cost		$ 61,630,000				
Estimated Non-Federal Cost		34,700,000				
Cash Contributions	5,075,000					
Other Costs	29,625,000					
Total Estimated Project Cost		$ 96,330,000				
Allocations to 30 September 1999		$ 2,329,000				
Conference Allowance for FY 2000		1,778,000				
Allocation for FY 2000		1,628,000	1/			
Allocations through FY 2000		3,957,000	6			
Allocation Requested for FY 2001		2,000,000	10			
Programmed Balance to Complete after FY 2001		55,673,000				
Unprogrammed Balance to Complete after FY 2001		0				

1/ Reflects $249,000 reduction assigned as savings and slippage, and $99,000 reprogrammed to the project within Preconstruction Engineering and Design

Phoenix Reach

Environmental Habitat	
Low-Flow Channel	
Wetland marsh	9 acres
Aquatic strand	51 acres
Open edges	70 acres
Bench/Bank	
Mesquite	110 acres
Cottonwood/willow habitat	79 acres
Wetland marsh	49 acres
Open edges	57 acres
Other (Infrastructure)	15 acres
Overbank	
Mesquite	20 acres
Cottonwood/willow habitat	20 acres
Open edges	10 acres
Other (Infrastructure)	10 acres
Access Areas	
Open edges	50 acres

Recreation Development	
Ramadas	5
Parking lots	3
Restroom facilities	2
Gardens	4
Hiking trails	10 miles

Low Flow Channel	
Length:	5 miles
Base Width:	200 feet
Depth:	6-10 feet
Drop Structures	3
Water Wells:	approx 200 feet deep
Dike Groins	approx 42

Distribution System	
Piping	5 miles
Ponds	approx 12

Tempe Reach

Environmental Habitat	
Indian Bend Wash	
Open edges	10 acres
Mesquite	20 acres
Aquatic Strand	50 acres
Salt River	
Mesquite	10 acres
Cottonwood/willow habitat	20 acres
Wetland marsh	16 acres
Open edges	34 acres
Recreational Development	
Ramadas	5
Parking lot	1
Overlook structure	1
Restroom facilities	1
Hiking trails	3 miles

Indian Bend Wash	
Low Flow Channel	
Length:	2.5 miles
Base Width:	10-20 feet
Depth:	3-8 feet
Water Well:	approx 50 feet deep
Distribution system	
Upstream	2.5 miles
Downstream	2.5 miles

1687

JUSTIFICATION: Rio Salado has experienced degradation of wetlands and riparian vegetation within the existing flood control channel which is located in an arid, urban environment. The population growth in Maricopa County has increased the demands for water supply, water quality, environmental quality, water-related recreation and flood protection. Riparian habitat is rapidly disappearing throughout the desert regions of the American Southwest. Approximately 90 percent of all wildlife species in Arizona depend on riparian habitat for their survival. Federal dams constructed in the early 1900's in the upper Salt and Verde Rivers have limited flows in the lower Salt River through the Phoenix Metropolitan area including Tempe. All historical riparian habitat has been severely impacted. Today, only sporadic vegetation exists in the Salt River. Open bodies of water that once supported waterfowl and migratory species have disappeared. Urbanization and construction of the Indian Bend Wash flood control project have eliminated high value riparian mesquite bosque communities. Opportunities exist to restore portions of the Indian Bend Wash by reestablishing riparian habitat. Riparian habitat is important as a source of food and cover for wildlife, as a shade source for smaller streams to help keep water temperatures low, as a natural bank stabilizer by preventing excessive erosion, and as natural filtering system to improve water quality. The recommended plan provides an increase of approximately 262 habitat units in the Phoenix area and 76 habitat units in the Tempe area.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Phoenix Reach:	
Initiate construction on Phase I	$ 1,200,000
Planning, Engineering and Design	225,000
Construction Management	75,000
Tempe Reach:	
Initiate construction on water bypass system	413,000
Planning, Engineering and Design	62,000
Construction Management	25,000
Total	$ 2,000,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsors must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction And Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation & Replacement Costs
Phoenix Reach:		
Provide lands, easements, and rights-of-way.	$4,148,000	
Pay 32 percent of the costs allocated to environmental restoration to bring the total non-Federal share of environmental restoration costs to 35 percent as reduced for credit allowed based on prior work, currently estimated at $23,977,000, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of environmental restoration facilities.	25,102,000	1,898,000
Pay 1/2 of separable costs allocated to recreation and bear all costs of operation maintenance, repair, rehabilitation and replacement of recreation facilities.	2,850,000	1,113,000
Total Phoenix Reach	$ 32,100,000	$3,011,000
Tempe Reach:		
Pay 35 percent of the costs allocated to environmental restoration as reduced for credit allowed based on prior work, currently estimated at $1,500,000, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of environmental restoration facilities.	2,230,000	244,000
Pay 1/2 of separable costs allocated to recreation and bear all costs of operation maintenance, repair, rehabilitation & replacement of recreation facilities.	$ 370,000	156,000
Total Tempe Reach	$ 2,600,000	$400,000
Total Non-Federal Costs	$ 34,700,000	$3,411,000

The Non-Federal sponsors have also agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The cities of Phoenix and Tempe are the local sponsors. The city of Phoenix and city of Tempe reaffirmed their support of the project by letters dated February 24, 1998 and March 4, 1998 respectively. The Project Cooperation Agreements for the Phoenix Reach and Tempe Reach are scheduled for execution in November 2000 and March 2001 respectively.

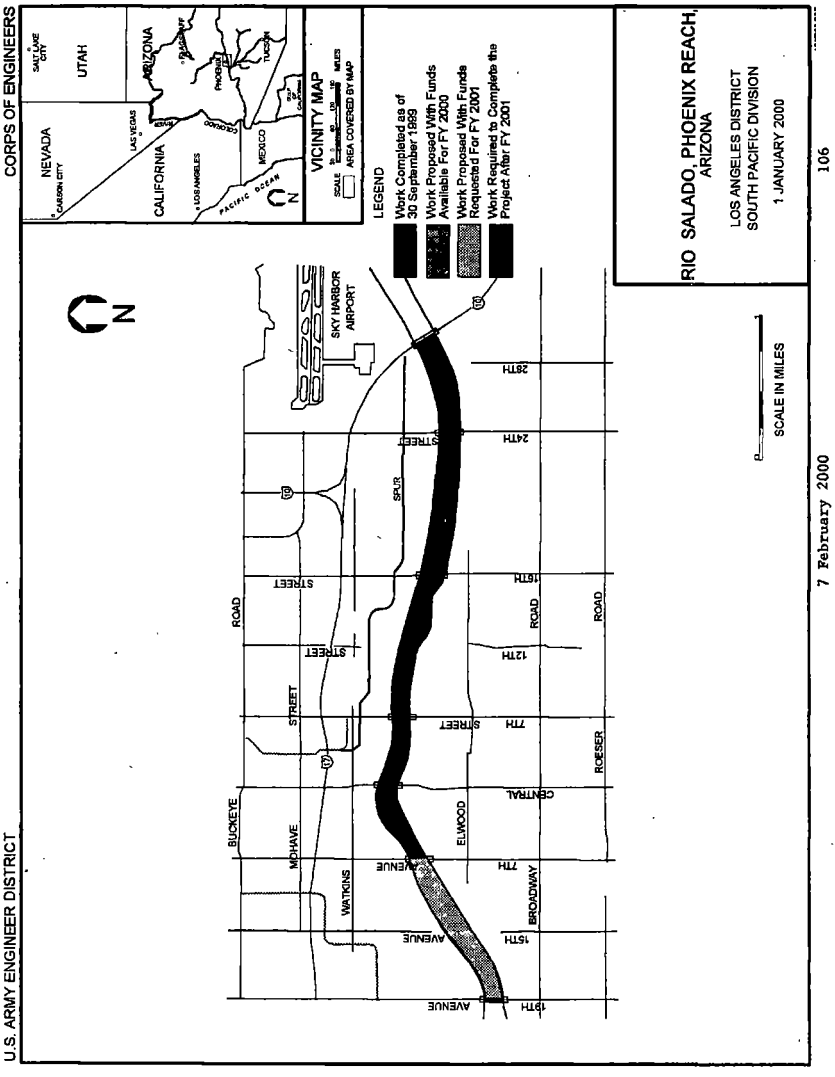
The current non-Federal cost estimate of $34,700,000, which includes a cash contribution, may be offset by a partial credit ($23,977,000 for the Phoenix Reach, $1,500,000 for the Tempe Reach) allowed for locally-constructed work (low flow channel with drop structures, plant materials, and lake bypass system) approved by the Chief of Engineers Report dated August 20, 1998. In 1998, the non-Federal sponsors indicated that they are financially capable and willing to contribute the non-Federal share. Our analysis of the non-Federal sponsors' financial capability to participate in the project affirms that the sponsors have a reasonable and implementable plan for meeting their financial commitment.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $61,630,000 is the initial estimate presented to Congress for appropriation.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Environmental Impact Statement was included in the Feasibility Report and Environmental Impact Statement for Rio Salado, Salt River, Arizona, dated April 1998. The Environmental Impact Statement was filed with Environmental Protection Agency in May 1998. A Section 404(b)(1) evaluation will be accomplished prior to construction. The project is in compliance with the Arizona Environmental Quality Act.

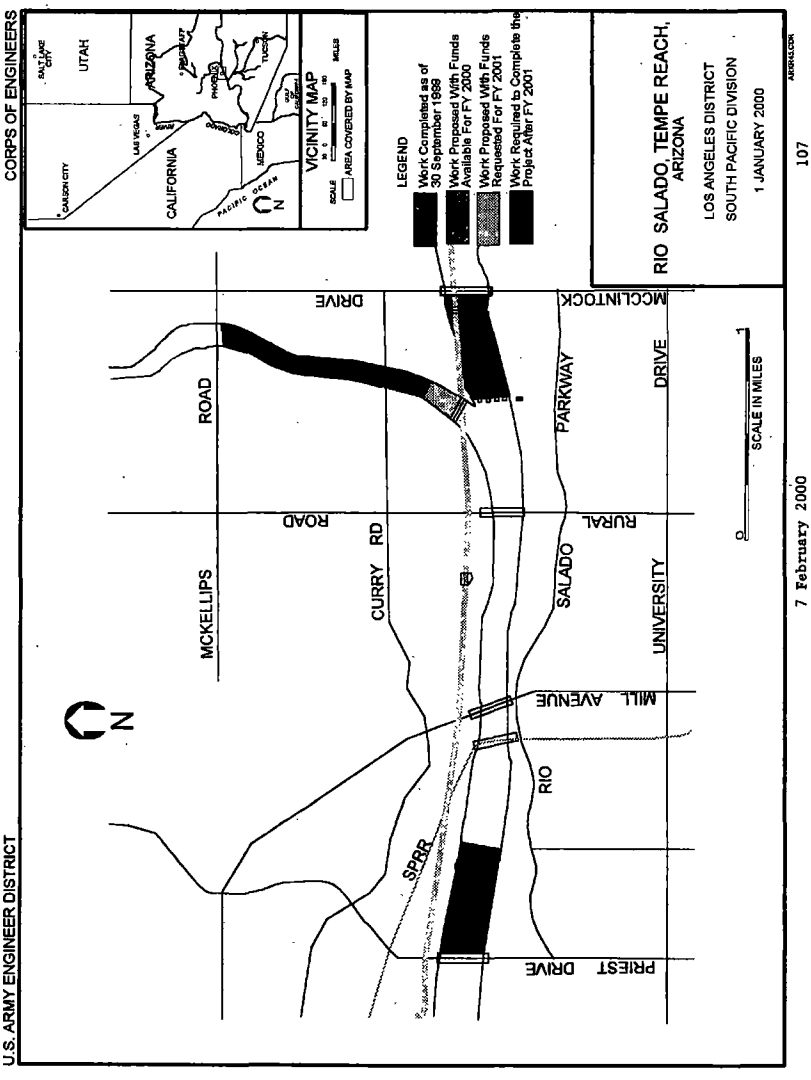
OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in Fiscal Year 1998.

1690



7 February 2000

106


CORPS OF ENGINEERS
U.S. ARMY ENGINEER DISTRICT
VICINITY MAP
AREA COVERED BY MAP
LEGEND
Work Completed as of 30 September 1999
Work Proposed With Funds Available For FY 2000
Work Proposed With Funds Requested For FY 2001
Work Required to Complete the Project After FY 2001
RIO SALADO, TEMPE REACH, ARIZONA
LOS ANGELES DISTRICT
SOUTH PACIFIC DIVISION
1 JANUARY 2000
SCALE IN MILES
7 February 2000
107
MCKELLIPS ROAD
CURRY RD
SALADO
UNIVERSITY
RIO
SPRR
MILL AVENUE
PRIEST DRIVE
MCCLINTOCK DRIVE
PARKWAY
RURAL ROAD

APPROPRIATION TITLE: Construction, General - Navigation (Channels and Harbors)

PROJECT: Santa Barbara Harbor, California (Continuing)

LOCATION: Santa Barbara Harbor is located on the coast of southern California in Santa Barbara County, 90 miles northwest of Los Angeles and 350 miles southeast of San Francisco, within the city limits of Santa Barbara.

DESCRIPTION: The plan of improvement includes the acquisition of a dredge which would be permanently located at the harbor. The dredge would be operated and maintained by the city of Santa Barbara.

AUTHORIZATION: Water Resources Development Act of 1996.

REMAINING BENEFIT - REMAINING COST RATIO: 1.05 to 1 at 7-1/8 percent.

TOTAL BENEFIT-COST RATIO: 1.03 to 1 at 7-1/8 percent.

BASIS OF BENEFIT-COST RATIO: Benefits are from the Limited Reevaluation Report (LRR) approved 21 January 1998 at August 1997 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS (1 JAN 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$5,450,000		Entire Project	Not Started	Being determined
Estimated Non-Federal Cost		1,350,000				
Cash Contributions	$1,261,000					
Other Cost	89,000					
Total Estimated Project Cost		$6,800,000				
Allocations to 30 September 1999		$ 400,000				
Conference Allowance for FY 2000		4,500,000				
Allocation for FY 2000		50,000	1/			
Allocations through FY 2000		450,000				
Allocation Requested for FY 2001		5,000,000	100			
Programmed Balance to Complete after FY 2001		0				
Unprogrammed Balance to Complete after FY 2001		0				

PHYSICAL DATA

Purchase Dredge

1/ Reflects $641,000 reduction assigned as savings and slippage, and $3,809,000 reprogrammed from project.

1693

JUSTIFICATION: Santa Barbara Harbor has limited protection against southeast storms, and fishing vessels are frequently driven ashore with resultant total loss or extensive damages. The rapid shoaling in the harbor entrance has severely restricted navigation through the harbor, especially during winter months. Based on the total wholesale value of $375 million for commercial fishing tonnage from 1986 through 1996 and the median annual fish catch valued at $32 million, a lost fishing day would average $107,000. The 1982-1983 winter storm closed the harbor for about 50 days. A loss of 50 days currently could result in commercial fishing losses of $5.51 million at 1999 price levels. In addition, substantial maintenance costs are incurred by the Federal government to clear the harbor entrance after storm events. Average annual benefits, all navigation, are $1,314,000, at August 1997 price levels.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Purchase of Dredge	$4,777,000
Planning, Engineering and Design	171,000
Construction Management	52,000
Total	$5,000,000

NON-FEDERAL COST: In accordance with the cost-sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Repair, Maintenance, Rehabilitation and Replacement Costs
Provide lands, easements, rights-of-way, and borrow and excavated or dredged material disposal areas.	$ 89,000	
Pay 19 percent of cost allocated to general navigation facilities during construction (including dredge purchase) and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of navigation facilities.	1,261,000	700,000
Total Non-Federal Costs	$1,350,000	$700,000

The non-Federal sponsor has also agreed to make all required payments concurrent with project construction.

1694

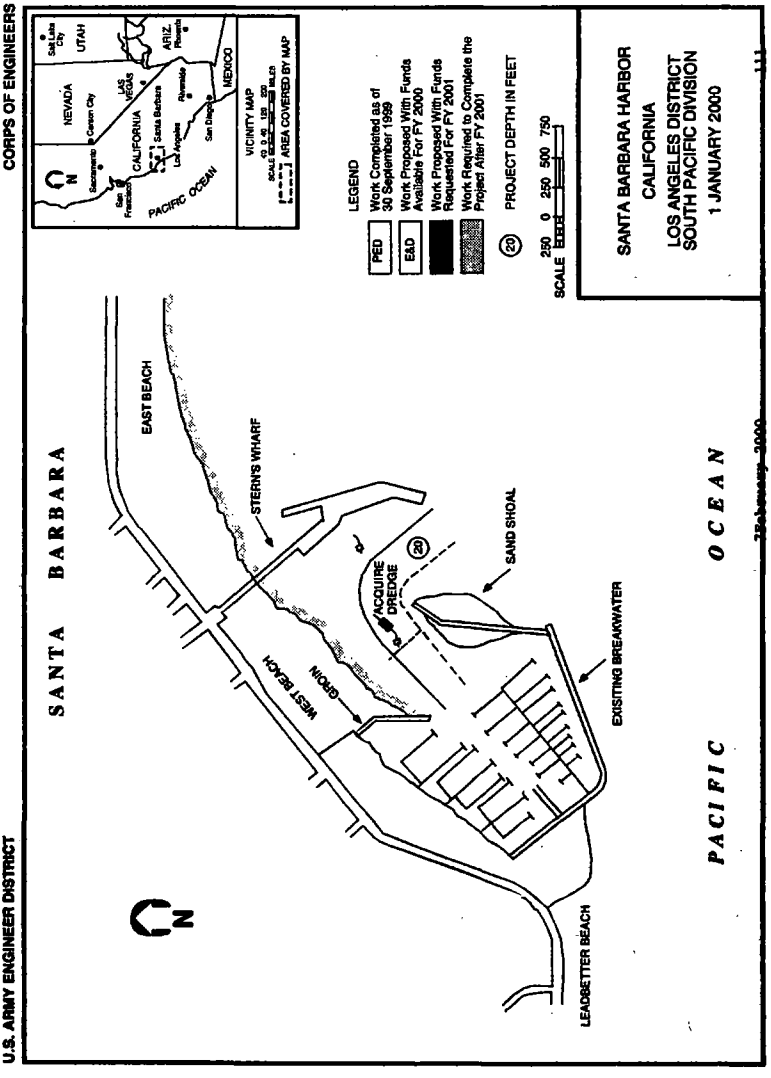
STATUS OF LOCAL COOPERATION: By letter dated 15 November 1999, the city of Santa Barbara expressed support for the recommended plan and willingness and intent to execute the Project Cooperation Agreement. The city of Santa Barbara also indicated local funds will be available for its share of project costs in Fiscal Year 2001. The Project Cooperation Agreement is scheduled to be executed in January 2001.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $5,450,000 is an increase of $90,000 from the latest estimate ($5,360,000) presented to Congress (FY 2000). This change includes the following item.

Item	Amount
Schedule Changes	$90,000
Total	$90,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Final Environmental Assessment (EA) was completed in August 1993.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1991, but were not allocated until FY 1993 upon completion of the feasibility study. Section 101(a)(6) of the Water Resources Development Act of 1996 authorized the project in accordance with the Chief of Engineers Report dated April 1994. The city of Santa Barbara will assume total responsibility for maintaining the Santa Barbara Harbor entrance channel, including operation and maintenance of the dredge system.


U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
SANTA BARBARA
EAST BEACH
STERN'S WHARF
WEST BEACH
GROIN
ACQUIRE DREDGE
SAND SHOAL
EXISTING BREAKWATER
LEADBETTER BEACH
PACIFIC OCEAN
N
NEVADA
UTAH
CALIFORNIA
ARIZ.
MEXICO
PACIFIC OCEAN
VICINITY MAP
AREA COVERED BY MAP
LEGEND
PED
EAD
Work Completed as of 30 September 1999
Work Proposed With Funds Available For FY 2000
Work Proposed With Funds Requested For FY 2001
Work Required to Complete the Project After FY 2001
PROJECT DEPTH IN FEET
SCALE
SANTA BARBARA HARBOR
CALIFORNIA
LOS ANGELES DISTRICT
SOUTH PACIFIC DIVISION
1 JANUARY 2000

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: American River Watershed, California (Common Features) (Continuing)

LOCATION: The project is located in Placer, El Dorado, and Sacramento Counties on the North, Middle and South Forks of the American River and along the lower American River and Sacramento Rivers.

DESCRIPTION: Recent evaluations indicate that the level of flood protection along much of the American River is less than the 100-year level. The project features consist of slurry walls to strengthen the lower American River levees, raising portions of the American River levees, levee and berm raising along the Sacramento River, levee raising along Natomas Cross Canal, telemetered gages above Folsom Dam, and improving the flood warning system for the lower American River.

AUTHORIZATION: Water Resources Development Acts of 1996 and 1999.

REMAINING BENEFIT-REMAINING COST RATIO: 10.0 to 1 at 7-5/8 percent.

TOTAL BENEFIT-COST RATIO: 4.4 to 1 at 7-5/8 percent.

INITIAL BENEFIT-COST RATIO: 4.4 to 1 at 7-5/8 percent (FY 1998).

BASIS OF BENEFIT-COST RATIO: Benefits are from the Supplemental Information Report approved June 1996 at 1995 price levels for work authorized in the Water Resources Development Act of 1996. Benefits are being updated to include work authorized in the Water Resources Development Act of 1999 (see OTHER INFORMATION).

SUMMARIZED FINANCIAL DATA			STATUS (1 JAN 2000)	PHYSICAL PERCENT COMPLETE	COMPLETION SCHEDULE
Estimated Federal Cost		$72,200,000	Entire Project	15	Being Determined
Estimated Non-Federal Cost		23,800,000			
Cash Contribution	$17,670,000				
Other Costs	6,130,000				
Total Estimated Project Cost		$96,000,000			

1997

SUMMARIZED FINANCIAL DATA (Continued)

		ACCUM PCT OF EST FED COST
Allocations to 30 September 1999	$14,709,000 1/	
Conference Allowance for FY 2000	17,000,000	
Allocation for FY 2000	11,579,000 2/	
Allocations through FY 2000	26,288,000	36
Allocation Requested for FY 2001	$10,000,000	50
Programmed Balance to Complete after FY 2001	35,912,000	
Unprogrammed Balance to Complete after FY 2001	0	

PHYSICAL DATA

Streamflow Gages - Install 3 new telemetered gages upstream of Folsom Lake

Flood Warning System - Install on lower American River

Flap Gates - Install to existing culvert and pumps at Mayhew Drain

Levees:

- Construct slurry wall on 21.5 miles of lower American River levees
- Raise 1.5 miles-American River levees
- Strengthen 12.1 miles of Sacramento River levees
- Raise 10.4 miles of Sacramento River levees
- Raise 10 miles of Natomas Cross Canal levees

1698

1/ Includes funding during Preconstruction, Engineering and Design (PED) for project elements authorized in WRDA 1996.
2/ Reflects $2,421,000 reduction assigned as savings and slippage and $3,000,000 reprogrammed from the project.

JUSTIFICATION: Folsom Dam and Reservoir, located on the American River about 29 miles upstream from Sacramento, are key features in the flood control system protecting Sacramento. Folsom Reservoir has a capacity of 975,000 acre-feet, which includes a minimum of 400,000 acre-feet of space seasonally dedicated to flood control. Currently, Folsom Reservoir is being reoperated to provide additional flood space in some years under an agreement between the United States Bureau of Reclamation and the Sacramento Area Flood Control Agency. The objective release from Folsom Reservoir to the lower American River is 115,000 cubic-feet/second (cfs). The levees along the American River downstream from Folsom Dam are likely to fail at various locations when sustained flows reach between 130,000 cfs and 160,000 cfs. Levee failure along the lower American River could result in flooding of more than 100,000 acres, affecting approximately 410,000 residents. Damages would range from $7 billion to $16 billion depending on the magnitude of the event. The February 1986 storms filled Folsom Lake and necessitated record releases in excess of design flow downstream. Because of the significant threat, 500 people were put on levee watch as these record flows passed through the city of Sacramento. Due to the 1986 storms, an extensive flood

JUSTIFICATION (Continued)
fighting effort was made by the Corps of Engineers at a cost of $3 million and an additional $10 million was required for post flood repair work. The storms of January 1997 again filled Folsom Lake and releases reached design flows. A levee watch was issued as lower American River levees were significantly stressed. The common features project consists of levee improvements on 21.5 miles of the lower American River and 12.1 miles along the Sacramento River; levee raising along 1.5 miles of the American River, 10.4 miles of the Sacramento River, and 10 miles of the Natomas Cross Canal; installing new and telemetering existing streamflow gages above Folsom Dam, and implementing a new flood warning system on the lower American River. Improvements authorized in the Water Resources Development Act of 1996 provided about a 1 in 90 chance of flooding in any one year. Improvements authorized in the Water Resources Development Act of 1999 will increase the level of flood protection. Average annual benefits for work authorized in the Water Resources Development Act of 1996 amount to $32,600,000, all flood control (see OTHER INFORMATION).

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate and Continue Contracts to Raise and Strengthen Levees	$ 8,300,000
Planning, Engineering, and Design	1,000,000
Construction Management	700,000
Total	$ 10,000,000

1699

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Requirements of Local Cooperation		
Provide lands, easements, rights-of-way, and borrow and excavated or dredged material disposal areas.	$ 4,150,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	1,980,000	
Pay 18.5 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	17,670,000	$ 50,000
Total Non-Federal Costs	$ 23,800,000	$ 50,000

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The California State Reclamation Board and Sacramento Area Flood Control Agency are the non-Federal sponsors. The Project Cooperation Agreement was executed in July 1998. The Project Cooperation Agreement will be modified as a result of additional features authorized in the Water Resources Development Act of 1999. Execution of the modified Project Cooperation Agreement is pending State of California legislation providing authorization to the State Reclamation Board to participate in added work (see OTHER INFORMATION).

1700

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $72,200,000 is an increase of $24,600,000 from the latest estimate presented to Congress (FY 2000). This change includes the following items.

Item	Amount
Price Escalation on Construction Features	$ 3,080,000
Authorized Modifications	21,520,000
Total	$24,600,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: A Supplemental Environmental Impact Statement/Environmental Impact Report was filed with Environmental Protection Agency on 8 March 1996.

OTHER INFORMATION: Funds used to initiate preconstruction engineering and design of the common elements were allocated in FY 1996 under American River Watershed Project, CA. Preconstruction engineering and design effort for the long-term plan continues under the American River Watershed Project, California.

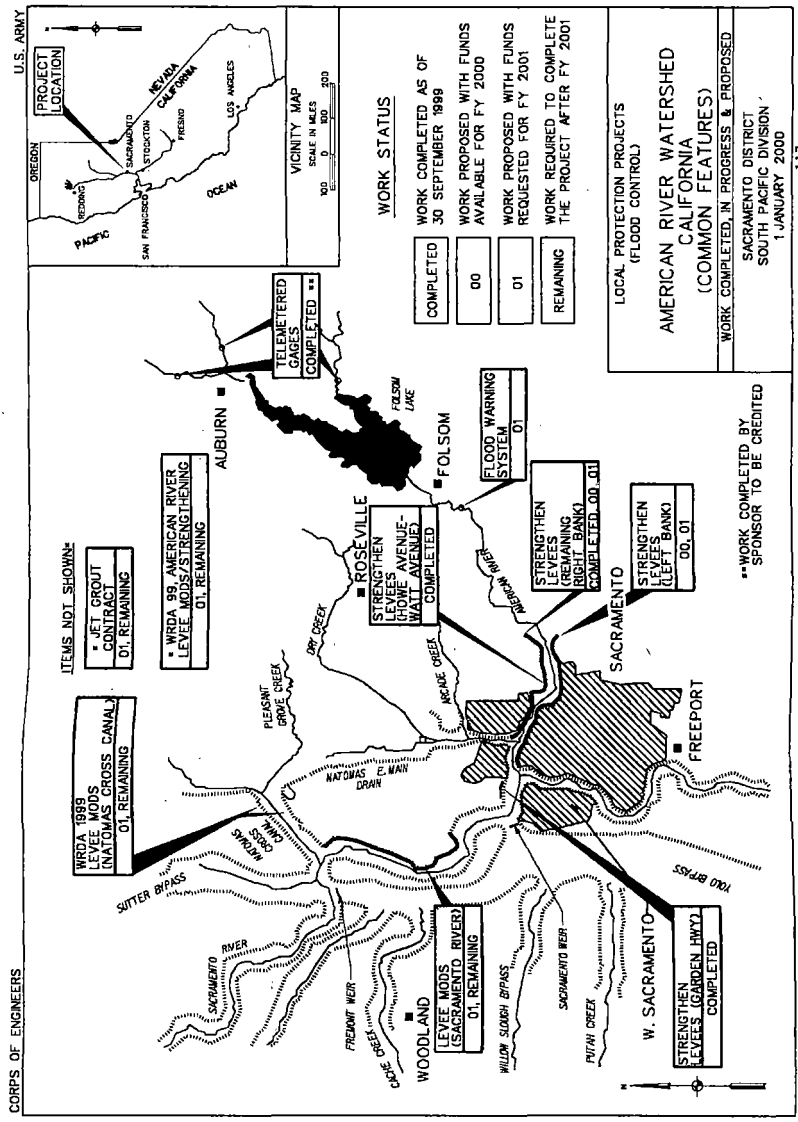
The American River Watershed Feasibility Report was completed in December 1991 and the Supplemental Information Report was completed in March 1996. The Supplemental Information Report identified three candidate plans which would help reduce the flood risk facing Sacramento: modifying Folsom Dam and increasing the dedicated flood space; modifying Folsom Dam and the downstream system to allow increased objective releases; and constructing a detention dam upstream of Folsom Dam. In June 1996, the Chief of Engineers deferred a decision on a comprehensive flood control plan, but recommended that features common to all three plans be authorized as the first component of a comprehensive plan. These common features include modification of and telemetering three streamflow gages upstream of Folsom Lake; installing a new downstream flood warning system; constructing a slurry wall in levees on the Lower American River; and strengthening and raising levees on the east side of the Sacramento River. The Water Resources Development Act (WRDA) of 1996 authorized construction of the common elements. Funds were appropriated in Fiscal Year 1998 to initiate construction.

Additional flood control improvements were authorized by Section 366 of the WRDA 1999 as part of the overall project. Improvements include additional levee raising and strengthening and installing gates to an existing culvert and pumps to prevent backup of floodwater. Benefits for the additional work authorized in the WRDA 1999 are as follows: Average annual benefits for the American River portion are $6 million; benefits for the Natomas Cross Canal are currently being developed.

Construction of the first contract on the lower American River levees was initiated in July 1998. Scheduled project completion is being determined.

Fish and wildlife mitigation costs are currently estimated at $1,000,000.

1702


CORPS OF ENGINEERS
U.S. ARMY
ITEMS NOT SHOWN:
JET GROUT CONTRACT 01, REMAINING
WRDA 1999 LEVEE MODS (NATOMAS CROSS CANAL) 01, REMAINING
WRDA 99, AMERICAN RIVER LEVEE MODS/STRENGTHENING 01, REMAINING
TELEMETERED GAGES COMPLETED **
AUBURN
FOLSOM
FOLSOM LAKE
ROSEVILLE
STRENGTHEN LEVEES (HOWE AVENUE-WATT AVENUE) COMPLETED
FLOOD WARNING SYSTEM 01
STRENGTHEN LEVEES (REMAINING RIGHT BANK) COMPLETED 00, 01
STRENGTHEN LEVEES (LEFT BANK) 00, 01
SACRAMENTO
FREEPORT
DRY CREEK
PLEASANT GROVE CREEK
ARCADE CREEK
NATOMAS E. MAIN DRAIN
NATOMAS MAIN DRAIN
SUTTER BYPASS
SACRAMENTO RIVER
FREMONT WEIR
CACHE CREEK
WOODLAND
LEVEE MODS (SACRAMENTO RIVER) 01, REMAINING
WILLOW SLOUGH BYPASS
SACRAMENTO WEIR
PUTAH CREEK
W. SACRAMENTO
STRENGTHEN LEVEES (GARDEN HWY.) COMPLETED
YOLO BYPASS
**-WORK COMPLETED BY SPONSOR TO BE CREDITED
VICINITY MAP
SCALE IN MILES
100 0 100 200
OREGON
PROJECT LOCATION
REDDING
SACRAMENTO
STOCKTON
NEVADA
CALIFORNIA
FRESNO
SAN FRANCISCO
LOS ANGELES
PACIFIC
OCEAN
WORK STATUS
COMPLETED
WORK COMPLETED AS OF 30 SEPTEMBER 1999
00
WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2000
01
WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
REMAINING
WORK REQUIRED TO COMPLETE THE PROJECT AFTER FY 2001
LOCAL PROTECTION PROJECTS (FLOOD CONTROL)
AMERICAN RIVER WATERSHED CALIFORNIA (COMMON FEATURES)
WORK COMPLETED, IN PROGRESS & PROPOSED
SACRAMENTO DISTRICT
SOUTH PACIFIC DIVISION
1 JANUARY 2000
7 February 2000
117a

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Corte Madera Creek, California (Continuing)

LOCATION: Corte Madera Creek is located in Marin County, California, on the west side of San Francisco Bay about nine miles north of the Golden Gate Bridge.

DESCRIPTION: Corte Madera Creek and its tributaries drain an area of about 28 square miles in Marin County, and flows into the west side of San Francisco Bay. The project consists of 3.0 miles of channel enlargement and riprap levees, about 1.8 miles of rectangular concrete channel improvements, and 450,000 cubic yards of redredging on lower Corte Madera Creek. Project construction is complete from the mouth of Corte Madera Creek to Lagunitas Road Bridge (Units 1, 2, and 3). Remaining work includes reconditioning the rectangular concrete channel in units 2 and 3 and construction of Unit 4. Construction of Unit 4 has been delayed since 1972 due initially to property litigation, then environmental reasons, and finally due to local sponsor requests for additional consideration of project alternatives. The project authorization as modified by the Water Resources Development Act of 1986 directs construction of Unit 4, from the vicinity of Lagunitas Road Bridge to Sir Francis Drake Boulevard. In addition, the 1986 Act deauthorized channel modifications upstream of Sir Francis Drake Boulevard.

AUTHORIZATION: Flood Control Acts of 1962 and 1966, modified by the Water Resources Development Act of 1986.

REMAINING BENEFIT - REMAINING COST RATIO: Not Available. Pending identification of plan to complete project.

TOTAL BENEFIT - COST RATIO: Not Available. Pending identification of plan to complete project.

INITIAL BENEFIT - COST RATIO: 1.7 to 1 @ 3-1/8% (FY 1966)

BASIS OF BENEFIT - COST RATIO: Will be developed as part of the plan to complete project.

SUMMARIZED FINANCIAL DATA	
Estimated Federal Cost	$ 21,900,000
Estimated Non-Federal Cost	15,200,000
Cash Contribution	$1,740,000
Other Costs	13,460,000
Total Estimated Project Cost	$37,100,000

STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Units 1,2,3 (Mouth to Lagunitas Road Bridge)	100	Jun 1989
Unit 4 (Lagunitas Road Bridge To Sir Francis Drake Blvd)	0	Being Determined
	77	Entire Project Being Determined

1704

SUMMARIZED FINANCIAL DATA (Continued)

		ACCUM PCT OF EST FED COST
Allocations to 30 September 1999	12,162,000	
Conference Allowance for FY 2000	500,000	
Allocation for FY 2000	429,000 1/	
Allocation through FY 2000	12,591,000	57
Allocation Requested for FY 2001	100,000	58
Programmed Balance to Complete after FY 2001	50,000	
Unprogrammed Balance to Complete after FY 2001	9,159,000	

1/ Reflects $71,000 reduction assigned as savings and slippage

PHYSICAL DATA

Lower Corte Madera Creek Redredging	450,000 C.Y.
Channel Enlargement and Riprap Levees:	3.0 miles
Concrete Channel Improvements:	1.8 miles

JUSTIFICATION: Corte Madera Creek Basin is primarily a residential area, north of San Francisco. The principal communities include Corte Madera and Larkspur, with a combined population of about 30,000 as of January 1998. Extensive flooding continues to occur through Ross Valley and the communities of Ross, Kentfield, Larkspur, Corte Madera, and Greenbrae. The Corps constructed Units one through three with 100 year level of protection. The value of lands and improvements to be protected by the project is estimated to be $186 million. The project would provide a high degree of protection to residential, commercial and public property along Corte Madera Creek. Flooding has occurred along Corte Madera Creek eight times in the last forty years. Flood flows can currently overtop the channel banks upstream of the completed portion of improved channel and cause flooding throughout the downstream reaches. Completion of the project in the upstream reach to Sir Francis Drake Boulevard (Unit 4) will prevent this flooding problem which has occurred three times in the last eighteen years. The most severe of these floods occurred in January 1982 causing flooding in 123 acres along Corte Madera Creek, and under current conditions would cause $5.5 million in flood damages. It is estimated that the 100 year flood would cause damages estimated at $20.5 million of which $17.8 million would be prevented by the project. Average annual benefits are being revised in the current economic analyses to reflect the plan to complete the project.

FISCAL YEAR 2001: The requested amount of $100,000 will be applied as follows:

Planning, Engineering and Design	$ 100,000
Total	100,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

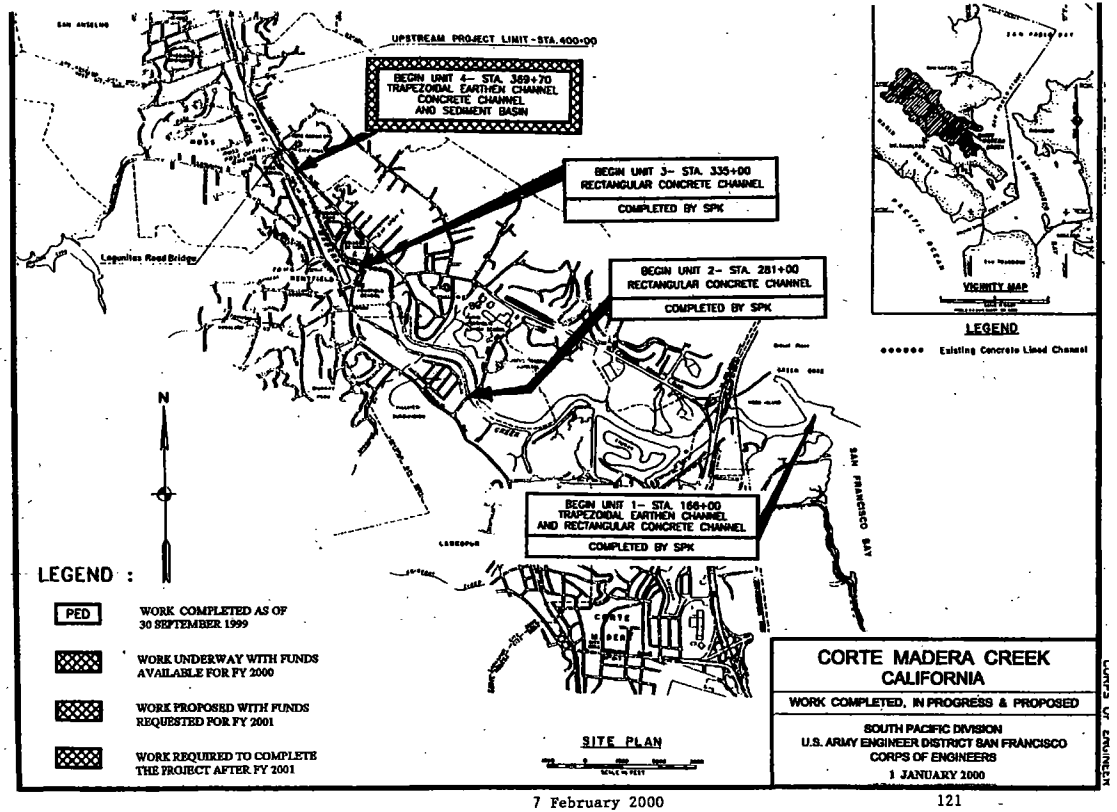
Requirements of Local Cooperation	Payments During Construction and Reimbursement	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights of way, and waste and dredged disposal areas.	$11,320,000	
Modify or relocate utilities, bridges (except railroads bridges), and other facilities, where necessary in the construction of the project.	2,140,000	
Pay 1-1/2 percent of the construction costs allocated to flood control, and bear all costs of operation, maintenance, and replacement of flood control facilities.	1,740,000	$300,000
Total Non-Federal Costs	$15,200,000	$300,000

STATUS OF LOCAL COOPERATION: The State of California approved state participation in the project by 1965 statute, Chapter 1388. The Marin County Flood Control and Water Conservation District has provided numerous resolutions of local cooperation for all previous work. Marin County has provided rights-of-way, accomplished relocations, and furnished the cash contributions in advance of construction in each individual reach. A Local Cooperation Agreement for redredging the lower reach of Corte Madera Creek was executed on 29 June 1985. The work was completed and the lower reach was transferred to the local sponsor for Operation and Maintenance in 1987. Indication of support for the upstream work (Unit 4) was by a resolution on 13 September 1988 from Marin County Flood Control Board. However, significant modifications would have been required to complete the project. In January 1989 the Marin County Board of Supervisors voted to support construction of 40-year level of protection features for Unit #4. At the meeting on 4 February 1997, the Local Sponsor expressed their support for the project. The execution of a Project Cooperation Agreement is currently scheduled for September 2001. Our analysis of the non-Federal sponsor's financial capability to participate in project affirms the sponsor has a reasonable and implementable plan for meeting its final commitment.

COMPARISON OF FEDERAL COST ESTIMATES: The Current Federal cost estimate of $21,900,000 is the same as the latest estimate submitted to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: Supplement one to the Environmental Impact Statement (EIS) was filed in November 1987. The second Supplemental EIS was filed in August 1988.

OTHER INFORMATION: Funds to initiate Preconstruction Engineering and Design were appropriated in Fiscal Year 1962, and funds to initiate construction were appropriated in FY 1966. No Fish and Wildlife mitigation is currently contemplated. The local sponsor's decision on a preferred alternative plan to complete the project is currently scheduled for the spring of 2000. The scheduled completion date for programmed work is being determined.


UPSTREAM PROJECT LIMIT - STA. 400+00
BEGIN UNIT 4– STA. 369+70
TRAPEZOIDAL EARTHEN CHANNEL
CONCRETE CHANNEL
AND SEDIMENT BASIN
BEGIN UNIT 3– STA. 335+00
RECTANGULAR CONCRETE CHANNEL
COMPLETED BY SPK
BEGIN UNIT 2– STA. 281+00
RECTANGULAR CONCRETE CHANNEL
COMPLETED BY SPK
BEGIN UNIT 1– STA. 166+00
TRAPEZOIDAL EARTHEN CHANNEL
AND RECTANGULAR CONCRETE CHANNEL
COMPLETED BY SPK
Lagunitas Road Bridge
SAN FRANCISCO BAY
N
LEGEND :
PED
WORK COMPLETED AS OF
30 SEPTEMBER 1999
WORK UNDERWAY WITH FUNDS
AVAILABLE FOR FY 2000
WORK PROPOSED WITH FUNDS
REQUESTED FOR FY 2001
WORK REQUIRED TO COMPLETE
THE PROJECT AFTER FY 2001
SITE PLAN
VICINITY MAP
LEGEND
Existing Concrete Lined Channel
CORTE MADERA CREEK
CALIFORNIA
WORK COMPLETED, IN PROGRESS & PROPOSED
SOUTH PACIFIC DIVISION
U.S. ARMY ENGINEER DISTRICT SAN FRANCISCO
CORPS OF ENGINEERS
1 JANUARY 2000

1707

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Guadalupe River, California (Continuing)

LOCATION: The project is located in San Jose, Santa Clara County, California.

DESCRIPTION: The authorized plan consists of channel improvements on the Guadalupe River between Interstate Highways 880 and 280, a distance of approximately 2.5 miles with provisions for fish and wildlife mitigation as necessary. The project under construction is the Locally Preferred Plan (LPP). The non-Federal sponsor is responsible to pay 100 percent of the difference in cost between the LPP and the National Economic Development (NED) plan. (See OTHER INFORMATION)

AUTHORIZATION: Water Resources Development Act of 1986, Energy and Water Development Appropriations Act for 1990, and Energy and Water Development Appropriations Act for 1992.

REMAINING BENEFIT-REMAINING COST RATIO: 7.7 to 1 at 8-5/8 percent.

TOTAL BENEFIT-COST RATIO: 2.4 to 1 at 8-5/8 percent.

INITIAL BENEFIT-COST RATIO: 2.2 to 1 at 8-5/8 percent (FY 1990).

BASIS OF BENEFIT-COST RATIO: Benefits are from the General Design Memorandum dated December 1991 at October 1991 price levels for the NED project.

1708

SUMMARIZED FINANCIAL DATA

Estimated Federal Cost		$ 78,500,000
Estimated Non-Federal Cost		104,300,000
Cash Contribution	$ 14,200,000	
Other Costs	95,801,000	
Section 104 Credit	- 5,701,000	
Estimated Project Cost		$182,800,000 1/

1/ See OTHER INFORMATION

STATUS (1 JAN 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project	50	Being Determined

PHYSICAL DATA	
Concrete channel	1,510 Feet
Earth channel	27,055 FeetTotal
Box culverts	2,535 Feet
Concrete gabions & mats	4,655 Feet
Excavated bench	6,250 Feet

SUMMARIZED FINANCIAL DATA (Continued)		ACCUM PCT OF EST FED COST
Allocations to 30 September 1999	$ 69,128,000	
Conference Allowance for FY 2000	5,000,000	
Allocation for FY 2000	4,288,000	1/
Allocations through FY 2000	73,416,000	94
Allocation Requested for FY 2001	3,500,000	98
Programmed Balance to Complete after FY 2001	1,584,000	
Unprogrammed Balance to Complete after FY 2001	0	

PHYSICAL DATA (Continued)	
Gabion terraces	4,130 Feet
Recreation trails	17,500 Feet
Recreation riverwalk	13,350 Feet
Concrete retaining wall	1,920 Feet

1/ Reflects $712,000 reduction assigned as savings and slippage.

JUSTIFICATION: The Guadalupe River drains an area of about 160 square miles and its 100-year flood plain encompasses approximately 7,000 acres, including downtown San Jose, and consists of both residential and light industrial development. The 1999 population for the city of San Jose was estimated at 909,000. Flood producing storms have occurred fourteen times since 1945, the most recent in March 1995. The storm of record occurred in December 1955, inundating 8,300 acres and causing approximately $1.3 million in damages in the Guadalupe River drainage basin. Damages from a 100-year flood under 1991 conditions and prices would be approximately $526 million (Information Paper 25 March 1998). Flooding also occurred in the January 1995 storm (20-year event), where there was minor out-of-bank flooding in Reach 3. During the March 1995 storm (25-year event), there was substantial street flooding caused by out-of-bank flooding in Reach 3 and a lack of storm drain capacity. During both storms, the I-280/Route 87 freeway interchange was partially inundated, resulting in closure of Route 87. It is believed that project improvements at the I-880 bridge prevented extensive bridge foundation erosion. The project will provide 100-year flood protection to downtown San Jose, including approximately 1,020 commercial, industrial, and public structures, 3,270 private residences, four major traffic arteries, and the San Jose International Airport. Average annual benefits at October 1991 price levels are as follows:

Annual Benefits	Amount
Flood Damage Prevention	$24,230,000
Recreation	3,660,000
Total	$27,890,000

1709

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate Construction of Reach 3 Flood Control Structures	1,620,000
Continue Construction of Channel Improvements in Reach 3	860,000
Continue Construction of Fish Wildlife Facilities	450,000
Complete Real Estate Certification	3,000
Complete Construction of Cultural Resources Facilities	17,000
Planning, Engineering, and Design	298,000
Construction Management	252,000
Total	$3,500,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986 the non-Federal sponsor must comply with the requirements listed below (Also see OTHER INFORMATION):

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas, which are partially offset by a credit allowed ($5,701,000) for prior work (Section 104 of the WRDA 1986)..	$42,614,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary in the construction of the project.	47,486,000	
Pay 5 percent of the costs allocated to flood control and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	8,281,000	$1,300,000

1710

Requirements of Local Cooperation (Continued)	Payments During Construction and Reimbursements	Annual Operation Maintenance, Repair, Rehabilitation, and Replacement Costs
Pay the incremental construction costs for the locally preferred plan.	5,359,000	
Pay one-half of the separable costs allocated to recreation and bear all costs of operation, maintenance, repair, rehabilitation and replacement of recreation facilities.	560,000	1,050,000
Total Non-Federal Costs	$104,300,000	$2,350,000

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The Santa Clara Valley Water District is the local sponsor for both the flood control portion and the recreation portion of this project. The Local Cooperation Agreements (LCA's) were executed 30 March 1992. The current non-Federal cost estimate of $104,300,000 which includes a cash contribution of $14,200,000 is an increase of $29,870,000 from non-Federal cost estimate presented in the Local Cooperation Agreement, which included a cash contribution of $12,200,000. The sponsor agrees with current costs and continues to be financially able to support the project. The Santa Clara Valley Water District has applied for credit in the amount of $28,400,000 for completed work under Section 104 of WRDA 1986. The Section 104 Credit Evaluation Report recommended $5,701,000 and was reflected in the flood control LCA. Reimbursement of Section 104 credits was initiated in FY 1993 and was completed in FY 1994 after initiation of a majority of the project construction.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $78,500,000 is the same as the latest estimate presented to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Final Environmental Impact Statement (FEIS) was filed in October 1986. Environmental Assessments were circulated for public review and comment on the changes to the Feasibility report and FEIS. Results of the review were included in the December 1991 General Design Memorandum (GDM) and the Record of Decision was filed with EPA on 12 February 1992.

OTHER INFORMATION: Funds to initiate preconstruction planning were appropriated in FY 1986 and funds to initiate construction were appropriated in FY 1990.

OTHER INFORMATION (Continued):
The Energy and Water Development Appropriations Act, 1990, directed the Secretary to construct the project notwithstanding Section 902 of the Water Resource Development Act 1986.

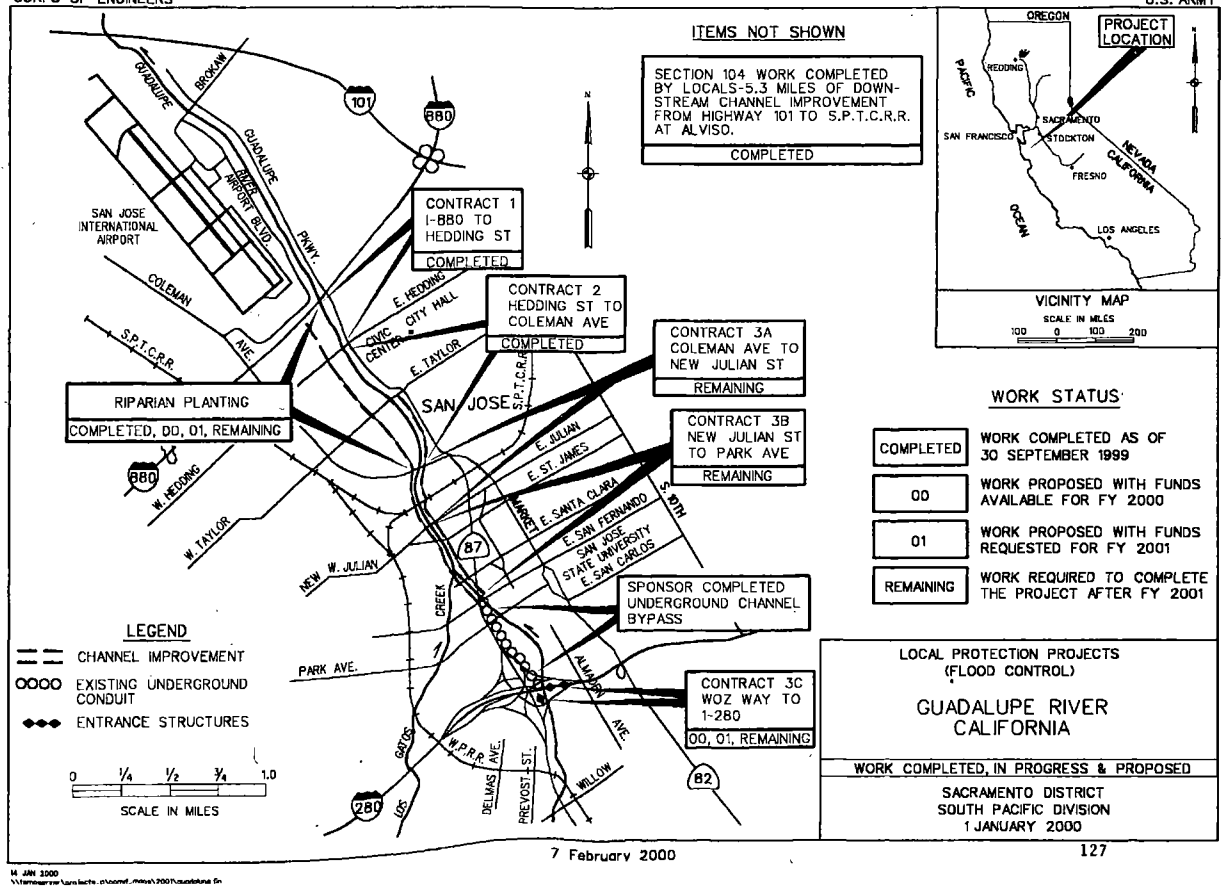
The Energy and Water Development Appropriations Act, 1992, directed the Secretary to modify and construct the project in accordance with the December 1991 GDM. While the current plan being implemented differs slightly from the December 1991 GDM Plan, it is consistent with the Guadalupe River Park plan requested by the local sponsor and with cost sharing policy. The Locally Preferred Plan (LPP) is a locally acceptable engineering modification of the authorized plan presented in the July 1985 Feasibility Report/Environmental Impact Statement. It is also the basis for the larger, locally developed, Guadalupe River Park (GRP) Plan. The GRP is a major part of the City of San Jose's current redevelopment plan for the downtown area. The local sponsor, Santa Clara Valley Water District, has agreed to cost share the project in proportion to the National Economic Development Plan (NED), pay all incremental construction costs associated with the LPP, and one-half of the recreation costs.

A General Reevaluation Report (GRR) is currently being prepared to address impacts to endangered species and water quality. In lieu of widening the natural channel for Reach 3, a bypass channel is being considered to minimize the effects on water quality, endangered species and riparian vegetation. The originally authorized plan could not fully mitigate these impacts. Added costs for required mitigation, lands and relocations will likely increase project costs to approximately $238 million. The GRR will be available in May 2000.

1712

CORPS OF ENGINEERS

U.S. ARMY



14 JAN 2000

7 February 2000

127

1713

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Kaweah River, California (Continuing)

LOCATION: The project is located within the Tulare Lake Basin in the southeastern portion of the San Joaquin Valley between the cities of Fresno and Bakersfield, California.

DESCRIPTION: Lake Kaweah/Terminus Dam was completed in 1962, and has provided limited flood protection to Visalia and other rapidly developing urban areas along the Kaweah River. The project plan is to enlarge Lake Kaweah by 42,600 acre-feet by raising the spillway by 21 feet to provide additional flood control and water conservation space.

AUTHORIZATION: Water Resources Development Act of 1996.

REMAINING BENEFIT-REMAINING COST RATIO: 1.5 to 1 at 7-1/8 percent.

TOTAL BENEFIT-COST RATIO: 1.3 to 1 at 7-1/8 percent.

INITIAL BENEFIT-COST RATIO: 1.3 to 1 at 7-1/8 percent.

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluation in the Feasibility Report approved in December 1996 at 1996 price levels.

SUMMARIZED FINANCIAL DATA			STATUS (1 JAN 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$23,500,000	Entire Project	Not started	Being Determined
Estimated Non-Federal Cost		17,000,000			
Cash Contribution	$ 2,520,000				
Other Costs	14,480,000				
Total Estimated Project Cost		$40,500,000			

1714

SUMMARIZED FINANCIAL DATA (Continued)

		ACCUM PCT OF EST FED COST	PHYSICAL DATA
			Spillway: Type - Ungated, Concrete, ogee
Allocations to 30 September 1999	$ 2,900,000	1/	Crest width - 455 feet
Conference Allowance for FY 2000	2,582,000	1/	Crest height - 715 feet
Allocation for FY 2000	716,000	1/ & 2/	Capacity - Increase by 42,600 to total
Allocations through FY 2000	3,616,000	1/ 15	of 183,300
Allocation Requested for FY 2001	$ 500,000	18	Downstream and Upstream Mitigation
Programmed Balance to Complete after FY 2001	19,384,000		D/S - 366 acres - Levee construction on
Unprogrammed Balance to Complete after FY 2001	0		interior of mitigation site
			U/S - 461 acres - Mitigation of oak woodland and riparian plantings

1/ Includes funding during Preconstruction, Engineering and Design.
2/ Reflects $366,000 reduction assigned as savings and slippage and $1,500,000 reprogrammed from the project.

JUSTIFICATION: The Kaweah River originates in the Sierra Nevada mountains and drains about 560 square miles into Lake Kaweah (Terminus Dam). From Lake Kaweah it passes near the city of Visalia, with a population of about 94,800, as it flows west into the Tulare Lakebed. Terminus Dam was completed in 1962 to provide flood control and irrigation water supply. However, significant flood damages to communities and highly developed agricultural lands along the Kaweah River have continued to occur. Flood releases beyond Terminus Dam capacity have contributed to flood damages to agricultural lands in the Tulare Lakebed. The December 1966 rainflood exceeded the design capacity of Terminus Dam and floodflows passing downstream of the dam resulted in about $1.0 million in damages below the dam, under conditions and prices at that time. These downstream flows peaked at about 5,700 cubic feet per second and inundated about 8,000 acres. The most recent flooding in 1983 caused extensive and widespread damages to properties in the Tulare Lakebed area where losses attributed to the Kaweah River were estimated at $17.6 million. The project includes enlarging Lake Kaweah by 42,600 acre feet. The average annual benefits at 1996 price levels are as follows:

JUSTIFICATION (Continued)

Annual Benefits	Amount
Flood Control	$3,560,000
Water Supply	271,000
Recreation	(288,000)
Employment	200,000
Total	$3,743,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Spillway Modification Contract	$ 300,000
Continue Mitigation Contract	100,000
Planning, Engineering, and Design	80,000
Construction Management	20,000
Total	$ 500,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Requirements of Local Cooperation		
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas for flood control.	$ 8,975,000	

1716

	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Requirements of Local Cooperation (Continued)		
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities where necessary for the construction of the project for flood control.	5,074,000	
Pay 35 percent of the costs allocated to agricultural water supply and bear all costs of operation, maintenance, repair, rehabilitation and replacement of water supply facilities. (Payment includes $274,000 for lands, $157,000 for relocations, and $705,000 for cash contribution).	1,136,000	$ 5,000
Pay 5 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	1,815,000	55,000
Total Non-Federal Costs	$ 17,000,000	$ 60,000

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The California State Reclamation Board and Kaweah Delta Water Conservation District will be the non-Federal sponsors. Execution of the Project Cooperation Agreement is currently scheduled for July 2000.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $23,500,000 is the initial estimate to be presented to Congress for appropriations.

1717

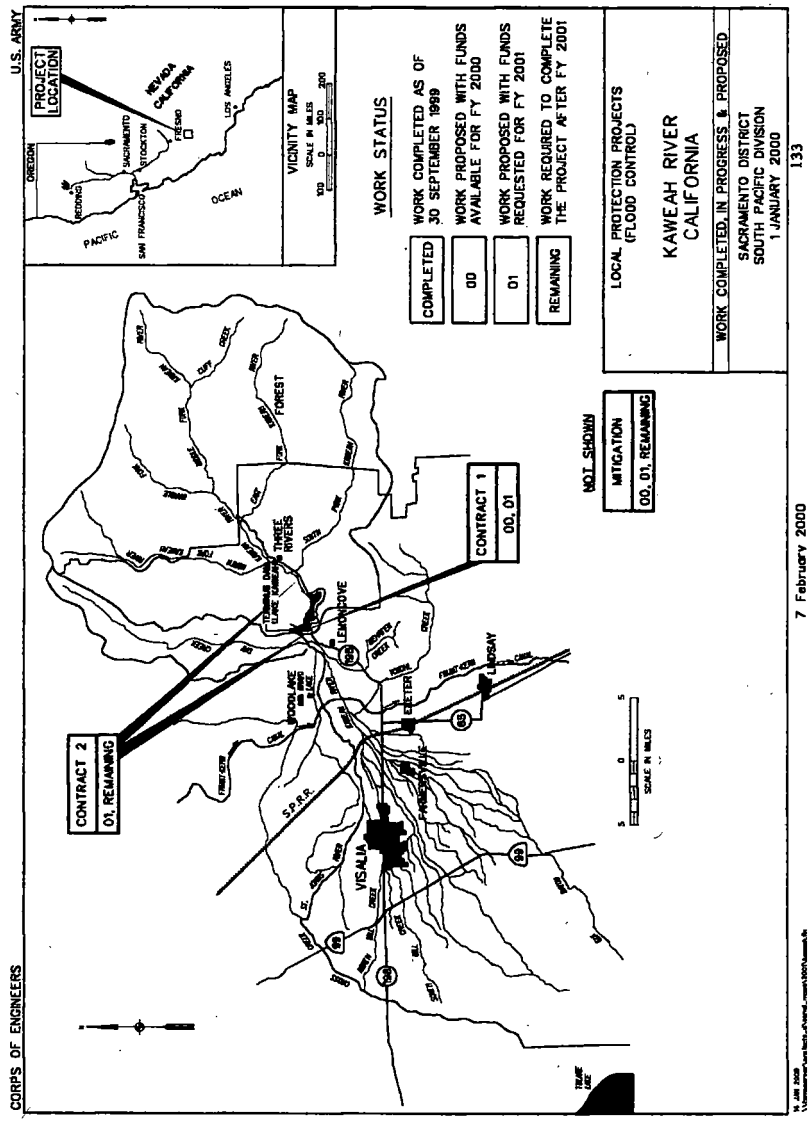
STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Record of Decision for the Environmental Impact State (EIS) was issued on 19 November 1997. The final EIS was filed with EPA on 11 October 1996.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design (PED) were appropriated in FY 1996. During final design, the project's spillway, mitigation areas, and other project features are being modified. As a result, the project cost estimate is expected to decrease and project benefits will increase. The project level of flood protection will remain at the 70-year level.

Section 307 of the Water Resources Development Act of 1999 authorized the Secretary to accept title for lands required for the project and directs the Secretary and the non-Federal interests to enter into an agreement whereby the Corps of Engineers would be reimbursed by the non-Federal interests for costs associated with operations and maintenance.

The fish and wildlife mitigation cost is estimated at $2,674,000.

1718


U.S. ARMY
CORPS OF ENGINEERS
PROJECT LOCATION
OREGON
NEVADA
CALIFORNIA
REDDING
SACRAMENTO
STOCKTON
FRESNO
LOS ANGELES
SAN FRANCISCO
PACIFIC
OCEAN
VICINITY MAP
SCALE IN MILES
100 0 100 200
WORK STATUS
COMPLETED
WORK COMPLETED AS OF 30 SEPTEMBER 1999
00
WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2000
01
WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
REMAINING
WORK REQUIRED TO COMPLETE THE PROJECT AFTER FY 2001
NOT SHOWN
MITIGATION
00, 01, REMAINING
LOCAL PROTECTION PROJECTS
(FLOOD CONTROL)
KAWEAH RIVER
CALIFORNIA
WORK COMPLETED, IN PROGRESS & PROPOSED
SACRAMENTO DISTRICT
SOUTH PACIFIC DIVISION
1 JANUARY 2000
CONTRACT 2
01, REMAINING
CONTRACT 1
00, 01
SCALE IN MILES
7 February 2000
133

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Los Angeles County Drainage Area, California (Continuing)

LOCATION: The project covers a 2,000 square-mile area within the county of Los Angeles and includes portions of the metropolitan region of the city of Los Angeles.

DESCRIPTION: The project consists of upgrading the existing system, raising and converting channel walls of the Rio Hondo and lower Los Angeles River channels, and modifying bridges.

AUTHORIZATION: Water Resources Development Act of 1990.

REMAINING BENEFIT - REMAINING COST RATIO: 3.2 to 1 at 8-1/4 percent.

TOTAL BENEFIT-COST RATIO: 2.7 to 1 at 8-1/4 percent.

INITIAL BENEFIT-COST RATIO: 1.7 to 1 at 8-1/4 percent (FY 1996).

BASIS OF BENEFIT-COST RATIO: Benefits are from the Final Feasibility Report revised in June 1992, at October 1991 price levels.

SUMMARIZED FINANCIAL DATA		
Estimated Federal Cost		$150,000,000
Estimated Non-Federal Cost		50,000,000
Cash Contributions	$ 43,968,000	
Other Cost	6,032,000	
Total Estimated Project Cost		$200,000,000
Allocations to 30 September 1999		$ 97,300,000
Conference Allowance for FY 2000		50,000,000
Allocation for FY 2000		42,879,000
Allocation through FY 2000		140,179,000
Allocation Requested for FY 2001		9,821,000
Programmed Balance to Complete after FY 2001		0
Unprogrammed Balance to Complete after FY 2001		0

ACCUM PCT OF EST FED COST	PHYSICAL STATUS (1 JAN 2000)	PERCENT COMPLETE	COMPLETION SCHEDULE
	Compton Creek	100	December 1997
	Channel Improvements (Lower LA and Rio Hondo Rivers)	85	September 2001
	Bridge Modifications	20	September 2001
1/ 93	Entire Project	75	September 2001
100			

1/ Reflects $7,121,000 reduction assigned savings and slippage.

1720

PHYSICAL DATA

CHANNELS

Parapet walls - approximately 21 miles
- Rio Hondo, Whittier Narrows Dam to Los Angeles River - 9 miles
- Los Angeles River, Rio Hondo to ocean -12 miles

Converting trapezoidal channel to rectangular channel - approximately 1.2 miles
- Rio Hondo -.7 miles
- Los Angeles River -.5 miles

Armoring back slopes of levees
- Rio Hondo
- Compton Creek
- Los Angeles (Atlantic Boulevard to ocean)

BRIDGES - Modify 18 and raise 8 on the Los Angeles River

JUSTIFICATION: The Los Angeles County Drainage Area, current population of over 9 million, is partially protected by an urban flood control system which includes Corps flood control structures consisting of 5 major reservoirs, 22 debris basins, and 470 miles of channel improvements. The existing system, protecting the second largest urban metropolitan area in the United States, has prevented over $3.7 billion in damages since construction. However, the flood of 1969 in Los Angeles County caused widespread damages of over $12 million, $60.5 million at 1999 prices. As urbanization of the basin has grown over the past 40 years, the ability of the existing systems to provide design levels of protection has diminished. The February-March 1980 floods exceeded the capacity of the channel in the upper reaches of the Los Angeles River and nearly overtopped the levee in the lower Los Angeles River near the city of Long Beach. A breach in the levee could have induced catastrophic damages to residential, commercial, and industrial properties in Long Beach. Studies to date indicate that a 100-year flood would impact 52,000 acres, with damages totaling about $2.35 billion. Portions of the existing system cannot contain a 50-year flood event. Average annual benefits, at October 1991 price levels, are $58,616,000, all flood control.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Complete Channel Construction of the Confluence and Railroad Bridges on Los Angeles and Rio Hondo Rivers	$9,219,000
Planning, Engineering and Design	50,000
Construction Management	552,000
Total	$9,821,000

NON-FEDERAL COST: In accordance with the cost-sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payment During Construction And Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation and Replacement Costs
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$3,654,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	2,378,000	
Pay 5 percent of the costs allocated to flood control and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	10,000,000	$20,000
Pay 17 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent as determined under Section 103 (m) of the Water Resources Development Act of 1986 to reflect the non-Federal sponsor's ability to pay and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	33,968,000	
Total Non-Federal Costs	$50,000,000	$20,000

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: In February 1992, the Los Angeles County Department of Public Works, the local sponsor, affirmed its support and willingness to financially participate in the construction of the project at a level consistent with the current cost-sharing policy for construction. The Project Cooperation Agreement was executed 7 August 1995. The current non-federal cost estimate of $50,000,000, which includes a cash contribution of $43,968,000, is a decrease of $58,000,000 from the non-federal cost estimate of $108,000,000 noted in Project Cooperation Agreement, which included a cash contribution of $15,600,000. The increase in the cash contribution is a result of a decrease in costs for lands and relocations requiring an additional cash contribution to bring the total non-federal share of flood control costs to 25 percent. The sponsor has indicated willingness and capability to contribute the increase.

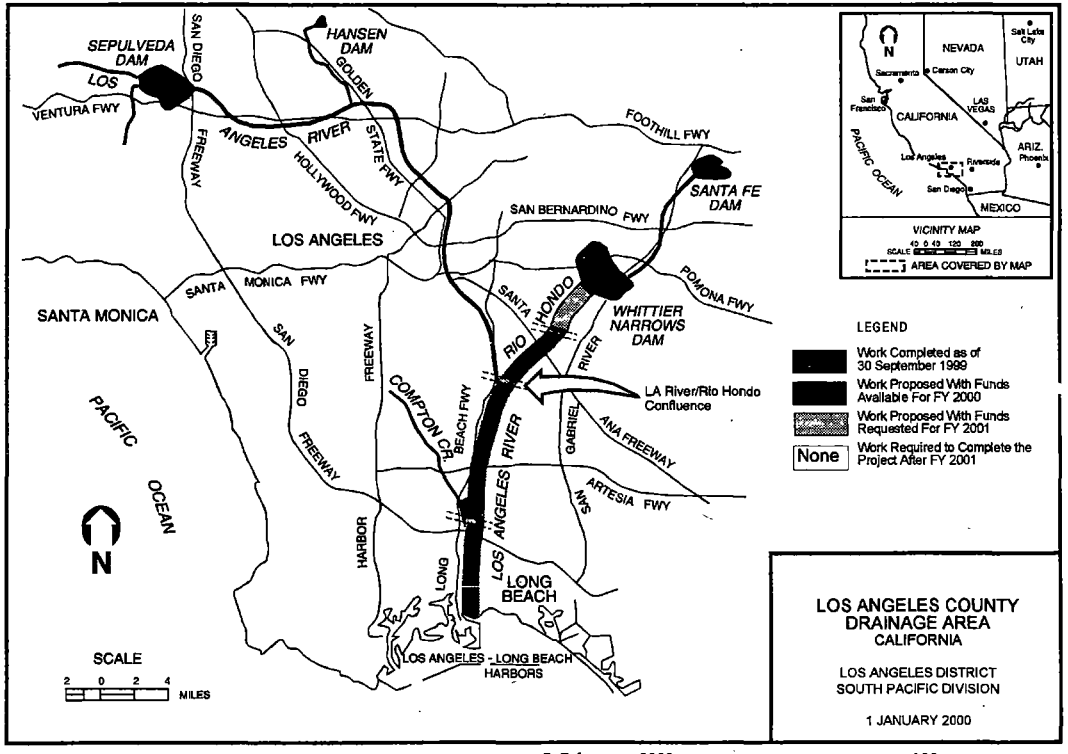
1722

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $150,000,000 is the same as the latest estimate ($150,000,000) presented to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Environmental Impact Statement was publicly reviewed and submitted as part of the Final Feasibility Report on 30 June 1992. The Record of Decision was recorded by the Assistant Secretary of Army for Civil Works on 19 July 1995. The local sponsor completed the Environmental Impact Report in April 1995, which met California Environmental Quality Act requirements.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1992, and funds to initiate construction were appropriated in FY 1995.

The Federal Emergency Management Administration (FEMA) imposed mandatory flood insurance to residents within the project area. At the request of the sponsor, the Corps of Engineers conducted a study which concluded that once certain key elements of the project were constructed, a large portion of the project area would be protected against a 100-year flood. Specifically, this area is the current 100-year flood plain along both sides of the Los Angeles River below Compton Creek on the west, and below the Metropolitan Transit Authority bridge on the east. In September 1999, FEMA indicated that when construction of these key elements was completed, a revision to the mandatory flood insurance would be warranted. Construction of these critical elements was completed in January 2000. The Corps of Engineers and County of Los Angeles have determined that adequate protection is now in place and anticipate FEMA will lift the mandatory flood insurance in the near future.


SEPULVEDA DAM
HANSEN DAM
SAN DIEGO FREEWAY
GOLDEN STATE FWY
LOS ANGELES RIVER
VENTURA FWY
HOLLYWOOD FWY
FOOTHILL FWY
SANTA FE DAM
SAN BERNARDINO FWY
LOS ANGELES
SANTA MONICA FWY
SANTA MONICA
POMONA FWY
WHITTIER NARROWS DAM
SANTA ANA RIVER
RIO HONDO
LA River/Rio Hondo Confluence
SAN DIEGO FREEWAY
COMPTON CR.
BEACH FWY
GABRIEL RIVER
ANA FREEWAY
ARTESIA FWY
PACIFIC OCEAN
HARBOR
LOS ANGELES RIVER
LONG BEACH
LOS ANGELES - LONG BEACH HARBORS
N
SCALE
2 0 2 4
MILES
N
NEVADA
UTAH
CALIFORNIA
MEXICO
ARIZ.
VICINITY MAP
AREA COVERED BY MAP
LEGEND
Work Completed as of 30 September 1999
Work Proposed With Funds Available For FY 2000
Work Proposed With Funds Requested For FY 2001
None
Work Required to Complete the Project After FY 2001
LOS ANGELES COUNTY DRAINAGE AREA
CALIFORNIA
LOS ANGELES DISTRICT
SOUTH PACIFIC DIVISION
1 JANUARY 2000

1724

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Lower Sacramento Area Levee Reconstruction, California (Continuing)

LOCATION: The project is located within the boundaries of the Sacramento River Flood Control System in Sacramento, Solano and Yolo Counties in north-central California. The area includes the lower Sacramento River and its distributary sloughs and the city of Clarksburg.

DESCRIPTION: An evaluation of about 295 miles of the Sacramento River Flood Control Project levees in the Lower Sacramento area identified about 47 miles of levees that are structurally deficient. The project includes reconstructing about 2.6 miles of these levees by installing landside seepage berms with toe drains, backfilling of existing drainage collector systems, slurry cut-off walls, the restoration of levee height and developing land for fish and wildlife mitigation.

AUTHORIZATION: Flood Control Acts of 1917, 1928, and 1941; River and Harbor Act of 1937.

REMAINING BENEFIT-REMAINING COST RATIO: 24.0 to 1 at 8 percent.

TOTAL BENEFIT-COST RATIO: 8.9 to 1 at 8 percent.

INITIAL BENEFIT-COST RATIO: 2.9 to 1 at 8 percent (FY 1996).

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluation contained in the Sacramento River Flood Control Project, California - Lower Sacramento Area Phase IV Design Memorandum (DM) dated March 1997 and approved in February 1998 at 1996 price levels.

SUMMARIZED FINANCIAL DATA			STATUS (1 JAN 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		4,810,000	Entire Project	Not Started	Being Determined
Estimated Non-Federal Cost		1,590,000			
Cash Contribution	$ 1,140,000				
Other Costs	450,000				
Total Estimated Project Cost		$6,400,000			

1725

SUMMARIZED FINANCIAL DATA (Continued)

		ACCUM PCT OF EST FED COST
Allocations to 30 September 1999	$ 1,838,000	1/
Conference Allowance for FY 2000	2,317,000	
Allocation for FY 2000	1,487,000	2/
Allocations through FY 2000	3,325,000	69
Allocation Requested for FY 2001	1,485,000	100
Programmed Balance to Complete after FY 2001	0	
Unprogrammed Balance to Complete after FY 2001	0	

PHYSICAL DATA

Levee Reconstruction:
Steamboat Slough-Left Bank (R.D. 3)
Elk Slough (R.D. 150)
Steamboat Slough-Right Bank/Sutter Slough (R.D. 349)
Miner Slough (R.D. 999)
Length - 2.6 miles
Fish and Wildlife Mitigation - 1.9 acres

1/ Allocations of $203,000 included in the Sacramento River Flood Control Project and reallocated to the Lower Sacramento Area Levee Reconstruction Project.

2/ Reflects $330,000 reduction assigned as savings and slippage and $500,000 reprogrammed from the project.

JUSTIFICATION: Levee evaluation studies of approximately 295 miles of project levees have been completed in Sacramento, Solano and Yolo Counties. Results indicate that structural problems caused by ongoing seepage and levee subsidence exist. Reconstruction will be required to maintain the integrity of the existing Sacramento River Flood Control Project and assure the system continues to provide the original design levels of flood protection. The levees were locally constructed and incorporated into the project levee system when it was authorized in 1917. The most serious seepage has been at the southern tip of Sutter Island. During the 1955-56 flood, a sand boil developed beyond the levee toe approximately 125 feet from the left bank levee of Sutter Slough and 125 feet from the right bank levee of Steamboat Slough. As a result of the February 1986 floods, high flows caused boils and extensive seepage occurred at the landward toe and landward of both levees along the Sacramento River, and landside levee embankment slope failures are a continual problem. During high flows in January and March 1995, considerable seepage and boils developed on the Sacramento River in Sacramento County. During the recent floods of January 1997, seepage and boils were identified along the Sacramento River downstream of the city of Ryde and along Georgiana Slough east of the City of Isleton. Levees were stabilized by constructing a stability berm under emergency construction authority. The areas protected by the levees comprise over 56,000 acres, mostly agriculture, about 1,100 structures, primarily residences and farm structures, with a population of about 1,400. The value of property the project will protect is estimated at $110 million. The project will restore design level of flood protection. Estimated average annual flood damages are $6.5 million. Average annual benefits, all flood control, are estimated at $4,892,000 at October 1996 price levels.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Complete Levee Reconstruction Contract	$ 797,000
Complete Crediting of non-Federal Lands	11,000
Planning, Engineering, and Design (including Supplemental Design Documents)	554,000
Construction Management	123,000
Total	$1,485,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$ 345,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	105,000	
Pay 18 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	1,140,000	$ 0 3/
Total Non-Federal Costs	$1,590,000	$ 0 3/

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

3/ Reconstruction will reduce, not increase, operation and maintenance costs. Operation and maintenance costs are included in the original Sacramento River Flood Control Project and are the responsibility of the non-Federal interests.

STATUS OF LOCAL COOPERATION: The California State Reclamation Board will act as the local sponsor for reconstruction work. A total of four Project Cooperation Agreements are currently scheduled to be signed in February 2000.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $4,810,000 is an increase of $150,000 from the latest estimate ($4,660,000) presented to Congress (FY 2000). This change includes the following items.

Item	Amount
Price Escalation on Construction Features	$ 150,000
Total	$ 150,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The original Sacramento River Flood Control Project was substantially complete prior to the National Environmental Policy Act of 1969. An Environmental Impact Statement (EIS) was not prepared. A Programmatic Environmental Impact Statement/Environmental Impact Report (EIS/EIR) on the levee reconstruction for the Marysville/Yuba City Area, Mid-Valley Area, Lower Sacramento Area and Upper Sacramento Area, the remaining four phases of the Sacramento River Flood Control System Evaluation, was filed with EPA on 19 June 1992 and the Record of Decision was signed 4 November 1992. The Programmatic EIS/EIR discusses the environmental impacts resulting from potential work for the entire area in general terms. An Environmental Assessment/Initial Study on site-specific environmental impacts for recommended work in the Lower Sacramento area was prepared and submitted for public review October 1996. The Finding of No Significant Impacts (FONSI) was signed on 27 March 1997.

OTHER INFORMATION: Following the record high flows of February 1986, Operations and Maintenance funds were provided under Inspection of Completed Works to perform an evaluation of the integrity of the Sacramento River Flood Control System. A five phase program which divided the system into five study areas was developed. In each phase, the structural stability of the levees is examined and a determination made as to whether the system is functioning at its design level. The results of each study phase are submitted as an Initial Appraisal Report (IAR). The IAR for the Lower Sacramento Area dated October 1993 was approved in April 1994. Funds to initiate engineering and design were appropriated in FY 1994 (Sacramento River Flood Control Project, California). Funds to initiate construction were appropriated in FY 1996. Of the fourteen deficient areas evaluated in the IAR, four are economically feasible based on an incremental analysis. These areas include Steamboat Slough (Reclamation District (R.D.) 3), Elk Slough (R.D. 150), Steamboat/Sutter Slough (R.D. 349), and Miner Slough (R.D. 999). The total estimated project cost includes design of four economically feasible areas. The local sponsor contends that economic justification should be based on a system evaluation which would compare total cost of all required levee reconstruction of the Sacramento River Flood Control Project and total benefits attributable to that work. The rationale is based on Operations and Maintenance procedures that were formulated for the system to function as a whole. A Limited Reevaluation Report (LRR) was completed in September 1993, approved in March 1994, and revised in May 1995 for the economic analysis for all five phases of the Sacramento River Flood Control System Evaluation.

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OTHER INFORMATION (Continued)

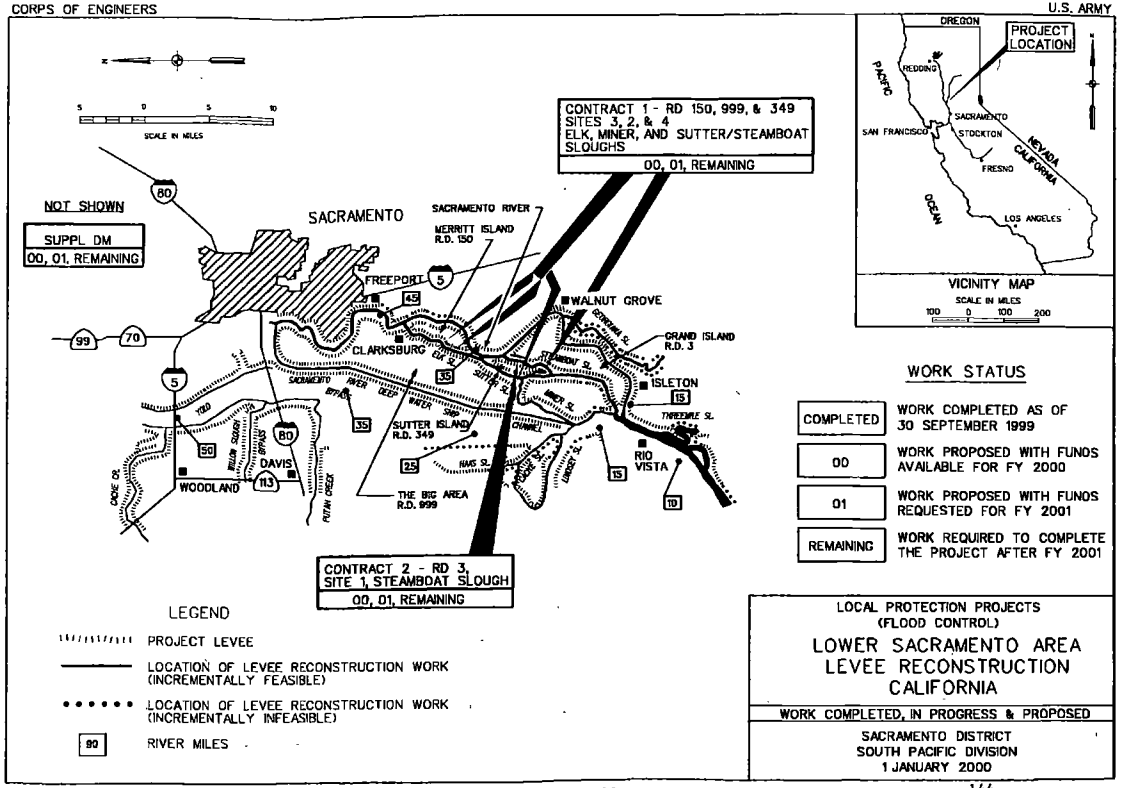
Based on damages from the January 1997 floods, a supplemental Design Memorandum is being prepared to evaluate additional sites for reconstruction consideration. Funding available under Public Law 84-99 was used to repair sites specifically damaged by the recent flood. If additional reconstruction sites are identified in a supplemental Design Memorandum, project cost will increase and completion schedules will be extended.

At the request of the local sponsor, four separate Project Cooperation Agreements (PCA) are being prepared, one for each Reclamation District. Separate PCA packages are required.

The fish and wildlife mitigation cost is estimated at $178,000.

CORPS OF ENGINEERS

U.S. ARMY



WORK STATUS

COMPLETED	WORK COMPLETED AS OF 30 SEPTEMBER 1999
00	WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2000
01	WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
REMAINING	WORK REQUIRED TO COMPLETE THE PROJECT AFTER FY 2001

LOCAL PROTECTION PROJECTS
(FLOOD CONTROL)

LOWER SACRAMENTO AREA LEVEE RECONSTRUCTION CALIFORNIA

WORK COMPLETED, IN PROGRESS & PROPOSED

SACRAMENTO DISTRICT
SOUTH PACIFIC DIVISION
1 JANUARY 2000

M JAN 2000

7 February 2000

144

1730

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Marysville/Yuba City Levee Reconstruction, California (Continuing)

LOCATION: The project is located within the boundaries of the Sacramento River Flood Control System in Butte, Sutter and Yuba Counties in north-central California. The area includes the Feather and Yuba Rivers and their tributaries, Sutter Bypass and the cities of Marysville and Yuba City and the communities of Linda and Olivehurst.

DESCRIPTION: An evaluation of about 134 miles of the Sacramento River Flood Control Project levees in the Marysville/Yuba City area identified about 22 miles of levees as being structurally deficient. The project consists of reconstructing those levees by installing toe drains, stability berms, and slurry cut-off walls and backfilling a drainage ditch to rectify the deficiency. The project also consists of restoring levee heights and about 76 acres for fish and wildlife mitigation.

AUTHORIZATION: Flood Control Acts of 1917, 1928, and 1941; River and Harbor Act of 1937.

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable because project construction is substantially complete.

TOTAL BENEFIT-COST RATIO: 6.2 to 1 at 8-3/4 percent.

INITIAL BENEFIT-COST RATIO: 3.2 to 1 at 8-3/4 percent (FY 1993).

BASIS OF BENEFIT-COST RATIO: Initial benefits are from the Sacramento River Flood Control System Evaluation - Marysville/Yuba City Area Budget Decision Document dated February 1991 and revised in May 1991 at 1990 price levels. Current benefits are from the Sacramento River Flood Control Project, California, Marysville/Yuba City Area, Design Memorandum dated January 1993, revised April 1993 and approved in May 1994 at 1992 price levels.

SUMMARIZED FINANCIAL DATA			STATUS (1 JAN 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$ 32,550,000	Entire Project	95	Being Determined
Estimated Non-Federal Cost		10,750,000			
Cash Contribution	$ 5,230,000				
Other Costs	5,520,000				
Total Estimated Project Cost		$43,300,000			

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SUMMARIZED FINANCIAL DATA (Continued)

		ACCUM PCT OF EST FED COST
Allocations to 30 September 1999	$30,493,000	
Conference Allowance for FY 2000	300,000	
Allocation for FY 2000	257,000 1/	
Allocations through FY 2000	30,750,000	94
Allocation Requested for FY 2001	760,000	97
Programmed Balance to Complete after FY 2001	1,040,000	
Unprogrammed Balance to Complete after FY 2001	0	

PHYSICAL DATA

Levee Reconstruction:

Toe Drains	- 7 miles
Toe Drains and Levee Height Restoration	- 2 miles
Cut-Off Walls	- 9 miles
Cut-off Walls and Levee Height Restoration	- 3 miles
Levee Height Restoration	- 4 miles
Fish and Wildlife Mitigation	- 76 acres
Backfill Drainage Ditch	- 0.9 mile
Seepage Berm	- 1 mile
Relief Wells	- 0.8 mile
Stability Berm	- 0.8 mile

1/ Reflects $43,000 reduction assigned as savings and slippage.

1732

JUSTIFICATION: Levee evaluation studies of approximately 134 miles of project levees were completed in the Marysville and Yuba City area. Results indicated that structural problems caused by ongoing seepage exist on about 22 miles of levees with inadequate levee height existing on about 10 miles of those levees. Reconstruction is required to maintain the integrity of the existing Sacramento River Flood Control Project. The project will assure the system continues to function as designed. The levees were locally constructed and incorporated into the project levee system when it was authorized in 1917. High flow conditions during the February 1986 storm event resulted in a levee break on the Yuba River, the evacuation of about 24,000 people and about $95 million in flood damages. Additional flood damages of about $2 million were incurred on the Feather and Bear Rivers and about $1 million in post flood levee repair work was required. Flooding also occurred in 1997. Flooding was caused by a levee break along the Feather River below Marysville/Yuba City in the Linda/Olivehurst area, resulting in three fatalities and a reported $93 million in flood damages. The levee system protects about 100,000 people in the Marysville/Yuba City area. Levee failure would result in significant property damages and potential loss of life. Average annual benefits, all flood control, are estimated at $25,530,000 at October 1992 price levels.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate Construction on Contract 2D	$ 610,000
Planning, Engineering, and Design	100,000
Construction Management	50,000
Total	$ 760,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$ 3,498,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	2,022,000	
Pay 12 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	5,230,000	$ 0 2/
Total Non-Federal Costs	$10,750,000	$ 0 2/

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

2/ Reconstruction will reduce, not increase, annual operation and maintenance costs. Operation and maintenance costs are included in the original Sacramento River Flood Control Project and are the responsibility of the non-Federal interests.

STATUS OF LOCAL COOPERATION: The California State Reclamation Board is the local sponsor for reconstruction work. A Project Cooperation Agreement (PCA) satisfying the requirements of Section 221, Flood Control Act of 1970 (Public Law 91-611) and consistent with the Water Resources Development Act of 1986 (Public Law 99-662) was signed on 19 July 1994. The current non-Federal cost estimate of $10,750,000 , which includes a cash contribution of $5,230,000, is an increase of $2,950,000 from the non-Federal cost estimate of $7,800,000 noted in the Project Cooperation Agreement, which included a cash contribution of $1,820,000. The non-Federal sponsor is financially capable and willing to contribute the non-Federal share.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $32,550,000 is an increase of $290,000 from the latest estimate ($32,260,000) presented to Congress (FY 2000). This change includes the following items.

Item	Amount
Post Contract Award and Other Estimating Adjustments (including contingency adjustments)	$-1,450,000
Design Changes	1,740,000
Total	$ 290,000

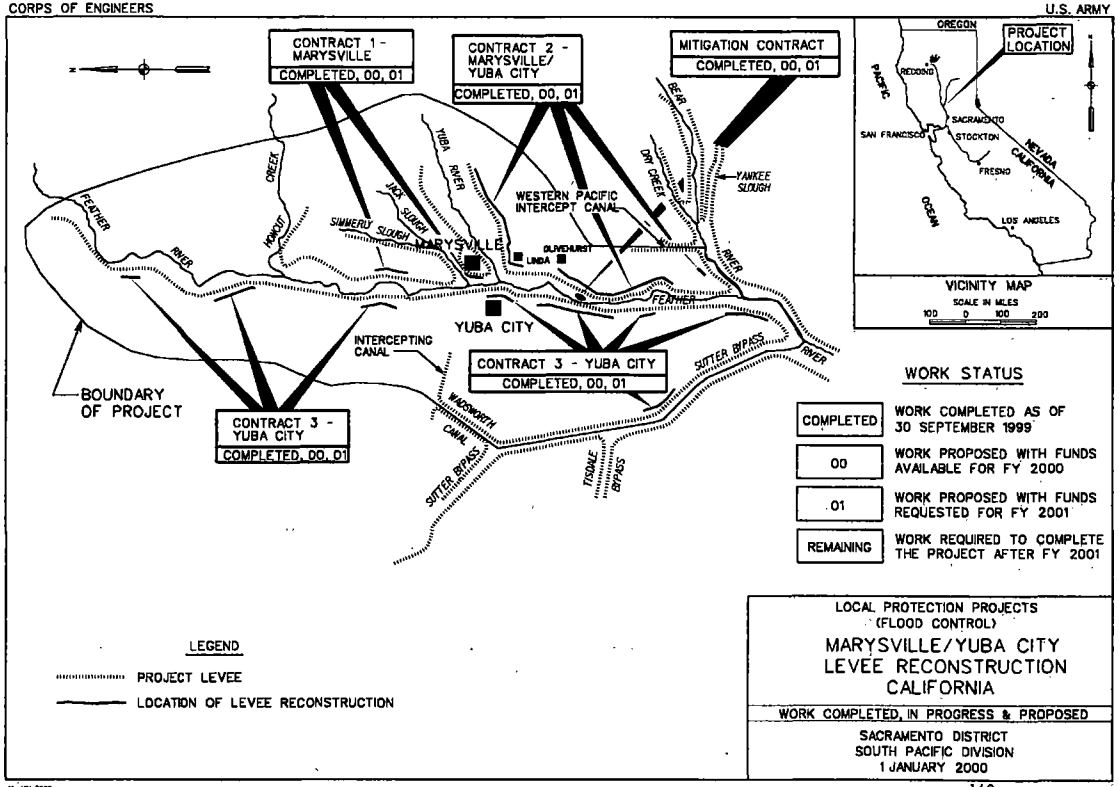
STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The original Sacramento River Flood Control Project was substantially complete prior to 1970 and an Environmental Impact Statement (EIS) was not prepared. The final Programmatic Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Marysville/Yuba City Area, Mid-Valley area, Lower Sacramento area and Upper Sacramento area, the remaining four phases of the Sacramento River Flood Control System Evaluation, was filed with EPA on 19 June 1992 and the Record of Decision was signed on 4 November 1992. The Programmatic EIS/EIR discusses the environmental impacts resulting from potential work for the entire area in general terms. An Environmental Assessment (EA) was prepared to address the site-specific impacts resulting from the recommended work in the Marysville/Yuba City area in December 1992. A Finding of No Significant Impacts (FONSI) was signed on 28 April 1993.

OTHER INFORMATION: Funds to initiate engineering and design were appropriated in FY 1991 (Sacramento River Flood Control Project, California) and funds to initiate construction were appropriated in FY 1993.

A final Design Memorandum was prepared in January 1993, revised April 1993 and approved in May 1994. In addition to the reconstruction project, the local sponsor is bearing the full cost of local betterments as part of contract 2-Marysville/Yuba City. Based on damages from the January 1997 floods, a Basis of Design Report was prepared to evaluate an extension of Site 7. The report identified work required at Site 7 as 1.8 miles of seepage berm, stability berm, and relief wells. Site 7 extension, Contract 2D, is scheduled for award in FY 2001.
The Fish and Wildlife Mitigation cost is estimated at $2,319,000.

CORPS OF ENGINEERS

U.S. ARMY



LOCAL PROTECTION PROJECTS
(FLOOD CONTROL)

MARYSVILLE/YUBA CITY
LEVEE RECONSTRUCTION
CALIFORNIA

WORK COMPLETED, IN PROGRESS & PROPOSED

SACRAMENTO DISTRICT
SOUTH PACIFIC DIVISION
1 JANUARY 2000

14 JAN 2000

7 February 2000

149

1735

APPROPRIATION TITLE: Construction, General - Reservoirs (Flood Control)

PROJECT: Merced County Streams, California (Continuing)

LOCATION: The project is located in Merced County in the vicinity of the city of Merced, California, on the streams draining from the Mariposa County foothills of the Sierra Nevada into Merced County. The streams lie easterly of, and drain into, the San Joaquin River between the Chowchilla River on the south and the Merced River on the north. Castle Dam and Lake, the first element of the project constructed, is located on Canal Creek, about eight miles northwest of Merced.

DESCRIPTION: Castle Dam and Lake, a 40 foot high earthfill dam with 6,400 acre-feet of flood control storage, was completed in 1994. The remaining portion of the project consists of increasing the flood control storage in the existing Bear Reservoir from 7,700 acre feet to 32,500 acre-feet, and construction of a 78 foot high earthfill dam at the Haystack Site with 5,300 acre-feet of flood control storage. There will also be 33.4 miles of levee construction and channel modifications on Bear, Fahrens, and Black Rascal Creeks and a water management system for 2,859 acres for fish and wildlife mitigation.

AUTHORIZATION: 1970 Flood Control Act.

REMAINING BENEFIT - REMAINING COST RATIO: The remaining benefit cost ratio for Castle Dam and Lake is not applicable because the project is complete. (For remaining project see Other Information).

TOTAL BENEFIT-COST RATIO: 1.06 to 1 at 8-1/8 percent. (See OTHER INFORMATION)

INITIAL BENEFIT-COST RATIO: 1.16 to 1 at 8-1/8 percent (FY 1985). (See OTHER INFORMATION)

BASIS OF BENEFIT-COST RATIO: Benefits are based on the Phase II General Design Memorandum approved in June 1982 at 1981 price levels.

1736

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS (1 JAN 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$ 91,800,000		Castle Dam and Lake	100	Jan 1994
Programmed Construction	$19,457,000			Remaining Project	Not Started	Indefinite
Unprogrammed Construction	72,343,000			Entire Project	15	Indefinite
Estimated Non-Federal Cost		$ 40,900,000				
Programmed Construction	$ 5,230,000					
Cash Contribution	$ 595,000					
Other Costs	4,635,000					
Estimated Non-Federal Cost						
Unprogrammed Construction	$35,670,000					
Cash Contribution	$ 6,260,000					
Other Costs	29,410,000					
Total Estimated Programmed Construction Cost		$ 24,687,000				
Total Estimated Unprogrammed Construction Cost		$108,013,000				
Total Estimated Project Cost		$132,700,000				
Allocations to 30 September 1999		$ 18,478,000				
Conference Allowance for FY 2000		500,000				
Allocation for FY 2000		429,000	1/			
Allocations through FY 2000		18,907,000	21			
Allocation Requested for FY 2001		500,000	21			
Programmed Balance to Complete after FY 2001		50,000				
Unprogrammed Balance to Complete after FY 2001		72,343,000				

1/ Reflects $71,000 reduction assigned as savings and slippage from the project.

Castle Dam and Lake

Dam: Type - Impervious Core
Height - 40 feet
Length - 2,050 feet

Dikes: Type - Homogeneous
earthfill Length - 1,050 feet

Spillway: Type - Ungated,
concrete low ogee spillway
Crest width - 180 feet
Capacity - 3,900 c.f.s.

Lake Capacity: Flood Control
storage - 6,400 ac-ft

Lands and Damages: Acres - 1,219
Type - grazing and orchards
Improvements - Rural dwellings
and ranch buildings

Bear Dam and Lake

Dam: Type - Impervious Core
Height - 150 feet
Length - 3,100 feet

Spillway: Type - Ungated ogee converging to
spillway with stilling basin
Crest width - 185 feet converging to 120 ft
Capacity - 27,000 c.f.s.

Lake Capacity: Flood Control
storage - 32,500 ac-ft

Lands and Damages: Acres - 310
Type - grazing
Improvements - None

Bear Creek Stream Group
Channels: 33.4 miles
Levees:
Height - 3 to 10 feet
Length - 58 miles

Haystack Dam and Lake

Dam: Type - Homogeneous Fill
Height - 78 feet
Length - 2,300 feet

Spillway: Type - Ungated,
concrete, low ogee spillway
Crest width - 200 feet
Capacity - 4,600 c.f.s.

Lake Capacity: Flood Control
storage - 5,300 ac-ft

Lands and Damages: Acres - 682
Type - grazing
Improvements - None

Fish & Wildlife Mitigation
Acres - 2,859

JUSTIFICATION: The project will provide flood protection to residential, commercial, and agricultural lands within and adjacent to the city of Merced. The population of Merced County, 90,440 in 1960, has increased to 206,900 in 1999. Rapid urbanization is increasing the severity of serious flooding problems that exist along the streams draining from the Sierra Nevada into Merced County. The 1998 value of physical improvements in the 73,700 acre area protected by the project is estimated to be in excess of $3.1 billion. During the January-February 1969 floods, about 24,000 acres were flooded, with damages of $940,000 reported. With recurrence of that flood under current prices, damages would amount to over $4.2 million. The average annual benefits at 1981 price levels are as follows:

Annual Benefits	Amount
Flood Control	$7,180,000
General Recreation	225,000
Area Redevelopment	627,000
Total	$8,032,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Planning, Engineering, and Design for Remaining Project	$ 500,000
Total	$ 500,000

1739

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, and Replacement Costs
Rehabilitation, Castle Dam		
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$ 4,635,000	
Pay 5 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent as determined under Section 103 (m) of the Water Resources Development Act of 1986 and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	595,000	$ 59,500
Total Castle Dam Non-Federal Costs	$ 5,230,000	$ 59,500
Remaining Project		
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$16,110,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	13,258,000	
Pay one-half of the separable cost allocated to recreation and bear all costs of operation, maintenance, repair, rehabilitation and replacement of recreation facilities. (Payments include $42,000 for lands)	282,000	$ 44,700

1740

Requirements of Local Cooperation (Continued)	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, and Replacement Costs
Rehabilitation,		
Pay 5 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent as determined under Section 103 (m) of the Water Resources Development Act of 1986 and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	6,020,000	627,800
Total Remaining Project Non-Federal Costs	$35,670,000	$672,500
Total Non-Federal Costs	$40,900,000	$732,000

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The California Reclamation Board is the local sponsor of the authorized project. Merced County provides a percentage of the non-Federal costs to the Reclamation Board, as specified by applicable State Water Code. On 27 June 1986 a Local Cooperation Agreement for Castle Dam unit was signed in compliance with the requirements of the Supplemental Appropriations Act of 1985. State of California legislation (AB3369) was enacted on 14 September 1986 which enabled the Reclamation Board to use appropriated funds for acquisition of project lands, easements, rights-of-way and relocations and to loan funds to Merced County to pay their portion of these requirements in accordance with cost sharing and financing concepts subsequently reflected in the Water Resources Development Act of 1986. A new Local Cooperation Agreement for Castle Dam in compliance with the Water Resources Development Act of 1986 was signed by the Assistant Secretary of the Army 30 November 1988. The non-Federal cost estimate for Castle Dam of $5,230,000, which includes a cash contribution of $595,000, is an increase of $2,860,000 from the non-Federal cost estimate of $2,370,000 noted in the Local Cooperation Agreement, which included a cash contribution of $430,000. The increase was due to revalued lands costs and a judgment award on Crane land litigation with additional lands and interest costs, added relocation costs for Edendale Weir work, and adjustments in inflation during construction. (See OTHER INFORMATION)

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $91,800,000 is the same as the latest estimate presented to Congress (FY 2000).

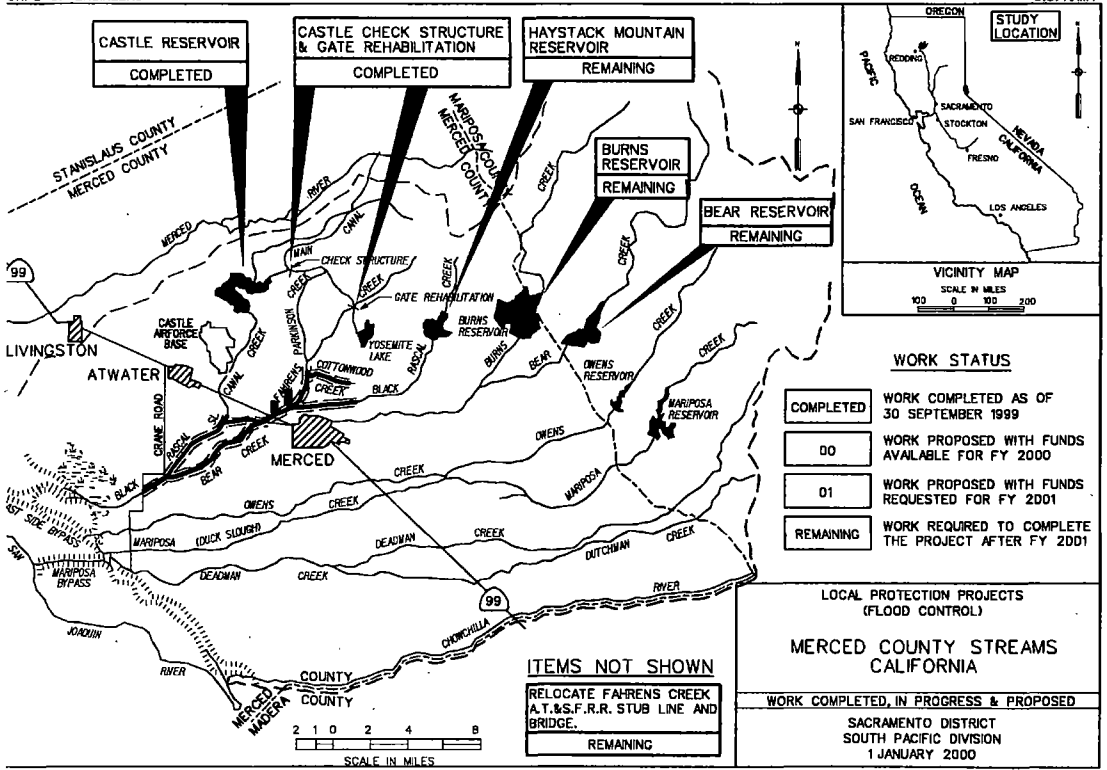
STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Final Environmental Impact Statement was filed on 25 September 1981. A Supplemental Environmental Impact Statement is being developed for the remaining portion of the project.

OTHER INFORMATION: Funds to initiate preconstruction planning were appropriated in FY 1973 and funds to initiate construction were appropriated in the FY 1985 Supplemental Appropriations Act.

The California Reclamation Board, City of Merced and the County Board of Supervisors have indicated support for the balance of the project through letters of intent dated 9 January 1996, and 18 and 19 December 1995, respectively. Benefit-cost information is based on current project scope, over 80 percent of which is unprogrammed. The unprogrammed construction cost is estimated at $108,013,000. The project scope is being reevaluated in a General Reevaluation Report(GRR). The GRR is also reassessing project costs and benefits for the remainder of the project. Upon completion of design and negotiation of cost sharing arrangements for the remainder of the project, the Project Cooperation Agreement could be executed as early as FY 2001.

Fish and Wildlife mitigation costs are currently estimated at $800,000.

ORPS OF ENGINEERS U.S. ARMY



JAN 2000

7 February 2000

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Mid-Valley Area Levee Reconstruction, California (Continuing)

LOCATION: The project is located within the boundaries of the Sacramento River Flood Control System in Placer, Solano, Sutter, Yolo and Yuba Counties in north-central California. The area includes the Sacramento and Feather Rivers, Knights Landing Ridge Cut, Sutter and Yolo Bypasses and portions of the Bear River including Yankee Slough, Dry, Cache, Putah Creeks and Natomas Cross Canal. Communities in the area include Knights Landing, Robbins, Davis and Woodland.

DESCRIPTION: An evaluation of about 240 miles of the Sacramento River Flood Control Project levees in the Mid-Valley area identified about 18 miles of levees that are structurally deficient. The project includes reconstructing these levees by installing landside berms with toe drains, relocation of ditches, embankment modifications, slurry cut-off walls, and developing land for fish and wildlife mitigation.

AUTHORIZATION: Flood Control Acts of 1917, 1928, and 1941; River and Harbor Act of 1937.

REMAINING BENEFIT-REMAINING COST RATIO: 10.5 to 1 at 8 percent.

TOTAL BENEFIT-COST RATIO: 1.8 to 1 at 8 percent.

INITIAL BENEFIT-COST RATIO: 1.12 to 1 at 8 percent (FY 1996).

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluation contained in the Sacramento River Flood Control Project, California, Mid-Valley Area, Phase III, Design Memorandum (DM) dated June 1996 as approved in August 1996, at 1995 price levels.

SUMMARIZED FINANCIAL DATA

R.D. 1500 (Contracts 1A ,1B, 1C, and 1D)		
Estimated Federal Cost		$ 8,426,000
Estimated Non-Federal Cost		2,793,000
Cash Contribution	$1,703,000	
Other Costs	1,090,000	
Total R.D. 1500 (Contracts 1A, 1B, 1C and 1D)		$ 11,219,000

STATUS (1 JAN 2000)	PHYSICAL PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
R.D. 1500	75	Being
Areas 2, 3, and 4	Not Started	Determined
Entire Project	45	

PHYSCIAL DATA	
Levee Reconstruction:	
Toe Drains	- 6.9 miles
Cut-Off Walls	- 0.2 miles
Embankment Modifications	- 11.2 miles
Fish and Wildlife Mitigation	- 17 acres

Division: South Pacific

District: Sacramento
7 February 2000

SUMMARIZED FINANCIAL DATA (Continued)

			ACCUM PCT OF EST FED COST
Remaining Areas 2, 3, and 4			
Estimated Federal Cost		$ 6,474,000	
Estimated Non-Federal Cost		$ 2,207,000	
Cash Contributions	$ 842,000		
Other Costs	1,365,000		
Total Remaining Areas 2, 3, and 4		$ 8,681,000	
Project Summary			
Estimated Federal Cost		$14,900,000	
Estimated Non-Federal Cost		$ 5,000,000	
Cash Contributions	$2,545,000		
Other Costs	2,455,000		
Total Estimated Project Cost		$19,900,000	
Allocations to 30 September 1999		$ 8,356,000 1/	
Conference Allowance for FY 2000		4,000,000	
Allocation for FY 2000		3,430,000 2/	
Allocations through FY 2000		11,786,000	79
Allocation Requested for FY 2001		2,000,000	93
Programmed Balance to Complete after FY 2001		1,114,000	
Unprogrammed Balance to Complete after FY 2001		0	

1/ Funding of $2,517,000 included in the Sacramento River Flood Control Project and reallocated to Mid-Valley
2/ Reflects $570,000 reduction assigned as savings and slippage.

JUSTIFICATION: Levee evaluation studies of approximately 240 miles of project levees have been completed in Placer, Solano, Sutter, Yolo and Yuba Counties. Results indicate that structural problems caused by ongoing seepage and levee subsidence exist. Reconstruction will be required to maintain the integrity of the existing Sacramento River Flood Control Project and assure the system continues to provide the original design levels of flood protection. The levees were locally constructed and incorporated into the project levee system when it was authorized in 1917. The area has

JUSTIFICATION (Continued)
experienced frequent floods, many occurring before streamflow data were recorded. Devastating floods in 1950, 1955, and 1964 caused loss of life and property damage in the area. The winter of 1982-83 has been described as California's wettest winter in more than a century and resulted in a disastrous year of flooding. Of California's 58 counties, 45 were declared national disaster areas including 5 in the Mid-Valley study area. The town of Knights Landing was threatened when water backed up in the Knights Landing Ridge Cut (a bypass channel parallel to the Sacramento River from Knights Landing to Yolo Bypass). The levees in the Knights Landing Ridge Cut area were originally constructed by local landowners and modified by the Corps of Engineers in the 1950's. Between 1956 and 1986, emergency flood repairs (PL 84-99) have been required 4 times on the Knights Landing Ridge Cut levees. Major storms in February 1986 resulted in record floods. Sutter County's Reclamation District (R.D.) 1500 incurred a 500-foot-long slump up to 4 feet deep on the west side of the levee in the Sutter Bypass near Robbins. High flows caused boils and extensive piping damage. During high flows in January and March 1995, considerable seepage and boils developed on the Sacramento River in Sutter and Yolo Counties. During the recent floods of January 1997, seepage and boils were identified on the south levee of the Tisdale Bypass. The levee was stabilized by constructing a stability berm under emergency construction authority. The areas protected by the levees comprise over 93,000 acres, mostly agriculture, and about 2,300 structures, primarily residences and farm structures with a population of about 2,700. The value of property the project will protect is estimated at $95.2 million. The project will restore design level of flood protection. Estimated average annual flood damages are $4.7 million. The county of Sutter qualifies as an area of substantial and persistent unemployment. Average annual benefits, all flood control, are estimated at $3,083,900 at October 1995 price levels.

FISCAL YEAR 2001: The requested amount will be applied as follows:

R.D. 1500 (Contracts 1A, 1B, 1C and 1D)		
Complete Crediting of Non-Federal Lands		$ 7,000
Complete Fish and Wildlife Mitigation Planting Contract 1C		15,000
Complete Levee Reconstruction Contract 1D		449,000
Planning, Engineering, and Design		75,000
Construction Management		39,000
Remaining Areas 2, 3 and 4		
Continue Fish & Wildlife Mitigation Planting Contract	$ 186,000	
Continue Levee Reconstruction Areas 2, 3 and 4	1,000,000	
Complete Certification of Non-Federal Lands	4,000	
Complete Cultural Resources Preservation	25,000	
Planning, Engineering, and Design		100,000
Construction Management		100,000
Total		$2,000,000

1746

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$2,442,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	13,000	
Pay 13 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	2,545,000	$ 0 3/
Total Non-Federal Costs	$5,000,000	$ 0 3/

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

3/ Reconstruction will reduce, not increase, annual operation and maintenance costs. Operation and maintenance costs are included in the original Sacramento River Flood Control Project and are the responsibility of the non-Federal interests.

STATUS OF LOCAL COOPERATION: The California State Reclamation Board will act as the local sponsor for reconstruction work. The Project Cooperation Agreement (PCA) for Reclamation District 1500 (R.D. 1500) (Contracts 1A, 1B, 1C and 1D) was signed on 12 September 1996. The second PCA for remaining construction is scheduled for March 2000. (See OTHER INFORMATION)

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $14,900,000 is the same as the latest estimate presented to Congress (FY 2000).

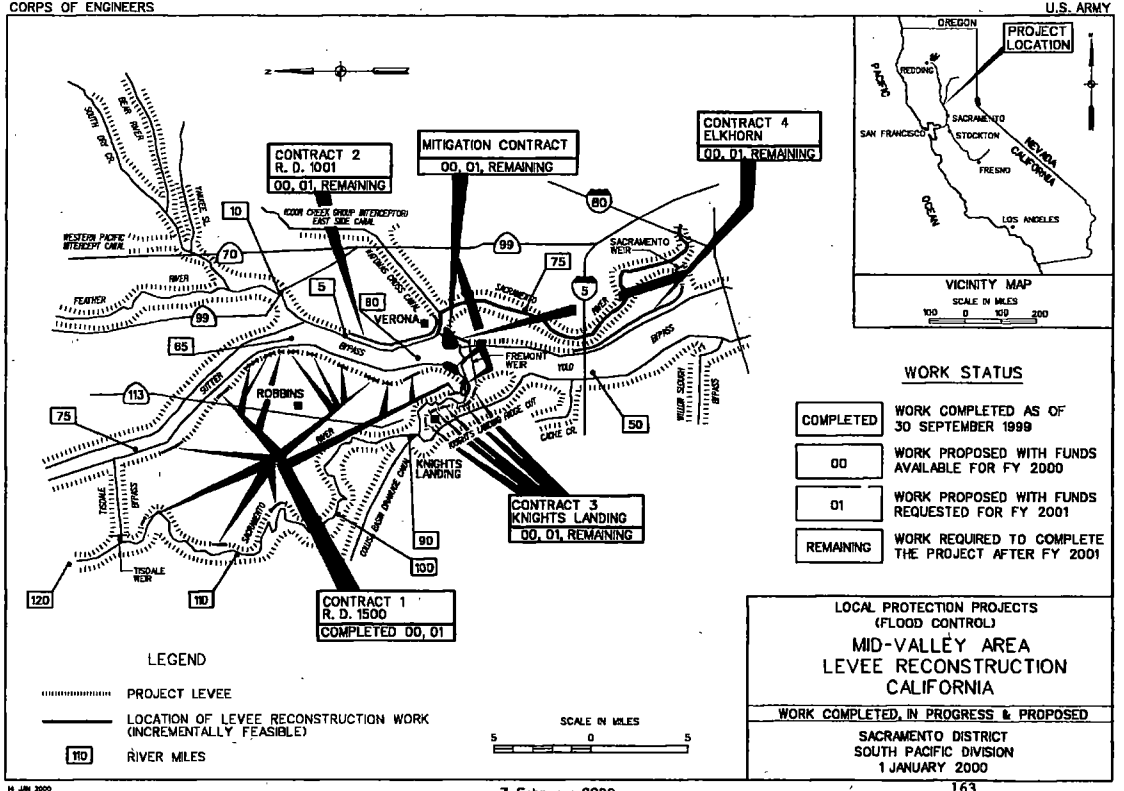
STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The original Sacramento River Flood Control Project was substantially complete prior to the National Environmental Policy Act of 1969. An Environmental Impact Statement (EIS) was not prepared. A Programmatic Environmental Impact Statement/Environmental Impact Report (EIS/EIR) on the levee reconstruction for the Marysville/Yuba City Area, Mid-Valley Area, Lower Sacramento Area and Upper Sacramento Area, the remaining four phases of the Sacramento River Flood Control System Evaluation, was filed with EPA on 19 June 1992 and the Record of Decision was signed 4 November 1992. The Programmatic EIS/EIR discusses the environmental impacts resulting from potential work for the entire area in general terms. An Environmental Assessment/Initial Study on site-specific impacts for recommended work in the Mid-Valley area was prepared and submitted for public review in May 1995. The Finding of No Significant Impacts (FONSI) was signed on 4 March 1996.

OTHER INFORMATION: Following the record high flows of February 1986, Operations and Maintenance funds were provided under Inspection of Completed Works to perform an evaluation of the integrity of the Sacramento River Flood Control System. A five phase program which divided the system into five study areas was developed. In each phase, the structural stability of the levees is examined and a determination made as to whether the system is functioning at its design level. The results of each study phase are submitted as an Initial Appraisal Report (IAR). The IAR for the Mid-Valley Area dated December 1991 was approved in October 1992. Funds to initiate engineering and design were appropriated in FY 1993 (Sacramento River Flood Control Project, California). Funds to initiate construction were appropriated in FY 1996. All four areas evaluated in the DM are economically feasible. These areas include R.D. 1500 (Contracts 1A, 1B, 1C and 1D), R.D. 1001 Verona (Area 2), Knights Landing (Area 3), and Elkhorn (Area 4). A Limited Reevaluation Report (LRR) was completed in September 1993, approved in March 1994, and revised in May 1995 for the economic analysis for all five phases of the Sacramento River Flood Control System Evaluation.

To respond to a request from R.D. 1500 to address the seepage problem for levee reconstruction, a portion of R.D 1500 (Contract 1A) was awarded on 28 September 1996. Construction, involving approximately one mile of landside berm with toe drain and slurry cut-off wall, was initiated in May 1997 and was completed in October 1997. The second portion of R.D. 1500 (Contract 1B) was awarded 18 July 1997. Contract 1D was awarded in December 1999, and the mitigation Contract 1C is scheduled to award in February 2000. A second PCA for remaining construction (Areas 2, 3 and 4) is scheduled to be signed in March 2000.

Based on damages from the January 1997 floods, a supplemental Design Memorandum is being prepared to evaluate additional sites for reconstruction consideration. Funding available under Public Law 84-99 was used to repair sites specifically damaged by the recent flood. If additional reconstruction sites are identified in a supplemental Design Memorandum, project cost will increase and completion schedule will be extended.
The fish and wildlife mitigation cost is estimated at $586,000.

CORPS OF ENGINEERS U.S. ARMY



LOCAL PROTECTION PROJECTS
(FLOOD CONTROL)

MID-VALLEY AREA LEVEE RECONSTRUCTION CALIFORNIA

WORK COMPLETED, IN PROGRESS & PROPOSED

SACRAMENTO DISTRICT
SOUTH PACIFIC DIVISION
1 JANUARY 2000

M JAN 2000
\\Sacpoppvr\projects_d\corps_maps\2001\mid_valley.dgn

7 February 2000

1749

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Napa River, California (Continuing)

LOCATION: The project is located in the city and county of Napa, California. The Napa River drainage basin, comprising 426 square miles, is just north of San Pablo Bay and approximately 40 miles northeast of San Francisco, California.

DESCRIPTION: The project consists of channel modifications to provide the project area with 100-year level of flood protection from Napa River and Napa Creek. Channel modifications include overbank excavation, vertical walls, floodwalls, levees, bridges, pumping stations, and flowage easements. The project also includes recreation trails and incidental ecosystem restoration.

AUTHORIZATION: Flood Control Acts of 1965 and 1976.

REMAINING BENEFIT - REMAINING COST RATIO: 1.5 to 1 at 7-1/8 percent.

TOTAL BENEFIT-COST RATIO: 1.4 to 1 at 7-1/8 percent.

INITIAL BENEFIT-COST RATIO: 1.4 to 1 at 7-1/8

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluation in the Draft Supplemental General Design Memorandum, December 1997, at 1 October 1997 price levels. Incidental ecosystem restoration benefits and recreational benefits are included in the remaining benefit-remaining cost ratio. The Final Supplemental General Design Memorandum was approved in May 1999.

SUMMARIZED FINANCIAL DATA			STATUS (1 JAN 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$ 91,000,000	Entire Project	Not Started	Being Determined
Estimated Non-Federal Cost		$ 91,000,000			
Cash Contributions	$ 9,477,000				
Other Costs	99,000,000				
Reimbursements	-17,477,000				
Total Estimated Project Cost		$182,000,000			

SUMMARIZED FINANCIAL DATA (Continued)

		ACCUM PCT OF EST FED COST
Allocations to 30 September 1999	$15,710,000	
Conference Allowance for FY 2000	3,500,000	
Allocation for FY 2000	2,002,000 1/	
Allocations through FY 2000	$17,712,000	19
Allocation Requested for FY 2001	$ 4,000,000	24
Progammed Balance to Complete after FY 2001	$69,288,000	
Unprogrammed Balance to Complete after FY 2001	0	

PHYSICAL DATA

Channel Modifications along Napa River from Highway 29 to Trancas Street - 6.9 miles:
excavation - 1.63 Mil cy
widening - 16,900 ft
vertical walls- 1,600 ft
floodwalls - 13,200 ft
levees - 9,900 ft
training dikes - 7,000 ft
bypass channel - 1,300 ft
Channel Modifications along Napa Creek from Main Street to Earl Street - 4,000 ft:
excavation length - 1,100 ft
Pumping stations
Bridges
Roadway
pedestrian
Recreation Trails - 19,000 ft
Flowage easement - 418.2 aces
Ecosystem - 60 acres

1/ Reflects $498,000 reduction assigned as savings and slippage and $1,000,000 reprogrammed from the project.

JUSTIFICATION: The Napa River Basin, ranging from tidal marshes to mountainous terrain, is subject to severe winter storms and frequent flooding. In the lower reach of the river, flood conditions are aggravated by high tides from San Pablo Bay and local runoff. The population in the city of Napa is approximately 69,900 in 1999. Many residential, business and industrial buildings are located by the Napa River within the City limits. Excluding public facilities, the present value of damageable property within the project floodplain is over $500 million. Flooding in the Napa area has occurred in 1955, 1958, 1963, 1965, 1986 (flood of record) and 1995. The 1986 flood (estimated to be a 55-year event) resulted in 3 people dead, 27 injured, an estimated $50-$100 million in property damages throughout Napa County, and the evacuation of approximately 3,500 residents. The 1986 flood crested at 30.2 feet. The predicted crest for a 100 year flood is 32 feet. During the January 1995 flood (estimated to be a 50-year event) the Napa River crested at about 27 feet, and during the March 1995 flood the river crested near 31 feet. Although the March 1995 river crest was higher than the 1986 flood, fewer damages were incurred during the 1995 flood due to a rain stoppage three to four hours before the crest arrived, allowing the tributaries to partially subside. The damage assessments for the January and March 1995 floods report property damages of $5.5 million and $10.8 million, respectively. Resulting damages include approximately 140 residences in the January 1995 flood and 372 residences and 200 businesses in the March 1995 flood. Almost all of the damages from the 1986 and 1995 floods within the project area would have been prevented by the project. The project will provide 100-year level of flood protection. Average annual benefits are as follows:

Annual Benefits	Amount
Flood Damage Prevention	$15,453,000
Recreation	310,000
Ecosystem Restoration	3,293,000
Total	$19,056,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Contract 1 (Hwy 29 to Imola Avenue)	$2,550,000
Certification of Non-Federal Lands	50,000
Planning, Engineering, and Design	1,200,000
Construction Management	200,000
Total	$4,000,000

1752

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Requirements of Local Cooperation		
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$62,000,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	37,000,000	
Pay 5 percent of the costs allocated to flood control and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	8,970,000	325,000
Pay one-half of the separable costs allocated to recreation (except recreational navigation) and bear all costs of operation, maintenance, repair, rehabilitation and replacement of recreation facilities.	507,000	40,000
Federal reimbursement to non-Federal sponsor for non-Federal costs allocated to flood control and recreation in excess of Federal costs.	-17,477,000	
Total Non-Federal Costs	$91,000,000	$365,000

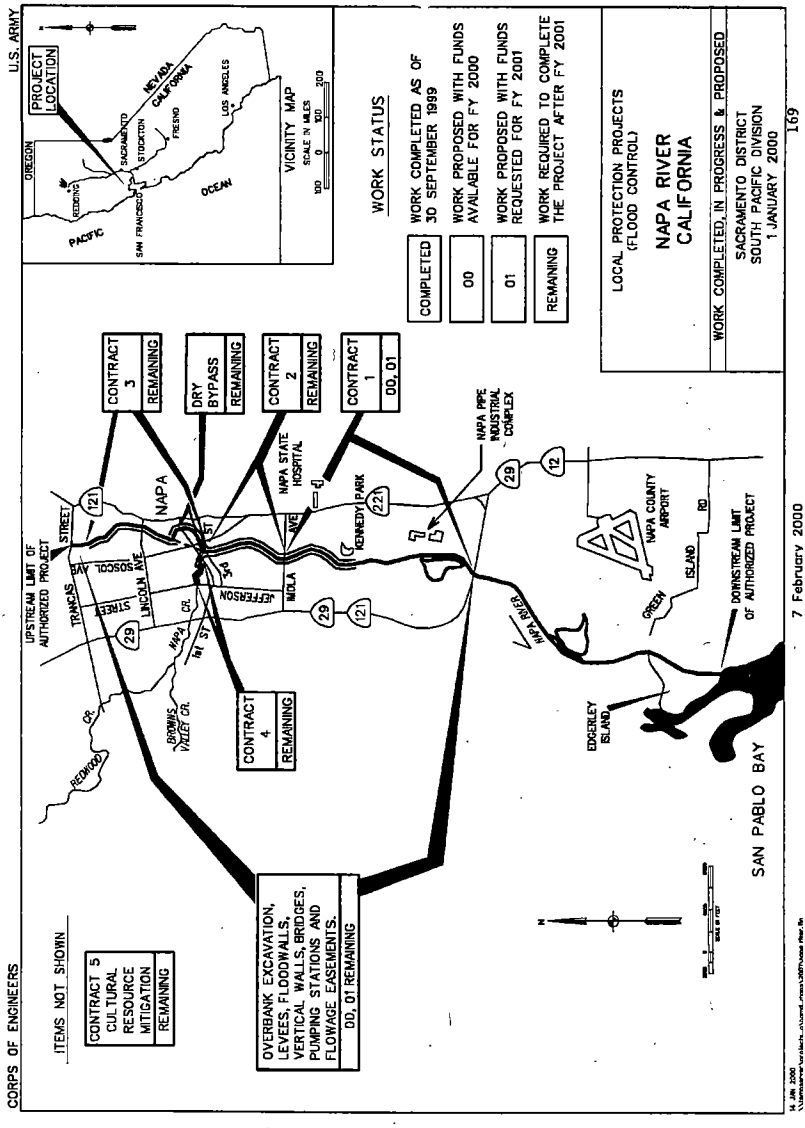
The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The Napa County Flood Control and Water Conservation District is the local sponsor for both the flood control and recreation purposes of the project. In June 1999, the Napa County Flood Control and Water Conservation District indicated support for the project and intent to cost share both project purposes. In March 1998, the Napa County electorate passed "Measure A" which will fund the non-Federal share of the project. The Project Cooperation Agreement for flood control and recreation is scheduled to be executed in April 2000.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $91,000,000 is the same as the latest estimate presented to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final EIS was filed with EPA on 18 December 1997.

OTHER INFORMATION: Funds to resume preconstruction engineering and design were appropriated in Fiscal Year 1989. Funds to initiate construction were appropriated in Fiscal Year 2000.


U.S. ARMY
CORPS OF ENGINEERS
PROJECT LOCATION
OREGON
NEVADA
CALIFORNIA
REDDING
SACRAMENTO
STOCKTON
FRESNO
LOS ANGELES
SAN FRANCISCO
PACIFIC
OCEAN
VICINITY MAP
SCALE IN MILES
100 0 100 200
WORK STATUS
COMPLETED
WORK COMPLETED AS OF 30 SEPTEMBER 1999
00
WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2000
01
WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
REMAINING
WORK REQUIRED TO COMPLETE THE PROJECT AFTER FY 2001
LOCAL PROTECTION PROJECTS
(FLOOD CONTROL)
NAPA RIVER
CALIFORNIA
WORK COMPLETED, IN PROGRESS & PROPOSED
SACRAMENTO DISTRICT
SOUTH PACIFIC DIVISION
1 JANUARY 2000
169
7 February 2000
CONTRACT 3
REMAINING
DRY BYPASS
REMAINING
CONTRACT 2
REMAINING
CONTRACT 1
00, 01
CONTRACT 4
REMAINING
NAPA
NAPA STATE HOSPITAL
NAPA PIPE INDUSTRIAL COMPLEX
KENNEDY PARK
NAPA COUNTY AIRPORT
UPSTREAM LIMIT OF AUTHORIZED PROJECT
DOWNSTREAM LIMIT OF AUTHORIZED PROJECT
EDGERLEY ISLAND
SAN PABLO BAY
ITEMS NOT SHOWN
CONTRACT 5
CULTURAL RESOURCE MITIGATION
REMAINING
OVERBANK EXCAVATION, LEVEES, FLOODWALLS, VERTICAL WALLS, BRIDGES, PUMPING STATIONS AND FLOWAGE EASEMENTS.
00, 01 REMAINING

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Sacramento River Bank Protection Project, California (Continuing)

LOCATION: The project is located in north-central California, along the Sacramento River and its principal tributaries from Sacramento River RM 0.0 at Collinsville to Chico Landing at RM 194. It is within the limits of the existing Sacramento River Flood Control Project levees and includes Butte Basin, Cache Slough, and a portion of the Sacramento-San Joaquin Delta slough. The project meanders through ten counties including Shasta, Tehama, Glenn, Butte, Colusa, Sutter, Yolo, Solano, Sacramento, and San Joaquin.

DESCRIPTION: The project provides a long-range program of bank protection to protect the levees within the limits of the Sacramento River Flood Control Project from erosion. It prevents undermining of levee sections and includes fish and wildlife mitigation features. Some recreational facilities have been provided along the river. Remaining recreation facilities are dependent upon final design and negotiation of cost sharing agreements with the State of California.

AUTHORIZATION: Flood Control Act of 1960; River Basin Monetary Authorization Act of 1974; Further Continuing Appropriations Act of 1983 and Water Resources Development Act of 1986.

REMAINING BENEFIT-REMAINING COST RATIO: The remaining benefit-remaining cost ratio for all project elements is not applicable because monetary benefits have not been quantified. In the reevaluation of project benefits for the Second Phase report, it was determined impractical to assign a monetary value to the benefits which would result from the removal of threats of eventual levee breaks when there are hundreds of vulnerable locations in various states of deterioration. Therefore, a project benefit-cost ratio was not included in the report submitted to the Congress on the advisability for remaining work.

TOTAL BENEFIT-COST RATIO: Not Applicable

INITIAL BENEFIT-COST RATIO: Not Reported

BASIS OF BENEFIT-COST RATIO: Not Applicable

1756

SUMMARIZED FINANCIAL DATA

Pre Separable Element Work (Contracts 1-37, 38A and 39)

Estimated Federal Cost			$55,488,000
Programmed Construction		$53,871,000	
Unprogrammed Construction		1,617,000	
Estimated Non-Federal Cost			$27,740,000
Programmed Construction		$27,449,000	
Cash Contribution	$12,359,000		
Other Costs	15,090,000		
Estimated Non-Federal Cost			
Unprogrammed Construction		$ 291,000	
Cash Contribution	$ 291,000		
Other Costs	0		
Total Estimated Programmed Construction Cost			$81,320,000
Total Estimated Unprogrammed Construction Cost			$ 1,908,000
Total Pre-Separable Element			$83,228,000

Separable Element 38B

Estimated Federal Cost			$ 3,088,000
Estimated Non-Federal Cost			$ 1,030,000
Cash Contribution		$ 931,000	
Other Costs		99,000	
Total Separable Element 38B			$ 4,118,000

1757

SUMMARIZED FINANCIAL DATA (Continued)

Separable Element 40			
Estimated Federal Cost			$20,820,000
Programmed Construction		$13,505,000	
Unprogrammed Construction		7,315,000	
Estimated Non-Federal Cost			$ 6,075,000
Programmed Construction		$ 4,290,000	
Cash Contribution	$ 2,919,000		
Other Costs	1,371,000		
Estimated Non-Federal Cost			
Unprogrammed Construction		$ 1,785,000	
Cash Contribution	$ 1,710,000		
Other Costs	75,000		
Total Estimated Programmed Construction Cost			$17,795,000
Total Estimated Unprogrammed Construction Cost			$ 9,100,000
Total Separable Element 40			$26,895,000
Separable Element 41			
Estimated Federal Cost			$15,077,000
Programmed Construction		$ 6,895,000	
Unprogrammed Construction		8,182,000	
Estimated Non-Federal Cost			$ 5,313,000
Programmed Construction		$ 3,051,000	
Cash Contribution	$ 2,035,000		
Other Costs	1,016,000		
Estimated Non-Federal Cost			
Unprogrammed Construction		$ 2,262,000	
Cash Contribution	$ 2,259,000		
Other Costs	3,000		
Total Estimated Programmed Construction Cost			$ 9,946,000
Total Estimated Unprogrammed Construction Cost			$10,444,000
Total Separable Element 41			$20,390,000

1758

SUMMARIZED FINANCIAL DATA (Continued)

Separable Element 42			
Estimated Federal Cost			$55,973,000
Programmed Construction		$51,845,000	
Unprogrammed Construction		4,128,000	
Estimated Non-Federal Cost			$19,108,000
Programmed Construction		$17,257,000	
Cash Contribution	$13,500,000		
Other Costs	3,757,000		
Estimated Non-Federal Cost			
Unprogrammed Construction		$ 1,851,000	
Cash Contribution	$ 1,851,000		
Other Costs	0		
Total Estimated Programmed Construction Cost			$69,102,000
Total Estimated Unprogrammed Construction Cost			$ 5,979,000
Total Separable Element 42			$75,081,000
Separable Element 43			
Estimated Federal Cost			$26,467,000
Programmed Construction		$ 1,536,000	
Unprogrammed Construction		24,931,000	
Estimated Non-Federal Cost			$ 9,329,000
Programmed Construction		$ 1,085,000	
Cash Contribution	$ 277,000		
Other Costs	808,000		
Estimated Non-Federal Cost			
Unprogrammed Construction		$ 8,244,000	
Cash Contribution	$ 4,492,000		
Other Costs	3,752,000		
Total Estimated Programmed Construction Cost			$ 2,621,000
Total Estimated Unprogrammed Construction Cost			$33,175,000
Total Separable Element 43			$35,796,000

SUMMARIZED FINANCIAL DATA (Continued)

First Phase - Fish and Wildlife Mitigation			
Estimated Federal Cost			$ 1,332,000
Estimated Non-Federal Cost			$ 790,000
Cash Contribution		$ 90,000	
Other Costs		700,000	
Total First Phase - Fish and Wildlife Mitigation			$ 2,122,000
Third Phase (P,E&D only)			
Estimated Federal Cost			$ 1,330,000
Estimated Non-Federal Cost			$ 440,000
Cash Contribution		$ 440,000	
Other Costs		0	
Total Third Phase (P,E&D only)			$ 1,770,000
Project Summary			
Estimated Federal Cost			$179,900,000
Programmed Construction		$133,727,000	
Unprogrammed Construction		46,173,000	
Estimated Non-Federal Cost			$ 69,500,000
Programmed Construction		$ 55,067,000	
Cash Contribution	$32,226,000		
Other Costs	22,841,000		
Estimated Non-Federal Cost			
Unprogrammed Construction		$14,433,000	
Cash Contribution	$10,603,000		
Other Costs	3,830,000		
Total Estimated Programmed Construction Cost			$188,794,000
Total Estimated Unprogrammed Construction Cost			$ 60,606,000
Total Estimated Project Cost			$249,400,000

1760

SUMMARIZED FINANCIAL DATA (Continued)

		ACCUM PCT OF EST FED COST	STATUS (1 JAN 2000)	PHYSICAL PERCENT COMPLETE	
COMPLETION SCHEDULE					
			Bank Protection	91	Unscheduled
			Recreation	50	Indefinite
			Entire Project	91	Indefinite
Allocations to 30 September 1999	$107,608,000				
Conference Allowance for FY 2000	$ 7,000,000				
Allocation for FY 2000	$ 4,003,000	1/			
Allocations through FY 2000	$111,611,000	62			
Allocation Requested for FY 2001	$ 3,300,000	64			
Programmed Balance to Complete after FY 2001	$ 18,816,000				
Unprogrammed Balance to Complete after FY 2001	$ 46,173,000				

PHYSICAL DATA

Bank Protection: 835,000 lineal feet
First Phase - 430,000 lineal feet
Second Phase - 405,000 lineal feet

1/ Reflects $997,000 reduction assigned as savings and slippage and $2,000,000 reprogrammed from the project.

JUSTIFICATION: The Sacramento River levee system was initiated as a purely local project and in many cases the levees were constructed close to the river banks without a protective berm. The levee system, which was adopted as the Sacramento River Flood Control Project in 1917, has been modified and expanded several times since that date but no major change in the basic levee alignment has been made since the original conception of the project. Bank protection is necessary to preserve the Sacramento River Flood Control Project and insure that it will continue to furnish the designed degree of protection. The levees are continuously threatened by erosion, and unless corrective measures are taken levee failures may occur with resultant catastrophic damage and possible loss of many lives. Flood events which occurred in February 1986 greatly emphasized these problems. Several levees located along the Sacramento River were subjected to an extensive amount of erosion due to the extremely high river flows. High flows in January and March 1995 caused flooding and erosion in the Butte Basin area along the Sacramento River, River Mile (RM) 188 at Glenn County Road 29. If levee repairs had not been made, additional flooding would have caused extensive loss of agricultural land and endangered residents in nearby communities of Butte City, Princeton and Colusa. In addition, during moderately high flows in February 1996, a 500 foot portion of berm on the American River failed, threatening the levee protecting the City of Sacramento. A contract was awarded in August 1996 to repair this section and provide bank protection for a total of 1,200 lineal feet. The area protected by the levees comprise over one million acres in which about 50 communities are located; value of lands and improvements (1997) to be protected is about $51 billion and about 2 million people live within the flood plain. The levee system enables the use of the flood plain for the benefit of the state and nation. The extremely fertile flood plain lands produce about 9 percent of the total agricultural production of the state and 23 percent of the rice production of the nation. The Sacramento River Bank Protection Project provides a long-range program of bank protection to protect the levees where serious erosion is occurring and to prevent erosion from undermining additional levee sections in the future. In addition to assuring urgently needed flood protection, the

JUSTIFICATION (Continued):
project provides recreation facilities consisting of boat-launching facilities, campgrounds, and picnic areas needed along the river to meet a rapidly increasing public demand. Since the initial bank protection contract was let in June 1963, about 767,000 lineal feet of bank protection has been provided. Approximately 68,000 lineal feet of bank protection remains to be placed on the second phase of this project, and the local sponsor supports the addition of a third phase, which will require Congressional authorization.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Separable Element 42	
Initiate bank protection Contract LAR2 Site 5 Phase 3	450,000
Continue Colusa R.D. 108 Contract	2,300,000
Planning, Engineering, and Design	300,000
Construction Management	250,000
Total	$3,300,000

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Requirements of Local Cooperation		
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$ 20,712,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	5,959,000	
Pay 15 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to one-third for work initiated prior to 30 April 1986, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	12,650,000	$ 792,000

1762

Requirements of Local Cooperation (Continued)	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Pay 18 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent for work initiated after 30 April 1986, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	30,179,000	274,000
Total Non-Federal Costs	$ 69,500,000	$1,066,000

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: Chapter 2188, Statutes of the State of California, approved by the Governor on 21 July 1961, established the State Reclamation Board as the agency to meet the requirements of local cooperation for the project. Assurances of local cooperation were accepted from the Board 5 February 1963. As of 30 September 1997, the State has expended $43,490,000 for construction of the project. The Reclamation Board signed a Local Cooperation Agreement (LCA) satisfying the requirements of Section 221, Flood Control Act of 1970 (Public Law 91-611) for the remaining Second Phase work in May 1984. In accordance with provisions of the Water Resources Development Act of 1986 for separable project elements initiated after 30 April 1986, new LCA=s were executed for separable element 41 on 15 August 1988 and for separable elements 38B, 40, and 42 on 7 December 1988. The LCA for the First Phase Mitigation was signed on 5 June 1990. Execution of a Project Cooperation Agreement for separable element 43, the last separable element in the Second Phase, is unscheduled pending approvals to proceed with more comprehensive evaluations of design alternatives. The current non-Federal cost estimate of $69,500,000 has not changed from the estimate last presented to Congress.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $179,900,000 is the same as the latest estimate presented to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: A final Environmental Impact Statement (EIS) was filed on 15 June 1973. A SEIS for the Second Phase was filed in February 1989. A final EIS for additional work in Butte Basin, and an update submitted as Supplement 4, were signed in June 1988. An Environmental Assessment/Site Specific Report (EA/SSR) was prepared for Contract 42A and a Finding of No Significant Impacts (FONSI) was signed on 15 February 1994. An EA/SSR was prepared for Contracts Lower American River site 3 and 40D and FONSI's were signed 2 July 1996 and 3 September 1997, respectively. A Supplemental Design Memorandum No. 8 is being prepared for sites along the lower American River and the SEIS was completed in April 1998. Currently, an EA/SSR to meet both Federal and State of California requirements is approved prior to construction of each bank protection contract. An Engineering Documentation Report is being prepared to address remaining sites within second phase. An SEIS for the Engineering Documentation Report is scheduled for completion in April 2002.

OTHER INFORMATION: Funds to initiate preconstruction planning were appropriated in FY 1962, and for construction in FY 1963. Construction of First Phase was completed in November 1974. Authority to proceed with additional bank protection works, Second Phase, was provided by Section 202, River Basin Monetary Authorization Act of 1974, Public Law 93-251. The Further Continuing Appropriations Act, 1983 extended the limits of the project to include bank protection along the Sacramento River to the upstream ends of the project levees to Chico Landing (Butte Basin area). The Water Resources Development Act of 1986 modified the First Phase of the project to include acquisition of lands for establishment and maintenance of wildlife habitat at a total cost of $1,410,000 ($2,122,000 inflated through construction). The last parcel was acquired in Fiscal Year 1997. Revegetation has been highly successful and is serving as a model for revegetation efforts by others.

The U.S. Fish and Wildlife Service, by letter dated 7 November 1985, issued a Biological Opinion stating that the bank protection work along the Sacramento River from Chico Landing to Red Bluff and in the Butte Basin area would endanger the threatened valley elderberry longhorn beetle. The Service issued a revised opinion on 19 May 1987 which permitted limited rock revetment bank protection to be constructed in the Butte Basin. The potential impact to winter run salmon has also been a significant concern as the winter run salmon have experienced an alarming decline since 1969. National Marine Fisheries Service (NMFS) listed winter run salmon as a threatened species in November 1990. The winter run salmon biological data report was completed January 1991. NMFS Biological Opinion dated 28 October 1991 for the winter run salmon was non-jeopardy but lists recommended conservation measures. Winter run salmon along with bank swallows and Swainson's Hawk are also State listed species and a Biological Opinion was received from California Department of Fish and Game on 18 November 1991 which also recommends conservation measures. By letter dated 16 September 1992, NMFS has requested reinitiation of formal consultation for winter run salmon. Due to these biological opinions, a General Reevaluation Report was proposed to address remaining sites within second phase. In October 1997, a decision was made to defer initiation of a General Reevaluation Report for bank protection design alternatives including potential use of setback levees to minimize environmental impacts due to similar studies that will be addressed under the Sacramento and San Joaquin River Basins Comprehensive feasibility study. After the February 1986 flood, the Sacramento River System

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OTHER INFORMATION (Continued)

experienced below normal precipitation and flood flows. This led to a lower rate of erosion and a lowered need for expedited bank protection work. However, the storms of January and March 1995 and January 1997 have caused erosion damage and the urgency for bank protection has increased. The scope of Contract 42E will address critical sites not addressed by the PL 84-99 program. Further, an Engineering Documentation Report will be developed to support additional bank protection placement.

The California Reclamation Board, by letter dated 11 May 1984, requested initiation of a third phase of bank protection. The Board reiterated the critical need for a third phase by letter of 1 September 1988 and stated its willingness and ability to cost-share this phase of the project in accordance with the provisions of the Water Resources Development Act of 1986. Congressional authorization is required to extend the limits of bank protection beyond the current 835,000 lineal feet. Pending completion of the General Reevaluation Report with approvals to proceed with more comprehensive evaluations of design alternatives, potential proposals for Third Phase bank protection are unscheduled. Several sites along the Lower American River within the confines of the Sacramento River Bank Protection Project require bank protection to avoid undermining levees and flood protection in the Sacramento Metropolitan Area. Repair of these sites is the basis for the pre-project condition of the American River Investigation. These sites, totaling approximately 20,000 lineal feet, have been included as part of separable element 42. Lower American River sites 1-4 and site 5 phase 1 and 2 were completed December 1999. Site 5 Phase 3 is scheduled for award in FY 2001.
Portion of the project has an unprogrammed balance including funds for recreation and separable element 43 pending the outcome of the Engineering Documentation Report.

The fish and wildlife mitigation cost is estimated at $26,589,000.

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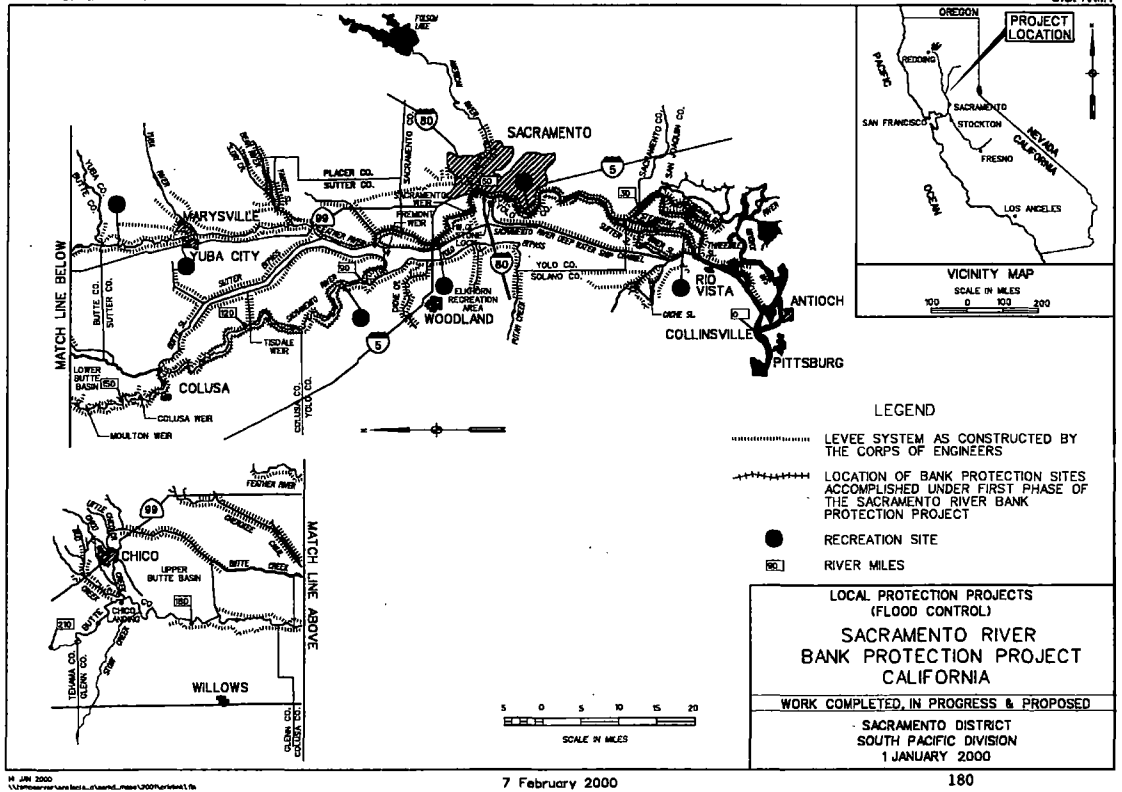

LOCAL PROTECTION PROJECTS
(FLOOD CONTROL)

SACRAMENTO RIVER BANK PROTECTION PROJECT CALIFORNIA

WORK COMPLETED, IN PROGRESS & PROPOSED

SACRAMENTO DISTRICT
SOUTH PACIFIC DIVISION
1 JANUARY 2000

H JAN 2000

7 February 2000

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ITEMS NOT SHOWN COMPLETED WORK	REMAINING ACTIVITIES	REMAINING ACTIVITIES
FIRST PHASE BANK PROTECTION: CONTRACTS 1 THRU 36 (430,000 L. F.) SECOND PHASE, PART I, BANK PROTECTION: CONTRACTS 27 THRU 36 (182,000 L. F.) SECOND PHASE, PART II, BANK PROTECTION: CONTRACT 37, RM 0-62 CONTRACT 38A, RM 60-145 CONTRACT 38B, RM 60-120 CONTRACT 39, RM 177-194 CONTRACT 40A, RM 132-180 CONTRACT 40C, RM 15-25, STEAMBOAT SL., MINER SL. & SUTTER SL. CONTRACT 40B-1, RM 187-192 CONTRACT 41A, RM 0-60 CONTRACT 41, FEATHER RIV, COLUSA BASIN DRAIN, & BYPASSES CONTRACT 40B-M, RM 145-194 CONTRACT 40C-M, RM 15-25 CONTRACT 41A-M1-41A-M5, RM 20-60 CONTRACT 41B, FEATHER RIV CONTRACT 42C, RM 90.4R/90.9R CONTRACT 42C-M, RM 90.4R/90.9R EMERGENCY COUNTY RD. 29 RM 186-188 CONTRACT 42A, RM 60-145 FIRST PHASE WILDLIFE MITIGATION CONTRACT 40D, RM 16.1R CONTRACT LAR 1A-1 CONTRACT LAR 1A-2 COMPLETED	CONTRACT LAR 1B CONTRACT LAR 1A-3 CONTRACT SITE 5 PHASE I & II COMPLETED, 00 CONTRACT 42A-M CONTRACT 42C-M COMPLETED, 00, 01 CONTRACT 42E CONTRACT 42E-M CONTRACT COLUSA RD-108 CONTRACT SITE 5 PHASE 3 00, 01, REMAINING CONTRACT 42F CONTRACT SITE 5 PHASE 4 01, REMAINING	SECOND PHASE, PART II, BANK PROTECTION: CONTRACT LAR 3 CONTRACT 40E, RM SL. 0-62 CONTRACT 40E-M, RM SL. 0-62 CONTRACT 40F, RM SL. 0-62 CONTRACT 40F-M, RM SL. 0-62 CONTRACT 41C, RM 0-80 CONTRACT 41C-M, RM 0-80 CONTRACT 42B, RM 15-60 CONTRACT 42B-M, RM 15-60 CONTRACT 43A, RM 140-194 CONTRACT 43A-M, RM 140-194 CONTRACT 43B, RM 140-194 CONTRACT 43B-M, RM 140-194 CONTRACT 43C, RM 0-80 CONTRACT 43CM, RM 0-80 CONTRACT 43D, RM 0-80 CONTRACT 43D-M, RM 0-80 REMAINING

WORK STATUS

COMPLETED	WORK COMPLETED AS OF 30 SEPTEMBER 1999
00	WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2000
01	WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
REMAINING	WORK REQUIRED TO COMPLETE THE PROJECT AFTER FY 2001

LOCAL PROTECTION PROJECTS
(FLOOD CONTROL)

SACRAMENTO RIVER BANK PROTECTION PROJECT CALIFORNIA

WORK COMPLETED, IN PROGRESS & PROPOSED

SACRAMENTO DISTRICT
SOUTH PACIFIC DIVISION
1 JANUARY 2000

14 JAN 2000
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7 February 2000

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Sacramento River Flood Control Project, Glenn-Colusa Irrigation District, CA (Continuing)

LOCATION: The project is located between Sacramento River Mile 202 and 206 near the Glenn-Tehama county line. Additional work is also being performed near River Mile 208. It is about 100 miles north of Sacramento, California.

DESCRIPTION: Since 1970, flood flows in the Sacramento River have altered the river channel and lowered the water surface at the Glenn-Colusa Irrigation District (GCID) Hamilton City pumping plant. Changing conditions cause significant adverse impacts to river stability, water supply and anadromous fishery resources in the area. The proposed plan for a gradient facility includes use of multiple sheet piles coupled with stone to replicate a natural riffle in the river to restore river hydraulic gradient to approximate pre-1970 conditions, and bank protection in the vicinity of the water intake facility. Concurrently, GCID, the State of California, and the United States Bureau of Reclamation are designing a project to build new fish screens at the GCID pumping facilities. Although the Corps is not participating financially in the fish screen project, design and construction of the Corps' gradient facility is necessary for the proper operation of the GCID/State fish screen proposals. Project features also include bank stabilization work in the riverbed gradient facility in the vicinity of River Mile 208.

AUTHORIZATION: Flood Control Act of 1917, Energy and Water Development Appropriations Act of 1990, Water Resources Development Acts of 1996 and 1999, and Energy and Water Development Appropriations Act of 1999.

REMAINING BENEFIT-REMAINING COST RATIO: (See Other Information)

TOTAL BENEFIT-COST RATIO: (See Other Information)

INITIAL BENEFIT-COST RATIO: (See Other Information)

BASIS OF BENEFIT-COST RATIO: (See Other Information)

SUMMARIZED FINANCIAL DATA		
Estimated Federal Cost		$20,000,000
Estimated Non-Federal Cost		$ 6,000,000
Cash Contribution	$5,000,000	
Other Costs	1,000,000	
Total Estimated Project Cost		$26,000,000

STATUS (1 JAN 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project	Not Started	Being Determined

PHYSICAL DATA
Gradient up to 3.5' depth
Sheet piling

SUMMARIZED FINANCIAL DATA (Continued)

		ACCUM PCT OF EST FED COST	
Allocations to 30 September 1999	$ 5,226,000		
Conference Allowance for FY 2000	6,000,000		
Allocation for FY 2000	5,146,000 1/		1/ Reflects $854,000 reduction assigned
Allocation through FY 2000	10,372,000	52	as savings and slippage.
Allocation Requested for FY 2001	4,100,000	72	
Programmed Balance to Complete after FY 2001	5,528,000		
Unprogrammed Balance to Complete After FY 2001	0		

JUSTIFICATION: The flood of 1969-1970 caused changes in the alignment of the Sacramento River. A cutoff occurred in 1970 at River Mile 205. This cutoff reduced the length of the flows in the river from two miles to approximately 1,400 feet. Flood flows since that time have caused the continued periodic degradation of the river hydraulic gradient. The elevation of the main river water surface at the mouth of the diversion channel to the Glenn-Colusa Irrigation District's pumps have been reduced about 3 feet. Lower water surface on the fish screens has resulted in losses to the anadromous fishery population. The most significant losses have occurred to the endangered winter-run salmon. The Gradient Facility is an integral part of proposed improvements that include a fish screen and fish bypass. These improvements will minimize losses to fish near the pumping plant diversion and will maximize Glenn-Colusa Irrigation District's capability to divert entitled water to meet delivery obligations. The Water Resources Development Act of 1999 authorized the Secretary to carry out bank stabilization work in the riverbed gradient facility, particularly in the vicinity of River Mile 208. This will protect the overall integrity of the project.

FISCAL YEAR 2001: The requested amount of will be used as follows:

Continune Gradient Facility Contract	$3,418,000
Planning, Engineering, and Design	400,000
Construction Management	282,000
Total	$4,100,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Requirements of Local Cooperation		
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$ 1,000,000	
Pay 19 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	$ 5,000,000	$ 66,800
Total Non-Federal Costs	$ 6,000,000	$ 66,800

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: A Project Cooperation Agreement with the Glenn-Colusa Irrigation District was executed in December 1999. The non-Federal cost estimate of $6,000,000, which includes a cash contribution of $5,000,000, is an increase of $550,000 from the non-Federal cost estimate of $5,450,000 noted in the Project Cooperation Agreement, which included a cash contribution of $4,450,000. The Glenn-Colusa Irrigation District has expressed support for bank stabilization work as authorized in the Water Resources Development Act of 1999.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $20,000,000 is an increase of $3,450,000 from the latest estimate ($16,550,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Authorized Modifications	$ 3,450,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: A combined Environmental Impact Statement/Environmental Impact Report (EIS/EIR) meeting criteria of the National Environmental Policy Act and California Environmental Quality Act, respectively was prepared by Glenn-Colusa Irrigation District with the U.S. Bureau of Reclamation and Corps as co-lead Federal agencies. The EIS/EIR addresses impacts of the fish screens and the gradient facility. The final EIS/EIR is complete and the Record of Decision was executed in April 1998. Additional environmental documentation will be completed prior to initiating construction of bank stabilization work at River Mile 208.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design (PED) were appropriated in FY 1990, and funds to initiate construction were appropriated in FY 1991.

The Gradient Facility project was authorized by the Fiscal Year 1990 Energy and Water Development Appropriations Act, at $6.0 million based on a local report prepared jointly by California Department of Fish and Game and Glenn-Colusa Irrigation District. The estimate was for only construction. The estimate excluded PED, lands costs, and features for boat passage and fish migration. The project was reauthorized by the Water Resources Development Act of 1996 at $14.2 million. Subsequent to reauthorization, the local sponsor selected the flat screen design for fish screen improvement and the U.S. Bureau of Reclamation determined the size of the gradient facility required for proper operation of the fish screens. A Limited Reevaluation Report reflecting a larger gradient facility was approved in April 1998. The Energy and Water Development Appropriations Act of 1999 increased the authorized total project first cost to $20.7 million ($22 million fully-funded). Section 305 of the Water Resources Development Act of 1999 authorized bank stabilization work in the riverbed gradient facility in the vicinity of River Mile 208. This work is necessary to protect the overall integrity of the project. The Act directed that additional environmental review of the project will be conducted prior to carrying out the work.

Project benefits were last addressed in a feasibility report prepared by GCID and the State Fish and Game. The annualized fishery and ancillary benefits ranged from $3.2 million to $6.5 million.

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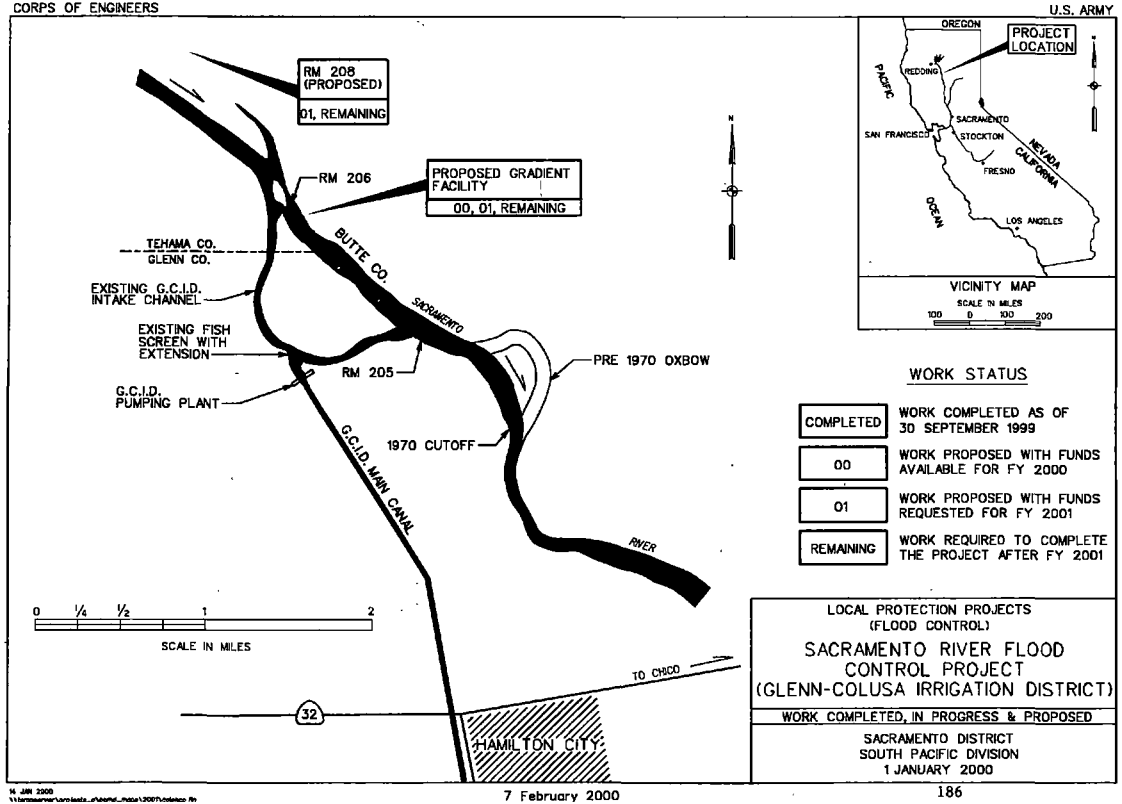

WORK STATUS

COMPLETED	WORK COMPLETED AS OF 30 SEPTEMBER 1999
00	WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2000
01	WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
REMAINING	WORK REQUIRED TO COMPLETE THE PROJECT AFTER FY 2001

LOCAL PROTECTION PROJECTS
(FLOOD CONTROL)

SACRAMENTO RIVER FLOOD CONTROL PROJECT (GLENN-COLUSA IRRIGATION DISTRICT)

WORK COMPLETED, IN PROGRESS & PROPOSED

SACRAMENTO DISTRICT
SOUTH PACIFIC DIVISION
1 JANUARY 2000

16 JAN 2000

7 February 2000

1772

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: San Lorenzo River, California (Continuing)

LOCATION: The project is located within the city limits of Santa Cruz, California in Santa Cruz County, about 70 miles south of San Francisco.

DESCRIPTION: The recommended project, which will provide 70-year level of protection (equivalent to FEMA 100-year), includes floodwalls on top of various portions of the San Lorenzo River levees, levee toe-drains to provide increased stability under conditions of high hydrostatic head, a controlled overflow section in the levee and floodwall system lined with riprap to minimize sudden overtopping, channel dredging, and floodproofing. Habitat restoration measures involve revegetating the land-side slopes of the levees. Bank stabilization was added to the project under the Water Resources Development Act of 1999. This includes construction of a wall to prevent further streambank erosion. (see OTHER INFORMATION)

AUTHORIZATION: Water Resources Development Acts of 1996 and 1999.

REMAINING BENEFIT-REMAINING COST RATIO: 2.6 to 1 at 7-3/4 percent.

TOTAL BENEFIT-COST RATIO: 1.4 to 1 at 7-3/4 percent.

INITIAL BENEFIT-COST RATIO: 1.3 to 1 at 7-3/4 percent.

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluation contained in the Chief's Report dated 30 June 1994, at October 1993 price levels (see OTHER INFORMATION).

SUMMARIZED FINANCIAL DATA		STATUS (1 JAN 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost	$16,330,000	Entire Project	15	Being Determined
Estimated Non-Federal Cost	6,070,000			
Cash Contribution	$ 3,920,000			
Other Costs	2,600,000			
Sec. 215 Credit/ Reimbursement	-450,000			
Flood Control	(- 50,000)			
Habitat Restoration	(-400,000)			
Total Estimated Project Cost	$22,400,000			

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SUMMARIZED FINANCIAL DATA (Continued)

		ACCUM PCT OF EST FED COST
Allocations to 30 September 1999	$ 3,934,000	
Conference Allowance for FY 2000	4,800,000	
Allocation for FY 2000	4,116,000	1/
Allocations through FY 2000	8,050,000	49
Allocation Requested for FY 2001	4,000,000	74
Programmed Balance to Complete after FY 2001	4,280,000	
Unprogrammed Balance to Complete after FY 2001	0	

PHYSICAL DATA

Floodwalls: Approx. 13,000 lineal feet, ranging from 1.0 to 4.5 ft. in height
Dredging: 65,000 c.y. initially; avg. annual maintenance dredging of 10,000 c.y.
Overflow Section: 1,200 lineal feet
Habitat Restoration Planting: 6.9 acres
Levee Overbuilding - Embankment: 75,000 c.y.
- Root Barrier: 24,500 s.y.
Toe Drains: 11,390 ft. Floodproofing
Bank Stabilization

1/ Reflects $684,000 reduction assigned as savings and slippage.

JUSTIFICATION: The project is necessary for flood protection of the city of Santa Cruz, a highly developed business, industrial and residential area with a 1999 population of approximately 55,700 in a densely populated county (approximately 528 persons per square mile). The city of Santa Cruz serves as the county seat, and is the center for providing important governmental, employment, educational and cultural services throughout the county. It is the site of the University of California which is expected to contribute significantly to the city's expected growth. The San Lorenzo drainage basin encompasses a 134-square-mile area in Santa Cruz County. The maximum flood of record occurred in 1955 which inundated 410 acres and caused damages of approximately $7.6 million. Those same damages at 1998 prices would be $47 million. A flood control project, including levee and channel improvements, was constructed and completed in 1959 by the Corps of Engineers. Since that time, excessive sediment deposition in the streambed has reduced the carrying capacity of the existing flood control project to about a 30-year event as compared to the design capacity of about a 150-year event. This reduction in channel capacity is the main reason that the water surface of the flood event of January 1982 came within three to four feet of overtopping the levees. It was estimated to be approximately a 25-year flood event. Average annual benefits, all flood control, are estimated at $2.3 million at October 1993 price levels (see OTHER INFORMATION).

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Construction	3,390,000
Planning, Engineering, and Design	315,000
Construction Management	295,000
Total	$4,000,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$2,600,000	
Pay 10 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, as determined under Section 103 (m) of the Water Resources Development Act of 1986 to reflect the non-Federal sponsor•s ability to pay as reduced for credit allowed based on prior work ($50,000 authorized under Section 215 of the Flood Control Act of 1968), and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of flood control facilities.	1,346,000	$362,000
Pay 25 percent of the costs allocated to nonstructural flood control, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of nonstructural features of the project.	92,000	17,000
Pay 35 percent of the costs allocated to bank stabilization, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of bank stabilization features of the project.	1,700,000	0
Pay 8 percent of the costs allocated to fish and wildlife habitat restoration to bring the total non-Federal share of habitat restoration costs to 25 percent, as determined under Section 103 (m) of the Water Resources Development Act of 1986 to reflect the non-Federal sponsor•s ability to pay as reduced for credit allowed based on prior work ($400,000 authorized under Section 215 of the Flood Control Act of 1968), and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of fish and wildlife facilities.	332,000	116,000
Total Non-Federal Costs	$6,070,000	$495,000

STATUS OF LOCAL COOPERATION: The City of Santa Cruz, by letter dated 8 October 1997, stated their intent to continue to

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act as the non-Federal sponsor for this project. Funding to meet local cooperation requirements has been secured. The Project Cooperation Agreement was executed in October 1998. Project was authorized for construction under the Water Resources Development Act of 1996. The current non-Federal cost estimate of $6,070,000, which includes a cash contribution of $3,920,000, is an increase of $1,720,000 from the non-Federal cost estimate of $4,350,000 noted in the Project Cooperation Agreement, which included a cash contribution of $2,147,000. The City of Santa Cruz has expressed support for bank stabilization work as authorized in the Water Resources Development Act of 1999. An amendment to the Project Cooperation Agreement is being prepared for the bank stabilization work.

A Section 215 Agreement for construction of a portion of the authorized project by the local sponsor was executed on July 1, 1997 and limits Federal credit/reimbursement to no more than $5,000,000, or 1 percent of total project costs, whichever is greater. In FY 1998 the local sponsor completed construction of approximately 900 lineal feet of levee raising for a total cost of $450,000. This amount includes $50,000 attributable to structural flood control and $400,000 to habitat restoration.

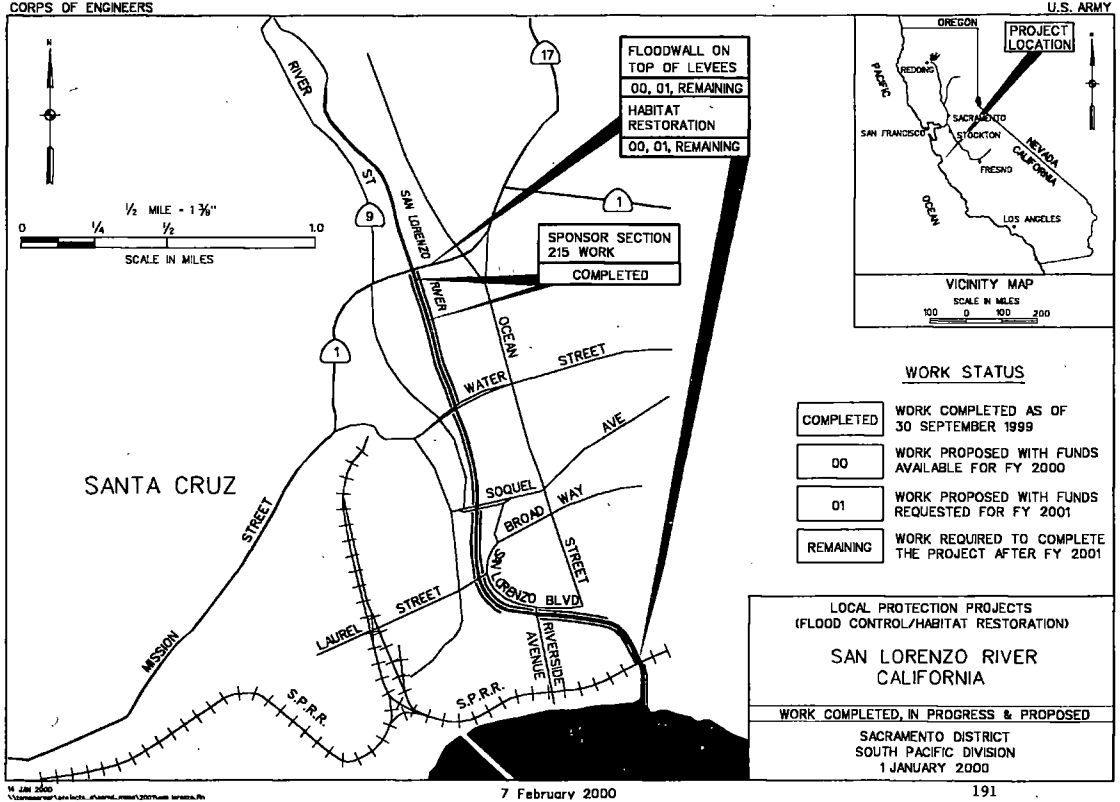
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $16,330,000 is an increase of $3,100,000 from the latest estimate ($13,230,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Authorized Modifications	$3,100,000
Total	$3,100,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: Environmental Assessment/Finding of No Significant Impact (EA/FONSI) were signed on 15 February 1994 (flood control project element) and 29 March 1996 (habitat restoration project element), respectively.

OTHER INFORMATION: PED was initiated in FY 1994. Funds to initiate construction were appropriated in FY 1997. Habitat restoration was authorized as a component of the San Lorenzo River project by WRDA 1996. A letter report to include the habitat restoration purpose and to support a Project Cooperation Agreement was approved 14 April 1997. Bridge relocations presented in the Chief's Report dated 30 June 1994 are no longer included in the total project cost due to work being performed under the FHWA's highway bridge rehabilitation and replacement (HBRR) program. Request to reclassify bridge relocation feature to the "inactive" category was approved by letter dated 21 May 1997. Costs are not included in economic justification or total project cost estimate.

Bank stabilization was authorized as part of the project in the Water Resources Development Act of 1999. This will be undertaken substantially in accordance with the report entitled "Bank Stabilization Concept, Laurel Street Extension", dated 23 April 1998.



7 February 2000

1777

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Santa Ana River Mainstem, California (Continuing)

LOCATION: The project is located along a 75-miles reach of the Santa Ana River in Orange, Riverside, and San Bernardino Counties southeast of and adjacent to metropolitan Los Angeles, California.

DESCRIPTION: The plan of improvement provides for construction of the Seven Oaks Dam about 35 miles upstream of the existing Prado Dam, with a gross reservoir storage of 145,600 acre feet; flood plain management of the flood overflow area on the Santa Ana River between Seven Oaks Dam and the existing Prado Reservoir; enlargement of Prado Dam to increase the reservoir storage capacity from 217,000 acre-feet to 362,000 acre-feet; construction of 3.3 miles of channel modifications along Oak Street Drain in Corona; enlargement of the existing 2.4 miles of Mill Creek levee; construction of a detention basin and 2.0 miles of channel modifications along the Santiago Creek; and various means of flood control, including flood plain management, levees, and vertical walled concrete channels along the 30.5 miles of the Santa Ana River from Prado Dam to the Pacific Ocean. In addition, the plan includes recreational development and purchase of lands for mitigation and preservation of endangered species. A project for San Timoteo Creek was added to the Santa Ana River Mainstem project by the Energy and Water Development Appropriation Act of 1988. A special report was approved in May 1994; engineering and design was initiated in Fiscal Year 1991 with funds appropriated for that purpose and was completed in June 1994. Construction was initiated in Fiscal Year 1994. The project was modified by the Water Resources Development Act of 1990 which authorized the Secretary to develop recreational trails and facilities on lands between Seven Oaks Dam and Prado Dam, including flood plain management areas. These recreational features are not included in the current estimate pending development of plans and determination of costs. Schedules for enlargement of Prado Dam and the completion of construction of San Timoteo Creek are being determined.

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AUTHORIZATION: Water Resources Development Act of 1986, Energy and Water Development Appropriation Act, 1988, Water Resources Development Act of 1990, and Water Resources Development Act of 1996.

REMAINING BENEFIT-REMAINING COST RATIO: 4.3 to 1 at 8-5/8 percent.

TOTAL BENEFIT-COST RATIO: 1.6 to 1 at 8-5/8 percent.

INITIAL BENEFIT-COST RATIO: 1.3 to 1 at 8-5/8 percent (FY 1990).

BASIS OF BENEFIT-COST RATIO: The benefit-cost ratio is based on the Phase II General Design Memorandum dated August 1988 at 1987 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS (1 JAN 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$ 883,000,000		Seven Oaks Dam	100	August 99
Programmed Construction	$722,448,000			Prado Dam	0	Being Determined
Unprogrammed Construction	160,552,000			Santiago Creek	0	Being Determined
				Mill Creek	100	March 92
Estimated Non-Federal		439,000,000		Oak Street Drain	100	September 94
Programmed Construction	$418,054,000			Lower Santa Ana		
Cash $ 57,602,000				River Channel	81	September 2000
Other Costs 360,452,000				Recreation	0	Being Determined
				San Timoteo	67	Being Determined
Estimated Non-Federal						
Unprogrammed Construction	$ 20,946,000			Entire Project	72	Being Determined
Cash $ 19,240,000						
Other Costs 1,706,000						
Total Estimated Programmed Construction Cost		$1,140,352,000				
Total Estimated Unprogrammed Construction Cost		181,648,000				
Total Estimated Project Cost		$1,322,000,000				
Allocations to 30 September 1999		$627,867,000				
Conference Allowance for FY 2000		28,000,000				
Allocation for FY 2000		24,013,000	1/			
Allocations Through FY 2000		651,880,000	74			
Allocation Requested for FY 2001		18,000,000	76			
Programmed to Complete after FY 2001		52,568,000				
Unprogrammed Balance to Complete after FY 2001		160,552,000				

1/ Reflects $3,987,000 reduction assigned as savings and slippage.

PHYSICAL DATA

SEVEN OAKS DAM:
Dam: Type - Impervious core
Height - 550 feet
Length - Crest Length 2,980 feet
Outlet Works: Gated conduit, 8,000 cfs maximum discharge
Basin Capacity: 145,600 acre-feet
Spillway: Type - Detached overflow, 500 ft wide, unlined
Embankment: Earth and Rockfill
Lands & Damages: Acres - 2,736 existing streambed and undeveloped (mountainous)

MILL CREEK:
Levee repair: Type - Grouted riprap
Height - 10 feet maximum
Length - 12,500 feet (2.4 miles) of existing
13,600 feet (2.6 miles)

Floodwall (Top of levee): Type - Concrete
Height - 7.5 feet maximum
Length - 12,600 feet (2.4 miles)

OAK STREET DRAIN:
Channel: Rectangular concrete 3.0 mile
Trapezoidal riprap 0.3 mile
Lands & Damages: 34 acres for rights-of-way

SANTIAGO CREEK:
Channel: Rectangular concrete 500 feet
Trapezoidal riprap 2.0 miles
Reservoir: Buttressed
Basin Capacity: Flood control 4,620 acre feet (el. 274 to 298)
Lands and Damages: 281.5 acres, reservoir and channel

PRADO DAM:
Dam: Type - Impervious core
Height - 134 feet
Length - 3,050 crest length
Embankment: Rolled earthfill
Spillway: Type - Detached, overflow concrete, 1,000 feet wide, 578,000 cfs maximum design discharge.
Basin Capacity: 362,000 acre-feet
Lands & Damages: Acres - 1,661 grazing, wildlife

LOWER SANTA ANA RIVER:
Channel: - 200-450 feet wide, 34 bridges replaced or modified
- 5.0 miles trapezoidal concrete
- 2.4 miles rectangular concrete
- 15.5 miles trapezoidal grouted riprap
- 0.8 miles rectangular concrete/soft bottom

Lands & Damages: Acres - 2,429.5 for channel (7.4 miles floodway)
Mitigation Lands: Acres - 92 marsh restoration

RECREATION FACILITIES:
LOWER SANTA ANA RIVER: Bicycle/equestrian trail - 32 miles

SANTIAGO CREEK: Trails - Bicycle and equestrian (1 mile)
Rest stop - Concrete bicycle wheel stops
SEVEN OAKS TO PRADO DAM: To be developed

SAN TIMOTEO CREEK:
Channel: 5.4 miles trapezoidal concrete
Basins: 6 in-channel and transition chute
Lands & Damages: 60.3 acres for rights-of-way

1780

JUSTIFICATION: Construction of this project will primarily provide protection to lands and improvements within Orange County downstream of Prado Reservoir. A severe flood threat exists in this area, which could cause damages in excess of $15 billion and could endanger and disrupt the lives of over three million people living or working in the floodplain. Damages upstream of Prado Reservoir could exceed $450 million. The overflow area comprises 160 square miles of primarily urban development in 15 cities including San Bernardino, Riverside, Anaheim, Orange, Santa Ana, Fountain Valley, Costa Mesa, Huntington and Newport Beach. The greatest potential damage area is the Orange County floodplain below Prado Dam. The flood of 1938 is the largest that has been recorded since accurate stream gages were placed in the basin. With a peak flow at Riverside Narrows of approximately 100,000 cubic feet per second, the flood covered thousands of acres of then predominantly rural Orange County. Although the area was largely agricultural at the time, the flood caused $4 million in damages ($106.3 million at 1999 prices). Following this storm, Prado Dam was constructed at the head of the Santa Ana Canyon, providing effective control of floods for much of the downstream basin. In 1969, when communities upstream of Prado Dam suffered $85 million in damages, Prado Dam prevented an estimated $525 million in damages to downstream communities. With current development, damages for a similar flood would be approximately $3.2 billion, at 1999 prices. Without the project, the level of protection downstream of Prado, primarily in Orange County, is approximately 70 years. With the project, the level of protection downstream of Prado would be increased to 190 years. Average annual benefits, based on October 1987 price levels are as follows:

Annual Benefits	Amount
Flood Damage Prevention	$135,978,000
Recreation	282,000
Total	$136,260,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Santa Ana River Mainstem:	
Initiate dredging on Reach 1 & 10	$ 950,000
Initiate dredging on Reach 2	950,000
Initiate Construction of Reach 9	3,150,000
Continue Landscaping Reach 2,3,4,5	830,000
Continue Landscaping Reach 6,7,8	720,000
Prado Dam:	
Continue Construction of Dike Highway 71	9,027,000
Planning, Engineering & Design	1,188,000
Construction Management	1,185,000
Total	$18,000,000

NON-FEDERAL COSTS: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsors must comply with the following requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation and Replacement Costs
Santa Ana River Mainstem:		
Provide lands, easements, rights-of-way, and borrow and excavated or dredged material disposal areas.	$ 131,547,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	47,470,000	
Pay 5 percent of total project costs allocated to flood control, and bear all cost of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	49,779,000	$1,173,000
Pay one-half of the separable costs allocated to recreation and bear all costs of operation, maintenance, repair, rehabilitation and replacement of recreation facilities.	704,000	6,000

1782

Requirements of Local Cooperation(Continued)	Payments During Construction and Reimbursements	Annual Operation Maintenance Repair Rehabilitation and replacement Costs
San Timoteo Creek:		
Provide lands, easements, rights-of-way, and borrow and excavated or dredged material disposal areas.	4,955,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	4,474,000	
Pay 19 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, and bear all cost of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	7,071,000	972,000
Prado Dam:		
Provide lands, easements, rights-of-way, and borrow and excavated or dredged material disposal areas.	166,411,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	16,290,000	
Pay 5 percent of total project costs allocated to flood control, and bear all cost of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	19,288,000	200,000
Federal reimbursement to non-Federal sponsor for one-half of the non-Federal costs costs allocated to flood control in excess of Federal costs.	-8,989,000	
Total Non-Federal Costs	$ 439,000,000	$ 2,351,000

The non-Federal sponsors have also agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: Orange, San Bernardino, and Riverside Counties are the local sponsors. In accordance with Memorandum of Agreement executed on 6 December 1987, Orange County contributed $3 million to assure the project design schedule was maintained. Orange County has received credit for those funds towards their share of the project costs during construction. In addition, Orange County worked with California Department of Transportation (CALTRANS) to relocate some key bridges in Fiscal Year 1988, in advance of project construction. On 14 December 1989, the Local Cooperation Agreement was executed in compliance with the requirements of the Water Resources Development Act of 1986. A supplemental Local Cooperation Agreement was executed on 1 July 1994 for San Timoteo Creek. A draft Local Cost Sharing Agreement for recreation on Santiago Creek has been reviewed and approved by the local sponsor, Orange County, and the Orange County Department of Harbors, Beaches and Parks. Schedules for executing a Project Cooperation Agreement and programming this work are being determined.

The current non-Federal cost estimate of $439,000,000, which includes a cash contribution of $76,842,000, is a decrease of $1,000,000 from the non-Federal cost estimate of $440,000,000 noted in the current amended Local Cooperation Agreement dated August 1999, which included a cash contribution of $57,000,000. Analysis of the non-Federal sponsors' financial capability to participate in the project affirms that Riverside and San Bernardino Counties still have a reasonable and implementable plan for meeting their financial commitments. On 30 June 1997, the Assistant Secretary of the Army (Civil Works) approved Prado Dam as a separable element. On 30 June 1997, direction was given by the Assistant Secretary of the Army (Civil Works) to proceed in accordance with Section 309 (Water Resources Development Act of 1996) to modify the existing Local Cost Sharing Agreement to reflect this determination and the non-Federal cost-sharing be modified in accordance with section 103(a) (3) of Water Resources Development Act of 1996. Construction of this project will primarily provide protection to lands and improvements within Orange County downstream of Prado Reservoir.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $883,000,000 is a decrease of $13,000,000 from the latest estimate ($896,000,000) presented to Congress (FY 2000). This change includes the following items.

Item	Amount
Price Escalation on Construction Features	$ 9,111,000
Post Contract Award and Other Estimating Adjustments (including contingency adjustments)	- 22,111,000
Total	-$13,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed with the Environmental Protection Agency in June 1989.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in FY 1979, and funds to initiate construction were appropriated in FY 1990.

Through negotiations with Fish and Wildlife Service on Section 7 consultations for endangered species (Eriastrum below Seven Oaks and least Bell's vireo at Prado Dam), agreement was reached on the number of acres for mitigation. The final biological opinion necessary for formal conclusion of the consultation was received from Fish and Wildlife Service 22 June 1989.

Coordination with the U.S. Fish and Wildlife Service and the California Department of Fish and Game was initiated early in the planning of alternatives and completed 30 March 1989. The coordination produced a Fish and Wildlife Service Coordination Act Report that was included in the Environmental Impact Statement. Numerous coordination meetings were held, and these agencies had a role in the determination of project associated impacts as well as mitigation needs and opportunities. Estimated fish and wildlife mitigation costs for Seven Oaks Dam are $1,362,000 ($1,266,000 Federal and $96,000 non-Federal).

An agreement was signed on 21 September 1989, in accordance with Section 215 of the Flood Control Act of 1968, to permit Orange County to undertake early partial construction of the Santiago Creek improvements in conjunction with other improvements they are planning for water supply, and to be credited for applicable project construction.

Section 104 of the Energy and Water Development Appropriation Act of 1988 authorized "...San Timoteo Creek in the vicinity of Loma Linda for construction as part of the Santa Ana River Mainstem including Santiago Creek Project... the benefits and costs of the San Timoteo project shall be included together with the benefits and costs of the Santa Ana Mainstem including Santiago Creek" at a total cost of $25,000,000. A special report was approved in May 1994; engineering and design was initiated in Fiscal Year 1991 with funds appropriated for that purpose. Construction was initiated in August 1994 with a portion of the $12,000,000 added for that purpose in FY 1994. Additional funds totaling $17,000,000 has been included in Act Language in Fiscal Years 1995, 1996, and 1997 which were used to complete contract for Reach 2 in September 1997. Also, $5,000,000 was included in Act Language for Fiscal Year 1998.

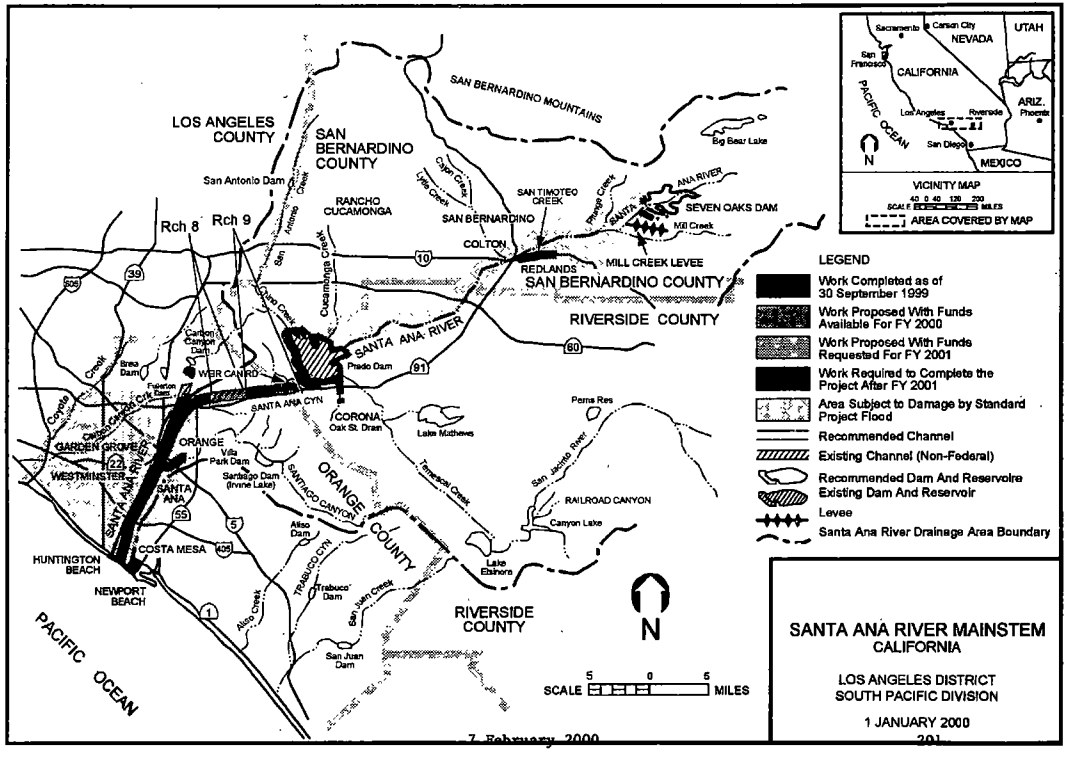
As a result of local sponsor activities to develop a more environmentally sensitive design for Reach 3, such as a soft-bottom channel, the remainder of the project has been redesigned as Reach 3A (extending to just upstream of Barton Road) and Reach 3B (the remainder of the channel and the in-channel debris control structures). The non-Federal Sponsor has agreed to continue with Reach 3A as per the original design. The Reach 2 construction contract is being modified to accomplish this portion of the work. The Corps is working with the local Sponsor to develop alternatives to the approved plan for Reach 3B. A soft-bottom channel alternative was previously reviewed by the Corps and found to be technically feasible, but not cost effective. Reach 3 will be implemented under the provision of Section 103 (k) of Water Resources Development Act 1986.

OTHER INFORMATION (Continued): The project effort for enlargement of Prado Dam, as a separable element, was approved in June 1997, with direction to modify the Local Cooperation Agreement to reflect this determination. Funds were provided in Fiscal Year 2000 for initiation of Prado Dam.

The project was modified by the Water Resources Development Act of 1990 which authorized the Secretary to develop recreational trails and facilities on lands between Seven Oaks Dam and Prado Dam, including flood plain management areas. These features are not included in the current estimate pending development of plans and determination of costs.

U.S. ARMY ENGINEER DISTRICT

CORPS OF ENGINEERS



SANTA ANA RIVER MAINSTEM
CALIFORNIA

LOS ANGELES DISTRICT
SOUTH PACIFIC DIVISION

1 JANUARY 2000

7 February 2000

201

1787

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Upper Sacramento Area Levee Reconstruction, California (Continuing)

LOCATION: The project is located within the boundaries of the Sacramento River Flood Control System in Colusa County in north-central California. The area includes the upper Sacramento River and its tributaries and the city of Colusa.

DESCRIPTION: An evaluation of about 315 miles of the Sacramento River Flood Control Project levees in the Upper Sacramento area identified about 12 miles of levees that are structurally deficient. The project includes reconstructing 3.7 miles of these levees by installing landside seepage/stability berms with toe drains, slurry cut-off walls, and developing land for fish and wildlife mitigation.

AUTHORIZATION: Flood Control Acts of 1917, 1928, and 1941; River and Harbor Act of 1937.

REMAINING BENEFIT-REMAINING COST RATIO: 54.3 to 1 at 7-3/4 percent.

TOTAL BENEFIT-COST RATIO: 3.5 to 1 at 7-3/4 percent.

INITIAL BENEFIT-COST RATIO: 5.4 to 1 at 7-3/4 percent (FY 1997).

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluation contained in the Sacramento River Flood Control Project, California - Upper Sacramento Area, Phase V Design Memorandum (DM) dated August 1997 and approved in March 1998 at 1996 price levels.

SUMMARIZED FINANCIAL DATA		
Estimated Federal Cost		$5,720,000
Estimated Non-Federal Cost		1,880,000
Cash Contribution	$1,013,000	
Other Costs	1,004,000	
Sec. 215 Credit/Reimbursement	-137,000	
Total Estimated Project Cost		$7,600,000

STATUS (1 JAN 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project	Not started	Being Determined

PHYSICAL DATA

Levee Reconstruction: Colusa Area
Length - 3.7 miles

Fish and Wildlife Mitigation - 1.3 acres

1788

SUMMARIZED FINANCIAL DATA (Continued)

		ACCUM PCT OF EST FED COST	
Allocations to 30 September 1999	$ 2,435,000	1/	1/ Funding of $1,287,000 included
Conference Allowance for FY 2000	3,055,000		in the Sacramento River Flood
Allocation for FY 2000	1,620,000	2/	Control Project and reallocated
Allocations through FY 2000	4,055,000	71	to the Upper Sacramento Area Levee Reconstruction Project.
Allocation Requested for FY 2001	1,665,000	100	2/ Reflects $435,000 reduction
assigned			
Programmed Balance to Complete after FY 2001	0		as savings and slippage and
Unprogammed Balance to Complete after FY 2001	0		$1,000,000 reprogrammed from the project.

JUSTIFICATION: Levee evaluation studies of approximately 315 miles of project levees have been completed in Butte, Colusa, Glenn, Sutter, Tehama and Yolo Counties. Results indicate that structural problems caused by ongoing seepage and levee subsidence exist. Reconstruction will be required to maintain the integrity of the existing Sacramento River Flood Control Project and assure the system continues to provide the original design levels of flood protection. The levees were locally constructed and incorporated into the project levee system when it was authorized in 1917. Prior to flood control, the Colusa and Sutter Basins were flooded and acted as storage areas whenever high water occurred. During the floods of 1907 and 1909, the entire Sutter and Colusa Basins were under water. The old town of Colusa is elevated and was not inundated in the 1907 flood but was surrounded by floodwaters. The winter of 1982-83 has been described as California's wettest winter in more than a century and resulted in a disastrous year of flooding. Of California's 58 counties, 45 were declared national disaster areas including six in the Upper Sacramento study area. During the 1986 flood, a number of sites in the Colusa area exhibited seepage, one site had water within one foot of the levee crown and another site had seepage at a levee setback which has been riprapped three times due to erosion. During high flows in January and March 1995, considerable seepage and boils developed on the Sacramento River in Colusa County. If a levee break occurred at the west end of the site, adjacent to the City of Colusa, floodwaters would inundate much of the town, especially newly constructed areas east and south of the old town. During the recent floods of January 1997, high water in the Sutter Bypass caused a levee break threatening the town of Meridian in Sutter County. Locals placed visqueen with sandbags to protect the levee from erosion. A ring levee was constructed around the town of Meridian under emergency construction authority. The areas protected by the levees comprise over 70,000 acres, mostly agriculture, and about 1,400 structures, primarily residences and farm structures, with a population of about 3,000. The project will restore design level of flood protection. The value of property the project will protect is estimated at $114 million. Estimated average annual flood damages are $2.8 million. Average annual benefits, all flood control, are estimated at $2,170,000 at October 1996 price levels.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate and Complete Fish and Wildlife Mitigation Planting Contract	$ 79,000
Complete Crediting of non-Federal Lands	14,000
Complete Levee Reconstruction Contract	977,000
Planning, Engineering, and Design (Including Supplemental Design Documents)	502,000
Construction Management	93,000
Total	$1,665,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$ 938,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	66,000	
Pay 12 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, as determined under Section 103 (m) of the Water Resources Development Act of 1986 to reflect the non-Federal sponsor's ability to pay as reduced for credit allowed based on prior year work ($137,000 credit under Section 215 of the Flood Control Act of 1968), and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	876,000	$ 0 3/
Total Non-Federal Costs	$1,880,000	$ 0 3/

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

3/ Reconstruction will reduce, not increase, annual operation and maintenance costs. Operation and maintenance costs are included in original Sacramento River Flood Control Project and are the responsibility of the non-Federal interests.

1790

STATUS OF LOCAL COOPERATION: The California State Reclamation Board will act as the local sponsor for reconstruction work. A Project Cooperation Agreement is currently scheduled to be signed in February 2000.

A Section 215 Agreement for construction of a portion of the authorized project by the local sponsor was executed on 22 September 1997 and limits Federal credit/reimbursement to no more than $5,000,000, or 1 percent of total project costs, whichever is greater. In FY 1998 the local sponsor completed construction of 1,000 lineal feet of stability berm for the west bank levee along the Sacramento River including construction of a toe drain (Site E) for a total cost of $137,000.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $5,720,000 is an increase of $80,000 from the latest estimate ($5,640,000) presented to Congress (FY 2000). This change includes the following items.

Item	Amount
Price Escalation on Construction Features	$ 80,000
Total	$ 80,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The original Sacramento River Flood Control Project was substantially complete prior to the National Environmental Policy Act of 1969. An Environmental Impact Statement (EIS) was not prepared. A Programmatic Environmental Impact Statement/Environmental Impact Report (EIS/EIR) on the levee reconstruction for the Marysville/Yuba City Area, Mid-Valley Area, Lower Sacramento Area and Upper Sacramento Area, the remaining four phases of the Sacramento River Flood Control System Evaluation, was filed with EPA on 19 June 1992 and the Record of Decision was signed 4 November 1992. The Programmatic EIS/EIR discusses the environmental impacts resulting from potential work for the entire area in general terms. The Finding of No Significant Impacts (FONSI) was signed on 8 May 1997.

OTHER INFORMATION: Following the record high flows of February 1986, Operations and Maintenance funds were provided under Inspection of Completed Works to perform an evaluation of the integrity of the Sacramento River Flood Control System. A five phase program which divided the system into five study areas was developed. In each phase, the structural stability of the levees is examined and a determination made as to whether the system is functioning at its design level. The results of each study phase are submitted as an Initial Appraisal Report (IAR).

The IAR for the Upper Sacramento Area dated May 1995 was approved in August 1995. Engineering and design was initiated in FY 1996 (Sacramento River Flood Control Project, California). Funds to initiate construction were appropriated in FY 1997. Of the three deficient areas evaluated in the IAR, one is economically feasible based on an incremental analysis. This area includes two sites (D and E) in the Colusa area at Sacramento River Mile 119.1 to 119.6 right bank and 140.0 to 143.17 right bank. The local sponsor contends that economic justification should be based on a system evaluation which would compare total cost of all required levee reconstruction of the Sacramento River Flood Control Project and total benefits attributable to that work. The rationale is based on the fact that the Operations and Maintenance procedures were formulated for the system to function as a whole. A Limited Reevaluation Report (LRR) was completed in September 1993, approved in March 1994, and revised in May 1995 for the economic analysis for all five phases of the Sacramento River Flood Control System Evaluation.

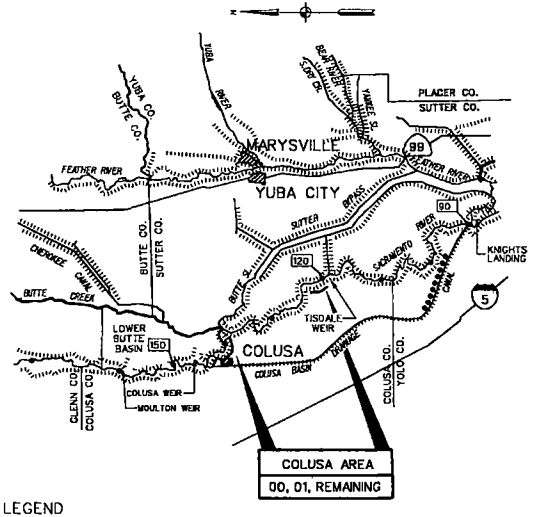
Based on damages from the January 1997 floods, a supplemental Design Memorandum is being prepared to evaluate additional sites for reconstruction consideration. Funding available under Public Law 84-99 was used to repair sites specifically damaged by the recent flood. If additional reconstruction sites are identified in a supplemental Design Memorandum, project cost will increase and completion schedules will be extended.

The fish and wildlife mitigation cost is estimated at $169,000.

1792

CORPS OF ENGINEERS

U.S. ARMY



VICINITY MAP

SCALE IN MILES

100 0 100 200

COLUSA AREA

00, 01, REMAINING

LEGEND

- LEVEE SYSTEM
- LOCATION OF LEVEE RECONSTRUCTION (INCREMENTALLY FEASIBLE)
- LOCATION OF LEVEE RECONSTRUCTION (INCREMENTALLY INFEASIBLE)
- 80 RIVER MILES

5 0 5 10 15 20

SCALE IN MILES

ITEM NOT SHOWN

MITIGATION CONTRACT
00, 01, REMAINING
SUPP. DM
00, 01, REMAINING

WORK STATUS

COMPLETED	WORK COMPLETED AS OF 30 SEPTEMBER 1999
00	WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2000
01	WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
REMAINING	WORK REQUIRED TO COMPLETE THE PROJECT AFTER FY 2001

LOCAL PROTECTION PROJECTS
(FLOOD CONTROL)

UPPER SACRAMENTO AREA - PH V & LEVEE RECONSTRUCTION CALIFORNIA

WORK COMPLETED, IN PROGRESS & PROPOSED

SACRAMENTO DISTRICT
SOUTH PACIFIC DIVISION
1 JANUARY 2000

14 JAN 2000

7 February 2000

207

1793

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: West Sacramento, California (Continuing)

LOCATION: The project is located in West Sacramento, Yolo County in north-central California.

DESCRIPTION: The project consists of raising 4.9 miles of levees up to 5.0 feet along the Sacramento and Yolo Bypasses; constructing concrete wing walls with stop logs at the Southern Pacific Railroad; constructing a concrete wing wall and flow cut-off wall on each side of Interstate 80; and developing approximately 40 acres of mitigation lands for riparian and upland habitat loss.

AUTHORIZATION: Water Resources Development Act of 1992; Energy and Water Development Appropriation Act, 1999 (P.L. 105-245)

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable because project construction is substantially complete.

TOTAL BENEFIT-COST RATIO: 9.6 to 1 at 8-1/4 percent.

INITIAL BENEFIT-COST RATIO: 6.5 to 1 at 8-1/4 percent (FY 1995).

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluation contained in the General Design Memorandum for West Sacramento, California, May 1995 at October 1994 price levels.

SUMMARIZED FINANCIAL DATA

Estimated Federal Cost		$17,700,000
Estimated Non-Federal Cost		$ 5,800,000
Cash Contribution	$ 2,840,000	
Other Costs	$ 2,960,000	
Total Estimated Project Cost		$23,500,000

STATUS (1 JAN 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Levees	68	
Mitigation	25	
Entire Project	60	Being Determined

PHYSICAL DATA

Sacramento Bypass, South Levee
Length: 1 mile
Maximum Height Increase: 3.0 feet
Yolo Bypass, East Levee
Length: 3.9 miles
Maximum Height Increase: 5.0 feet
Southern Pacific Railroad: Stop logs
Interstate 80: Wing walls and cut off walls.

SUMMARIZED FINANCIAL DATA (Continued)

			ACCUM PCT OF EST FED COST	
Allocations to 30 September 1999	$10,617,000			
Conference Allowance for FY 2000	7,000,000			
Allocation for FY 2000	5,308,000	1/		1/ Reflects $997,000 reduction assigned as savings and slippage and $695,000 reprogrammed from the project.
Allocations through FY 2000	15,925,000		90	
Allocation Requested for FY 2001	1,775,000		100	
Programmed Balance to Complete after FY 2001	0			
Unprogammed Balance to Complete after FY 2001	0			

JUSTIFICATION: Construction of this project will provide protection to lands, improvements, and roughly 31,000 people in West Sacramento. Estimated damageable property in the floodplain is $1.5 billion. Flooding in February 1986, in conjunction with subsequent updated hydrologic analyses, have shown that the existing level of flood protection is significantly less than previously thought and does not provide FEMA 100-year level of protection. Levee failure along the Yolo Bypass would release floodwater from the Sacramento River into the West Sacramento urban area, inundating industrial areas, two major highways, thousands of homes and thousands of acres of farmland. Average annual benefits, all flood control, amount to $27.9 million.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Complete Crediting of non-Federal Lands	$ 10,000
Complete Construction of Mitigation Features	197,000
Continue Levee Construction	1,346,000
Planning, Engineering, and Design	100,000
Construction Management	122,000
Total	$1,775,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$ 2,742,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	218,000	
Pay 12 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of flood control facilities.	2,840,000	75,000
Total Non-Federal Costs	$ 5,800,000	$ 75,000

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The California State Reclamation Board is the non-Federal sponsor for the project. The Project Cooperation Agreement (PCA) was executed in May 1996. The current non-Federal cost estimate of $5,800,000, which includes a cash contribution of $2,840,000, is an increase of $500,000 from the non-Federal cost estimate of $5,300,000 noted in the PCA, which included a cash contribution of $2,430,000. The sponsor has a reasonable and implementable plan for meeting its financial commitment.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $17,700,000 is a decrease of $7,000,000 from the latest estimate ($24,700,000) presented to Congress (FY 2000). This change includes the following items.

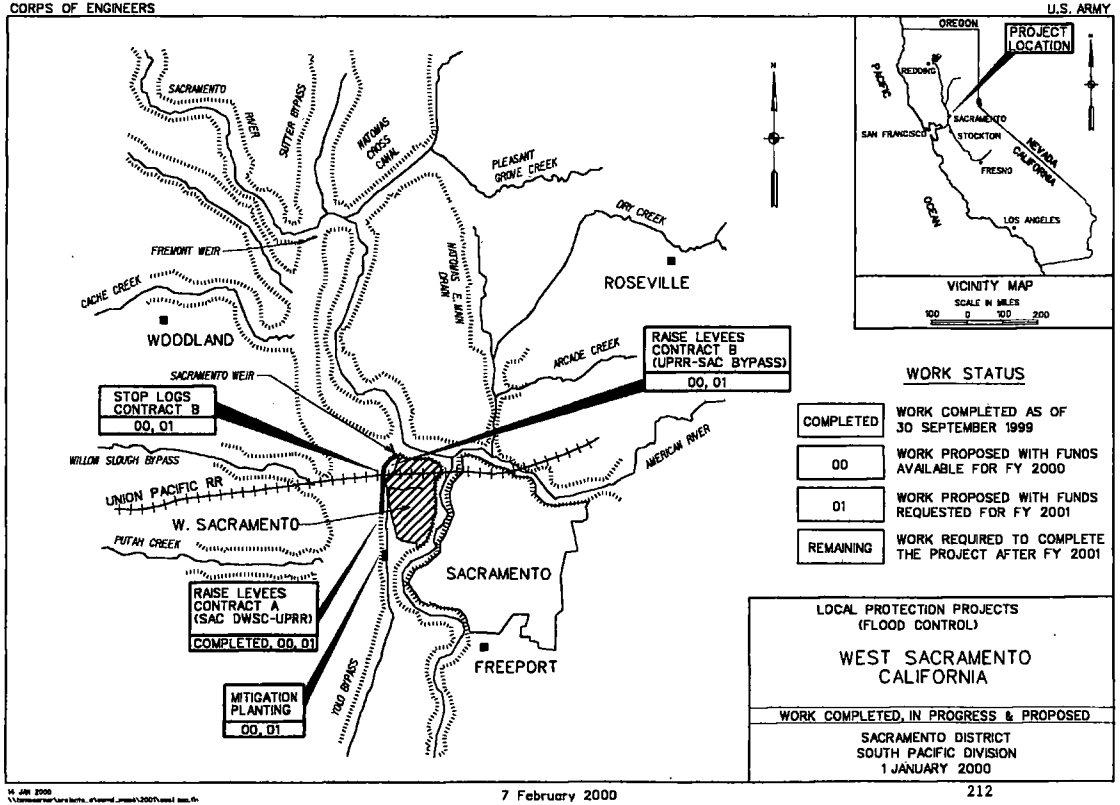
Item	Amount
Post Contract Award and Other Estimating Adjustments (including contingency adjustments)	$-7,000,000
Total	$-7,000,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Final Environmental Impact Statement was filed with EPA in February 1992.

OTHER INFORMATION: Funds were appropriated in FY 1992 to initiate preconstruction engineering and design for the combined American River Watershed and Sacramento Metropolitan studies, and funds to initiate construction were appropriated in FY 1996. The two projects were separated when WRDA 92 authorized the West Sacramento Project (Sacramento Metropolitan) independently of the American River Watershed Project. Project was reauthorized under P.L 105-245 at a total project cost of $32,900,000. The fish and wildlife mitigation cost is estimated at $2.2 million.

CORPS OF ENGINEERS

U.S. ARMY



WORK STATUS

COMPLETED	WORK COMPLETED AS OF 30 SEPTEMBER 1999
00	WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2000
01	WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
REMAINING	WORK REQUIRED TO COMPLETE THE PROJECT AFTER FY 2001

LOCAL PROTECTION PROJECTS
(FLOOD CONTROL)

WEST SACRAMENTO
CALIFORNIA

WORK COMPLETED, IN PROGRESS & PROPOSED

SACRAMENTO DISTRICT
SOUTH PACIFIC DIVISION
1 JANUARY 2000

14 JAN 2000

7 February 2000

212

1798

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Tropicana and Flamingo Washes, Nevada (Continuing)

LOCATION: The project area is located west of and through the urbanized Las Vegas area along both Tropicana and Flamingo Washes in Clark County, southern Nevada. The washes emanate from the surrounding mountains and flow eastward through the developed rural and urban downtown areas to the confluence with Las Vegas Wash.

DESCRIPTION: The recommended plan will provide urban flood reduction, erosion control and wildlife enhancement for portions of Las Vegas and the surrounding areas to the west and southwest, including the rapidly developing alluvial fan immediately west of Las Vegas. The plan recommends construction of four debris basins, two detention basins, modifications to two existing detention basins, 28 miles of channels connecting these project elements, environmental mitigation, and recreation facilities. This system of basins will accept the flows from the primary channels, collect and detain them, and then release them at non-damaging rates of flow from Tropicana Detention Basin. A system of four debris basins will trap large bedloads and prevent erosion damage to the project. Environmental mitigation features include compensation for disturbance to the threatened desert tortoise and other impacted significant terrestrial resources. Recreation facilities will include hiking, bicycle and equestrian trails, and picnic areas around the detention basins.

AUTHORIZATION: Section 101(13) of the Water Resources Development Act of 1992, Section 211(f)(5) of the Water Resources Development Act of 1996, Section 370 of the Water Resources Development Act of 1999.

REMAINING BENEFIT - REMAINING COST RATIO: 2.4 to 1 at 8-1/2 percent.

TOTAL BENEFIT-COST RATIO: 1.3 to 1 at 8-1/2 percent.

INITIAL BENEFIT-COST RATIO: 1.2 to 1 at 8-1/2 percent (FY 1994).

BASIS OF BENEFIT-COST RATIO: The benefit-cost ratio is based on the Chief of Engineers' Report dated January 1992, at 1991 price levels.

SUMMARIZED FINANCIAL DATA

			ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$ 209,700,000		Channels	45	Being determined
Estimated Non-Federal Cost		74,300,000	1/	Detention Basins	70	Being determined
Cash Contributions	$ 41,300,000			Debris Basins	0	Being determined
Other Costs	33,000,000			Recreation Facilities	0	Being determined
Total Estimated Project Cost		$ 284,000,000		Mitigation	80	Being determined
				Entire Project	45	Being determined
Allocations to 30 September 1999		$ 62,798,000				
Conference Allowance for FY 2000		29,000,000				
Allocation for FY 2000		24,870,000	2/			
Allocations through FY 2000		87,668,000	42			
Allocation Requested for FY 2001		20,000,000	51			
Programmed Balance to Complete after FY 2001		95,532,000				
Unprogrammed Balance to Complete after FY 2001		6,500,000				

1/ Excludes the cost of the lateral collector system. (See STATUS OF LOCAL COOPERATION.)

2/ Reflects $4,130,000 reduction assigned as savings and slippage.

PHYSICAL DATA

PRIMARY CHANNELS (Trapezoidal concrete)

RED ROCK CHANNELS:

LOWER RED ROCK CHANNEL COMPLEX
Length: 1 mile
Base Width: 10-20 feet
Depth: 15 feet

UPPER RED ROCK CHANNEL
Length: 1.5 miles
Base Width: 5-10 feet
Depth: 10 feet

RED ROCK BELTWAY CHANNELS
Segment 8
Length: 1.5 miles
Base Width: 10-20 feet
Depth: 10 feet

Segment 9
Length: 2.5 miles
Base Width: 5-15 feet

Segment 10A
Length: 2.5 miles
Base Width: 5-15 feet
Depth: 10 feet

1800

PHYSICAL DATA (Continued)

BLUE DIAMOND CHANNELS:

LOWER BLUE DIAMOND CHANNEL
Length: 1.5 miles
Base Width: 10-20 feet
Depth: 15 feet

BLUE DIAMOND BELTWAY CHANNEL
Segment 7A
Length: 2.5 miles
Base Width: 5-15 feet
Depth: 10 feet

Segment 7B
Length: 2.5 miles
Base Width: 10-20 feet
Depth: 15 feet

UPPER BLUE DIAMOND CHANNEL
Length: 4.5 miles
Base Width: 5-15 feet
Depth: 10 feet

RECREATION FACILITIES
Picnic areas around detention basins
Trails: Hiking, bicycle and equestrian

FLAMINGO DIVERSION CHANNELS:

LOWER FLAMINGO CHANNEL
Length: 1.9 miles
Base Width: 5-20 feet
Depth: 7-11.5 feet

UPPER FLAMINGO CHANNEL
Length: 1.8 miles
Base Width: 5-20 feet
Depth: 7-11.5 feet

TROPICANA OUTLET CHANNEL:
Length: 3 miles
Base Width: 5 feet
Depth: 10 feet

R-4, F-1, F-2 AND F-4 CHANNELS:
Length: 10.1 miles (total)
R-4: 3 miles F-2: 1.7 miles
F-1: 3.7 miles F-4: 1.7 miles
Base Width: 5 feet
Depth: 10 feet

MITIGATION
Habitat of threatened desert tortoise
Permanent disturbance: 730 acres
Temporary disturbance: 215 acres

1801

PHYSICAL DATA (Continued)

DETENTION BASINS:

RED ROCK DETENTION BASIN MODIFICATION
Type: Compacted earthfill embankment
Maximum Height: 60 feet
Length: 4,000 feet
Spillway Length: 940 feet (600 existing, 340 auxiliary)
Basin Capacity: 2,162 acre-feet

FLAMINGO DETENTION BASIN MODIFICATION
Type: Compacted earthfill embankment
Maximum Height: 38 feet
Length: 4,800 feet
Spillway Length: 180-foot-wide labyrinth
Spillway Elevation: 2470.5 feet NGVD
Basin Capacity: 1,706 acre-feet

BLUE DIAMOND DETENTION BASIN
Type: Roller compacted concrete
Maximum Height: 49 feet
Outlet Discharge: 180 cfs
Length: 6,524 feet
Crest Elevation: 2,869 feet NGVD
Basin Capacity: 2,224 acre-feet

TROPICANA DETENTION BASIN
Type: Compacted earthfill embankment/roller compacted concrete
Maximum Height: 10 feet
Outlet Discharge: 500 cfs
Length: 3,300 feet
Spillway Length: 3,300 feet
Spillway Elevation: 2,290 feet NGVD
Basin Capacity: 825 acre-feet

DEBRIS BASINS:

R-4 DEBRIS BASIN
Type: Basin/earthfill embankment combination, with dumpstone-revetted embankment
Maximum Height: 35 feet
Length: 2,000 feet
Basin Capacity: 94 acre-feet

F-1 DEBRIS BASIN
Type: Basin/earthfill embankment combination, with dumpstone-revetted embankment
Maximum Height: 30 feet
Length: 700 feet
Basin Capacity: 75 acre-feet

F-2 DEBRIS BASIN
Type: Basin/earthfill embankment combination, with dumpstone-revetted embankment
Maximum Height: 35 feet
Basin Capacity: 17 acre-feet

F-4 DEBRIS BASIN
Type: Basin/earthfill embankment combination, with dumpstone-revetted embankment
Maximum Height: 25 feet
Basin Capacity: 20 acre-feet

1802

JUSTIFICATION: Construction of the authorized plan would provide a 100-year level of flood protection to the developing alluvial fan area and to portions of the existing developed urban community. The population of the Las Vegas Valley has increased from 94,000 in 1959 to over 1 million in 1995 and is expected to exceed 2 million by the year 2005, greatly increasing the potential for and severity of urban flood damages along Tropicana and Flamingo Washes. The present value of structures and contents in the overflow area is about $2.4 billion. Most major flooding events result from heavy local summer thunderstorms. The July 1975 flood caused $5 million in damages, $14.2 million at 1999 prices, throughout the greater Las Vegas communities. The severity of the July and August 1984 flooding and associated damages, estimated at $6.5 million, $8.7 million at 1999 prices, resulted in a Presidential Disaster Declaration for Clark County, including the Las Vegas Valley, in September 1984. Clark County also passed an emergency $15 million bond issue to deal with the flooding problem. In June 1985, the Clark County Regional Flood Control District was created by the Nevada State Legislature to provide an effective organization to address the flood problems in Clark County. The flood control district completed a Flood Control Master Plan in May 1986, which identifies a recommended plan for the Las Vegas Valley. The floods of June-July 1990 caused three fatalities and approximately $7.6 million in damages, $9.8 million at 1999 prices. The flood of July 1999 exceeded a 100-year storm event, caused two fatalities and approximately $21 million in damages to residential areas and businesses. Minimal damage occurred to Lower Blue Diamond Channel. The severity of this flood resulted in a Presidential Disaster Declaration for Clark County and immediate mobilization of the Emergency Management Agency and the Corps of Engineers disaster teams. The partially-complete Tropicana and Flamingo Washes Project performed well and sustained no significant damage. Practically all of these damages would have been prevented had the project been in full operation. Average annual benefits, at October 1991 price levels, are $27,000,000, all flood control. The project will provide a 100-year level of flood protection. Future benefits are more than 20 percent of total project benefits. Future benefits are based on savings in future flood proofing costs which would be incurred without the project. The project does not directly or indirectly induce floodplain development.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate construction of R-4 Debris Basin and Channel	$ 5,000,000
Initiate construction of Lower Flamingo Diversion Channel	3,451,000
Initiate and complete construction of Upper Red Rock Channel	3,252,000
Complete construction of Lower Red Rock Channel Complex	2,049,000
Complete construction of Red Rock Channel (Segment 10A)	500,000
Planning, Engineering, and Design for F-1/F-2 and F-4 Debris Basins and Channels	4,748,000
Construction Management	1,000,000
Total	$20,000,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation and Replacement Costs
Provide lands, easements, rights-of-way, and borrow and excavated or dredged material disposal areas (including mitigation).	$32,689,000	$
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	311,000	
Pay 12.8 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, as determined under Section 103(m) of the Water Resources Development Act of 1986 to reflect the non-Federal sponsors' ability to pay as reduced for credit allowed based on prior work (Section 104 of the Water Resources Development Act of 1986) and bear all costs of operation, maintenance, repair rehabilitation and replacement of flood control facilities.	34,800,000	600,000
Pay one-half of the separable costs allocated to recreation and bear all costs of operation, maintenance, repair, rehabilitation and replacement of recreation facilities.	6,500,000	
Total Non-Federal Project Costs	$74,300,000	$ 600,000

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

1804

STATUS OF LOCAL COOPERATION: The Clark County Regional Flood Control District and the Department of Public Works are the local sponsors for flood control. The Clark County Recreation Department is the potential local sponsor for the recreation feature. The Project Cooperation Agreement for flood control was executed on 7 February 1995. The current non-Federal cost estimate of $67.8 million for flood control, which includes a cash contribution of $34.8 million, is an increase of $6.7 million from the non-Federal cost estimate of $61.1 million noted in the flood control Project Cooperation Agreement, which included a cash contribution of $45.1 million. The cash contribution is being partially offset by a credit of $9.9 million allowed for locally-constructed flood control work determined to be in accordance with Section 104 of the Water Resources Development Act of 1986. The non-Federal sponsor is constructing the lateral collector system, which will exceed $18 million. The Project Cooperation Agreement for recreation is currently unscheduled.

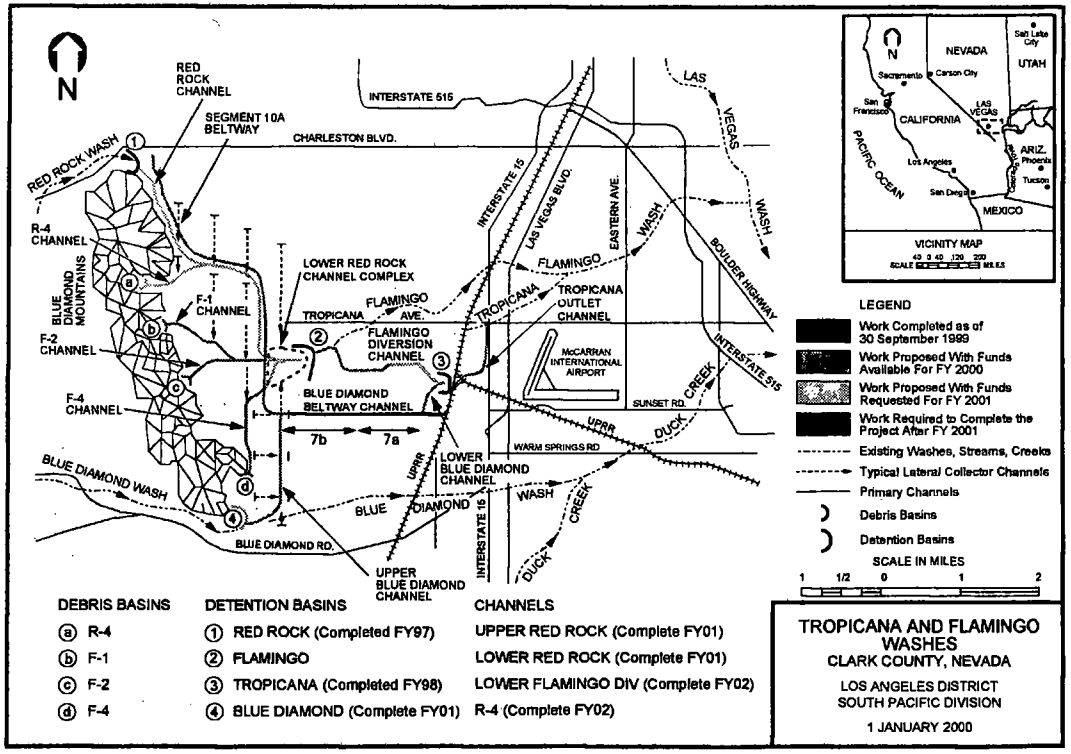
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $209,700,000 is an increase of $1,200,000 from the latest estimate ($208,500,000) presented to Congress (FY 2000). This change includes the following items.

Item	Amount
Price Escalation on Construction Features	$2,854,000
Post Contract Award and Other Estimating Adjustments (including contingency adjustments)	-1,654,000
Total	$1,200,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final environmental impact statement was filed with the Environmental Protection Agency in October 1991.

OTHER INFORMATION: Funds were appropriated to initiate preconstruction engineering and design in FY 1992 and to initiate construction in FY 1994.

Section 211 of the Water Resources Development Act of 1996 authorized development of flood control projects by non-Federal interests. Section 211(f)(5) specifically names the Tropicana and Flamingo Washes, Nevada Project to demonstrate the potential advantages and effectiveness of non-Federal implementation, and further states that, subject to amounts being made available in advance in appropriations, the Secretary may reimburse without interest, to the non-Federal interest an amount equal to the estimated Federal share of the cost of such work, if such work is later recommended by the Chief of Engineers, and approved by the Secretary. Under this authority, the non-Federal sponsors are implementing approximately nine miles of project flood control channel concomitant with the Las Vegas Beltway System. They expect to complete this work in Fiscal Year 2000. The estimated Federal share is approximately $20 million. The Section 211 Amendment to the Project Cooperation Agreement was signed 17 December 1999.



DEBRIS BASINS	DETENTION BASINS	CHANNELS
ⓐ R-4	① RED ROCK (Completed FY97)	UPPER RED ROCK (Complete FY01)
ⓑ F-1	② FLAMINGO	LOWER RED ROCK (Complete FY01)
ⓒ F-2	③ TROPICANA (Completed FY98)	LOWER FLAMINGO DIV (Complete FY02)
ⓓ F-4	④ BLUE DIAMOND (Complete FY01)	R-4 (Complete FY02)

TROPICANA AND FLAMINGO WASHES
CLARK COUNTY, NEVADA

LOS ANGELES DISTRICT
SOUTH PACIFIC DIVISION

1 JANUARY 2000

APPROPRIATION TITLE: Construction, General - Reservoirs

PROJECT: Acequias Irrigation System, New Mexico (Continuing)

LOCATION: There are about one thousand recognized Acequias throughout the state of New Mexico. Most are located in north-central New Mexico in the counties of Mora, Rio Arriba, Santa Fe, San Miguel and Taos.

DESCRIPTION: Protect and restore river diversions and associated canals of community Acequia systems in New Mexico.

AUTHORIZATION: Water Resources Development Acts of 1986 and 1996.

REMAINING BENEFIT - REMAINING COST RATIO: Not applicable. 1/

TOTAL BENEFIT - COST RATIO: Not applicable. 1/

INITIAL BENEFIT - COST RATIO: Not applicable. 1/

BASIS OF BENEFIT - COST RATIO: Not applicable. 1/

SUMMARIZED FINANCIAL DATA			ACCUM. PCT. OF EST. FED. COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$66,000,000		Diversion Structures Canals and Ditches	18	Being Determined
Estimated Non-Federal Cost		22,000,000				
Cash Contribution	$22,000,000					
Total Estimated Project Cost		$88,000,000				
Allocations to 30 September 1999		$11,945,000				
Conference Allowance for FY 2000		1,500,000				
Allocation for FY 2000		686,000 2/				
Allocations through FY 2000		12,631,000	19			

1/ Project was authorized without regard to economic analysis in accordance with Section 1113 of the Water Resources Development Act of 1986.

2/ Reflects $214,000 reduction assigned as savings and slippage and $600,000 reprogrammed from the project.

1807

SUMMARIZED FINANCIAL DATA (continued)		ACCUM. PCT. OF EST. FED. COST
Allocation Requested for FY 2001	$ 900,000	20
Programmed Balance to Complete after FY 2001	52,469,000	
Unprogrammed Balance to Complete after FY 2001	0	

JUSTIFICATION: The acequia community ditch systems provide irrigation water to about 160,000 acres on an estimated 12,000 farms. About seventy percent of the farms average less than twenty acres in size and are used for subsistence farming. Acequias have been in existence since the early Spanish Colonization period of the 17th and 18th centuries and represent one of the oldest forms of cooperative institutions in the United States. They are an integral part of the culture and heritage of New Mexico. Justification for the project is based upon the historic and social significance the Acequias have for the local residents and the major role they play in the overall local economy. Flood damages to the acequia diversion dams and main delivery systems and subsequent interruption of water flow to the systems can have a devastating effect on the irrigators. At the most critical times for irrigation, high flood flows from spring snowmelt at the beginning of the irrigation season and from intense summer thunderstorms during the peak of irrigation cause structural damage or complete loss of ditch structures needed for delivering water to crops.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Rehabilitation of Acequias	$800,000
Planning, Engineering and Design	50,000
Construction Management	50,000
Total	$900,000

1808

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Acts of 1986 and 1996, the non-Federal sponsor must comply with the requirements listed below:

	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation and Replacement Costs
Requirements of Local Cooperation		
Pay 25 percent of the costs of Acequias restoration following the completion of reconnaissance level activities.	$22,000,000 3/	$ 0 4/
Total Non-Federal Cost	$22,000,000 3/	$ 0 4/

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

3/ Section 334 of the Water Resources Development Act of 1996 amended Section 1113 of the Water Resources Development Act of 1986 to make the Federal share of reconnaissance studies carried out by the Secretary 100 percent.
4/ Operation, maintenance, repair, rehabilitation and replacement costs historically are the responsibility of each acequia organization.

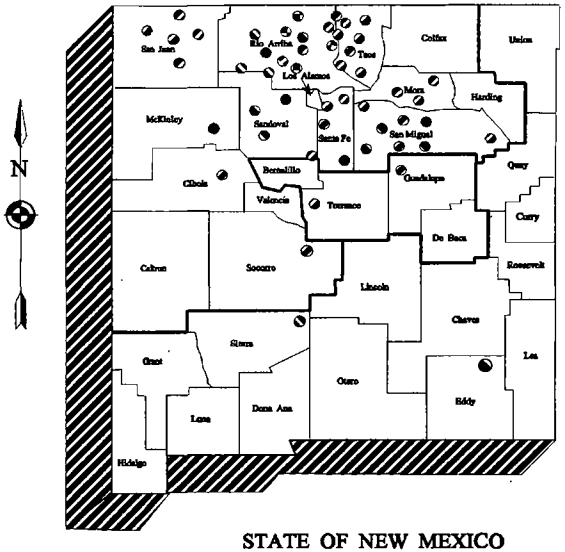
STATUS OF LOCAL COOPERATION: The local sponsor, the State of New Mexico, has enacted legislation whereby the State provides 17-1/2% of the project costs and low interest loans to the local Acequias for the remaining 7-1/2% of the non-Federal share. The State of New Mexico has appropriated, on an annual basis, the funds necessary to meet the requirements of local sponsorship. Local Cooperation Agreements have been signed for funds appropriated in Fiscal Year 1988, Fiscal Year 1989, and Fiscal Year 1990. The general Local Cooperation Agreement to cover all the Acequias within the State for remaining work after Fiscal Year 1990 was executed in June 1992. An amended Project Cooperation Agreement, incorporating the cost sharing contained in Section 334 of the Water Resources Development Act of 1996, was executed in March 1999.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $66,000,000 (1 October 1999) is the same as the latest estimate $66,000,000 presented to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: Appropriate environmental documentation will be prepared for each Acequia Restoration Project prior to initiating construction.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in Fiscal Year 1987. Funds to initiate construction were appropriated in Fiscal Year 1988. The state of New Mexico is the local sponsor for all the Acequias projects within the State.

1810



STATE OF NEW MEXICO

SCALE IN MILES
0 40 80 120 160

STATUS OF WORK

- Work completed as of 30 Sept 1999
- Work proposed with funds available for FY 2000
- Work proposed with funds requested for FY 2001
- Work required to completed the project after 30 Sept. 2001

ACEQUIAS IRRIGATION SYSTEM NEW MEXICO

U.S. Army Corps of Engineers
Albuquerque District, South Pacific Division
Albuquerque, New Mexico
1 January 2000

7 February 2000

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Alamogordo, New Mexico (Continuing)

LOCATION: The project is located in Otero County, in and near Alamogordo, New Mexico. The city of Alamogordo is situated at the foot of the Sacramento Mountains near the eastern edge of the Tularosa (Closed) Basin.

DESCRIPTION: The authorized project consists of three concrete and rip-rap lined diversion channels which will intercept flood flows from canyons and arroyos in the Sacramento Mountains east of the City.

AUTHORIZATION: Flood Control Act of 1962.

REMAINING BENEFIT - REMAINING COST RATIO: 2.0 to 1 at 8 7/8 percent.

TOTAL BENEFIT - COST RATIO: 1.8 to 1 at 8 7/8 percent.

INITIAL BENEFIT - COST RATIO: 4.6 to 1 at 8 7/8 percent (FY 1988).

BASIS OF BENEFIT - COST RATIO: Benefits are from the General Reevaluation Report, approved in March 1999, using October 1998 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM. PCT. OF EST. FED. COST
Estimated Federal Cost		$41,400,000	
Estimated Non-Federal Cost		13,800,000	
Cash Contribution	$11,600,000		
Other Costs	2,200,000		
Total Estimated Project Cost		$55,200,000	
Allocations to 30 September 1999		$ 4,975,000	
Conference Allowance for FY 2000		700,000	
Allocation for FY 2000		600,000 1/	
Allocations through FY 2000		5,575,000	13

STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project	0	Being Determined

PHYSICAL DATA	
Concrete Lined Channel:	47,500 ft.
Sediment Basins:	5
Detention Basins:	1
Stilling Basin:	1
Relocation:	3 (RR Bridges)

1/ Reflects $100,000 reduction assigned as savings and slippage.

SUMMARIZED FINANCIAL DATA (continued)		ACCUM. PCT. OF EST. FED. COST
Allocation Requested for FY 2001	$ 3,000,000	21
Programmed Balance to Complete after FY 2001	32,825,000	
Unprogrammed Balance to Complete after FY 2001	0	

JUSTIFICATION: There are no well-defined watercourses in the Tularosa (Closed) Basin. Many canyons and arroyos which descend to the valley floor from the mountains bordering the basin carry the runoff. Several arroyos head on the west slope of the Sacramento Mountains and flow westward through the city of Alamogordo, causing extensive damage to residential and business properties, schools and churches, utilities, streets, highways, roads, and other public properties. The major problem arroyos from north to south are Dry, Beeman, Marble, and Alamo Canyons. Also, several minor unnamed arroyos in the vicinity contribute to the problem. Estimated total property valuation of the area in the 100-year flood plain is $450,000,000 (1 October 1999). Estimated damages from an occurrence of the one percent chance flood under present conditions are $80,000,000. Records indicate that from 1935 through 1959, eleven floods exceeded the capacity of railroad drainage structures in the area, overtopping the tracks by as much as two feet. Floods on 17 and 26 August 1959 caused estimated damages of $240,000 and $57,000, respectively. These damages, based on 1 October 1999 price levels, would be $2,300,000 and $600,000, respectively. Other minor flooding, occurring as recently as 1979 and 1984, has caused City officials to be concerned about the flood threat. The average annual benefits are $8,326,800, all flood control, based on October 1998 price levels.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate Construction of South Channel	$2,150,000	
Initiate Construction of South Railroad Bridge	200,000	
Planning, Engineering and Design	350,000	
Construction Management	300,000	
Total		$3,000,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair Rehabilitation and Replacement Cost
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$ 1,600,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	600,000	
Pay 21 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	$11,600,000	$123,000
Total Non-Federal Cost	$13,800,000	$123,000

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: In October 1991, the City voted against proceeding with the project as designed and asked that the U.S. Army Corps of Engineers reevaluate the flood problem and develop new alternatives for flood control. By letter dated 18 December 1992, the City emphasized their support and commitment to proceeding with a general reevaluation of flood control alternatives. The City reaffirmed their desire for U.S. Army Corps of Engineers assistance at the March 1994 In-Progress Review Conference and again by letter dated 25 March 1997. The Project Cooperation Agreement with the city of Alamogordo, New Mexico, was executed in July 1999. The current non-Federal cost estimate of $13,800,000, which includes a cash contribution of $11,600,000 is the same as the non-Federal cost estimate noted in the Project Cooperation Agreement. Our analysis of the non-Federal sponsor's financial capability to participate in the project affirms that the sponsor has a reasonable and implementable plan for meeting its financial commitment.

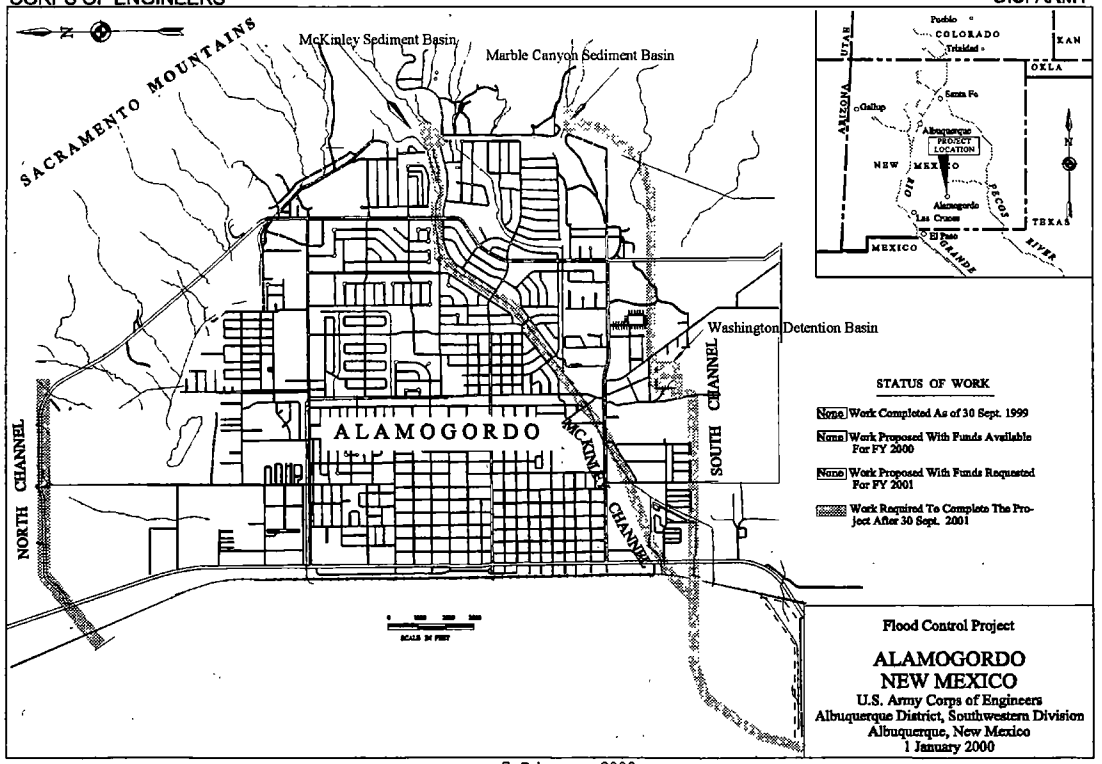
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $41,400,000 (1 October 1999) is the same as the latest estimate ($41,400,000) presented to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Environmental Assessment and Finding of No Significant Impact (FONSI) for the current plan of improvement was signed in October 1998.

OTHER INFORMATION: The city of Alamogordo has been working with the U.S. Army Corps of Engineers and the New Mexico Congressional Delegation for over thirty years seeking a solution to the flood threat from the Sacramento Mountains located east of the City. Funds to initiate construction of the diversion channel were appropriated in Fiscal Year 1988. Work was discontinued in September 1988, without a contract being awarded, because the City could not give assurances of local cooperation due to the failure of a bond issue. To satisfy the concerns expressed by the City Commissioners and area residents, alternative solutions were investigated and were outlined in an Interim Letter Report dated August 1992. The letter report recommended reevaluation of the project through the preparation of a General Reevaluation Report. The General Reevaluation Report addresses alternatives to the authorized Standard Project Flood protection plan. The new alternatives will be constructed in phases to accommodate the sponsor's financial plan. To that end, the City provided a letter of intent emphasizing their commitment and support for further analysis. The General Reevaluation Report was completed in April 1999. The General Reevaluation Report's recommended plan consists of construction of two new diversion channels and upgrading an existing earthen channel which will intercept flows from the Sacramento Mountains. Appurtenant project features include 5 sediment basins, 1 detention basin, and a stilling basin.

CORPS OF ENGINEERS

U.S. ARMY



7 February 2000

1816

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Las Cruces, New Mexico (Continuing)

LOCATION: The project is located in Dona Ana County in Las Cruces, New Mexico. The city of Las Cruces is situated near the Organ Mountains in south-central New Mexico.

DESCRIPTION: The project consists of the enlargement and modification of two existing detention structures and the modification of an existing channel. The project is designed to capture and safely detain runoff from the 100-year flood event and reduce flood damages to numerous residential and commercial areas within the city of Las Cruces.

AUTHORIZATION: Water Resources Development Act of 1996.

REMAINING BENEFIT - REMAINING COST RATIO: 3.5 to 1 at 7 5/8 percent.

TOTAL BENEFIT - COST RATIO: 2.5 to 1 at 7 5/8 percent.

INITIAL BENEFIT - COST RATIO: 2.5 to 1 at 7 5/8 percent (FY 1998).

BASIS OF BENEFIT - COST RATIO: Benefits are from the latest available evaluation described in the Feasibility Report approved in August 1995 at June 1995 price levels.

SUMMARIZED FINANCIAL DATA		
Estimated Federal Cost		$6,600,000
Estimated Non-Federal Cost		2,200,000
Cash Contribution	$ 560,000	
Other Costs	1,640,000	
Total Estimated Project Cost		$8,800,000

STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project	0	Being Determined

PHYSICAL DATA

Modify and enlarge 2 existing detention basins and channel.
Detention system capacity: 180 acre-feet
Channel: 2,000 feet concrete lined, 8 side inlet structures

SUMMARIZED FINANCIAL DATA (continued)		ACCUM. PCT. OF EST. FED. COST	
Allocations to 30 September 1999	$1,701,000		
Conference Allowance for FY 2000	2,400,000		
Allocation for FY 2000	2,058,000 1/		1/Reflects $342,000 reduction assigned as savings and slippage.
Allocations through FY 2000	3,759,000	57	
Allocation Requested for FY 2001	$2,841,000	100	
Programmed Balance to Complete after 2001	0		
Unprogrammed Balance to Complete after FY 2001	0		

JUSTIFICATION: The value of property subject to flood damage is $360,000,000. The property is mainly residential and commercial. Flooding starts at the five-year event and is caused by high intensity, short duration thunderstorms. The maximum flood of record occurred in August 1935 and caused $415,000 in damages. The same event would cause approximately $18 million in flood damages at today's level of development and price level. The most recent flood experience occurred 22 August 1987 when a severe thunderstorm dropped five inches of rain on the study area. There was extensive damage, but no dollar amounts are available. Average annual damages without the project are $5,059,300 and with the project are $3,200,300. The project has no impact on wetlands and only minimal overall environmental impacts. The average annual benefits are $1,859,000, all flood control, based on 1995 price levels.

1818

FISCAL YEAR 2001: The requested amount will be applied as follows:

Complete Construction	$2,180,000
Planning, Engineering and Design	301,000
Construction Management	360,000
Total	$2,841,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$ 1,560,000	
Modify or relocate utilities, roads, bridges (except railroads bridges), and other facilities, where necessary for the construction of the project.	80,000	
Pay 6.4 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	560,000	$ 18,000
Total Non-Federal Cost	$ 2,200,000	$ 18,000

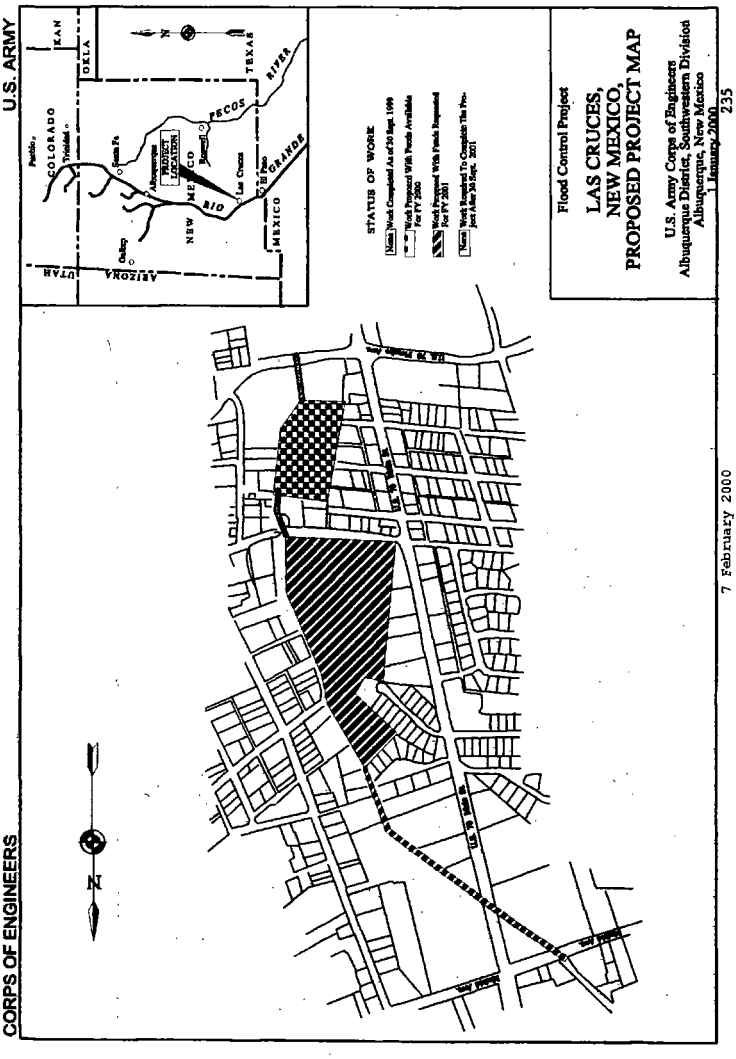
The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The city of Las Cruces, New Mexico, the local sponsor, is highly supportive of the project. The Project Cooperation Agreement was executed in April 1998. The current non-Federal cost estimate of $2,200,000, which includes a cash contribution of $560,000, is the same as the latest ($2,200,000) presented to Congress (FY 2000). Our analysis of the non-Federal sponsor's financial capability to participate in the project affirms that the sponsor has a reasonable and implementable plan for meeting its financial commitment.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $6,600,000 (1 October 1999) is the same as the latest estimate ($6,600,000) presented to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Environmental Assessment and Finding of No Significant Impact was signed in October 1995.

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in Fiscal Year 1995. Funds to initiate construction were appropriated in Fiscal Year 1998. There are no fish and wildlife mitigation costs associated with the project.


U.S. ARMY
CORPS OF ENGINEERS
COLORADO
NEW MEXICO
ARIZONA
UTAH
OKLA
TEXAS
PECOS
RIVER
RIO GRANDE
Albuquerque
Las Cruces
El Paso
Santa Fe
Taos
Gallup
Durango
PROJECT LOCATION
STATUS OF WORK
Work Completed As of 30 Sept. 1999
Work Proposed With Funds Available For FY 2000
Work Proposed With Funds Requested For FY 2001
Work Required To Complete The Project After 30 Sept. 2001
Flood Control Project
LAS CRUCES, NEW MEXICO, PROPOSED PROJECT MAP
U.S. Army Corps of Engineers
Albuquerque District, Southwestern Division
Albuquerque, New Mexico
January 2000
235
7 February 2000

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Middle Rio Grande Flood Protection, Bernalillo to Belen, New Mexico (Continuing)

LOCATION: The project is located on the Middle Rio Grande between the cities of Bernalillo and Belen, New Mexico, in the counties of Bernalillo, Sandoval and Valencia.

DESCRIPTION: The plan of improvement consists of raising and rehabilitating 49.6 miles of levees to provide the 270-year level of protection, the creation of 75 acres of wetlands from borrow areas within the bosque, and acquisition of 200 acres to satisfy fish and wildlife mitigation requirements. An additional 14 miles of authorized levee improvements for the Mountainview and Isleta reaches of the Belen Unit are also being reevaluated for inclusion with the project (see other information).

AUTHORIZATION: Water Resources Development Act of 1986.

REMAINING BENEFIT - REMAINING COST RATIO: 1.5 to 1 at 8-7/8 percent.

TOTAL BENEFIT - COST RATIO: 1.6 to 1 at 8-7/8 percent.

INITIAL BENEFIT - COST RATIO: 1.3 to 1 at 8-7/8 percent (FY 1991)

BASIS OF BENEFIT - COST RATIO: Benefits and cost for the Belen, Mountainview, and Isleta Units are currently being updated as a part of a General Reevaluation Report, scheduled to be approved in January 2003. Benefits for the Corrales Unit are from the August 1994 Limited Reevaluation Report at 1994 price levels.

SUMMARIZED FINANCIAL DATA			STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$46,800,000	Entire Project	17	Being Determined
Estimated Non-Federal Cost		15,600,000			
Cash Contribution	$10,420,000				
Other	5,180,000				
Total Estimated Project Cost		$62,400,000			

PHYSICAL DATA

Levees	- 49.6 Miles
Corrales	- 10.6 Miles
Belen	- 39.0 Miles

Division: South Pacific

District: Albuquerque
7 February 2000

Middle Rio Grande Flood Protection
Bernalillo to Belen Unit, NM 236

SUMMARIZED FINANCIAL DATA (Continued)

		ACCUM. PCT. OF EST. FED. COST	
Allocations to 30 September 1999	$ 8,891,000		
Conference Allowance for FY 2000			600,000
Allocation for FY 2000	515,000 1/		1/ Reflects $85,000 reduction assigned as savings
Allocations through FY 2000	9,406,000	20	and slippage.
Allocation Requested for FY 2001	$ 600,000	21	
Programmed Balance to Complete after FY 2001	36,794,000		
Unprogrammed Balance to Complete after FY 2001	0		

JUSTIFICATION: The project is located along the Middle Rio Grande from the vicinity of Bernalillo to Belen, New Mexico, and contains 45 square miles of floodplain. Major developed areas which will be protected include the municipalities of Corrales, Los Lunas, Bosque Farms, Mountainview, Isleta, and Belen. The valley has experienced growth with conversion of agricultural lands to urban and suburban land use. Approximately 32,000 residents and $1 billion worth of property are currently located in the 270-year floodplain. The flood threat stems from a 1,100 square mile uncontrolled drainage area upstream from the study reach which is capable of generating floodflows on the Rio Grande from summer storms which exceed the capacity of the existing spoilbank levee system. The average annual benefits are $6,338,800, based on January 1986 price levels for the Belen Reach and 1994 price levels for the Corrales Reach.

Annual Benefits	Amount
Flood Control	$6,108,800
Redevelopment	230,000
Total	$6,338,800

FISCAL YEAR 2001: The requested amount will be applied as follows:

Planning, Engineering and Design	$ 600,000
Total	$ 600,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursement	Annual Operation, Maintenance, Repair, Rehabilitation and Replacement Costs
Corrales Reach:		
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$ 130,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	50,000	
Pay 23.0 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	1,920,000	52,000
Total non-Federal Costs - Corrales Reach	$ 2,100,000	$ 52,000

Requirements of Local Cooperation (continued)

	Payments During Construction and Reimbursement	Annual Operation Maintenance, Repair Rehabilitation and Replacement Costs
Belen Reach:		
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$ 3,470,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	1,530,000	
Pay 5 percent of the costs allocated to flood control during the period of construction, contribute an additional 10.7 percent in cash to bring the total non-Federal share of flood control costs to 25 percent, and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of flood control facilities.	8,500,000	$167,000
Total Non-Federal Costs - Belen Reach	$13,500,000	$167,000

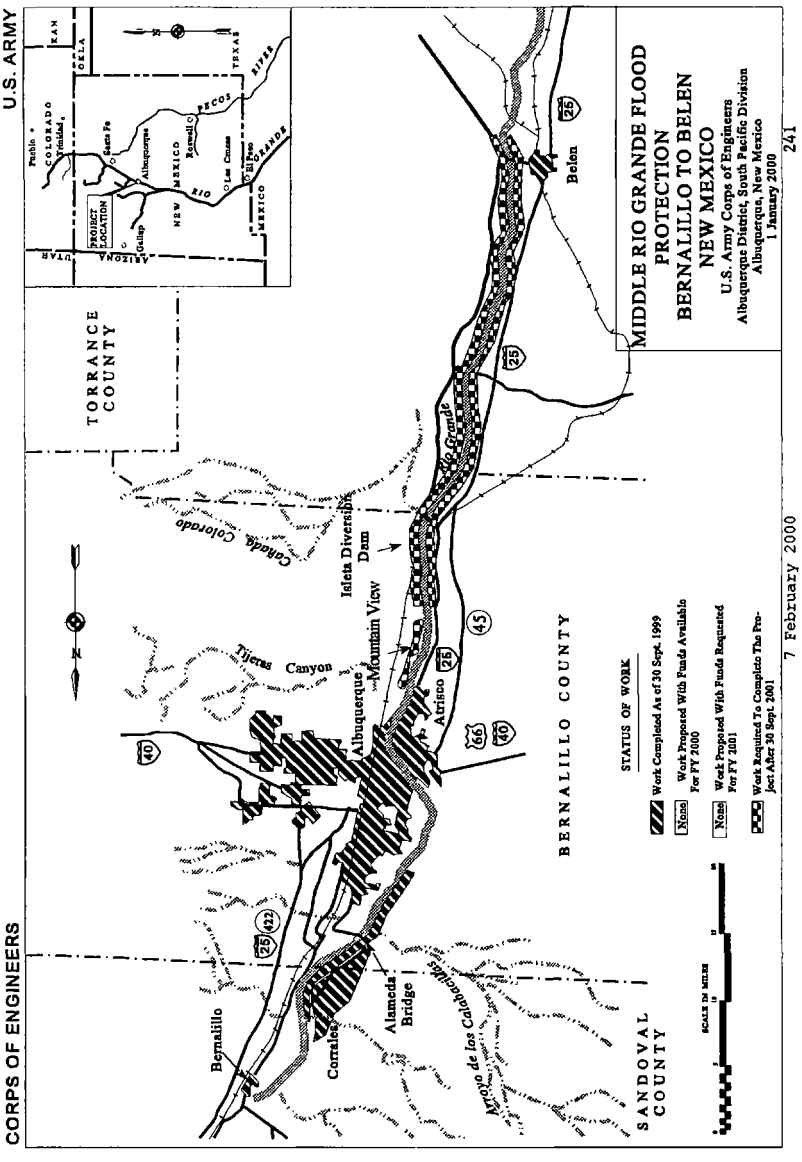
The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The Corrales Reach's Project Cooperation Agreement with the Middle Rio Grande Conservancy District was executed in July 1995 and the local sponsor provided lands, easements, rights of way, relocations and the required cash equal to 25% of the Corrales Reach's total project cost. By letter dated 3 December 1997, the Middle Rio Grande Conservancy District stated support for the project, and indicated a willingness to financially participate in construction of the remaining reaches in accordance with cost sharing and financing principles contained in the Water Resources Development Act of 1986. The Project Cooperation Agreement with the Middle Rio Grande Conservancy District for the remaining reaches is scheduled for execution in June 2003.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $46,800,000 is the same as the latest estimate ($46,800,000) presented to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The supplemental EIS for the Belen, Mountainview, and Isleta Reaches is scheduled to be signed in December 2002.

OTHER INFORMATION: In spite of the existing Rio Grande flood control reservoirs, there remains a residual flood threat which results in recurring damages currently estimated at $8,400,000 annually in the project area. Residents of low-lying areas desire relief from flooding problems. The most recent flood event occurred in 1979 and caused $1,200,000 in damages. Funds to initiate preconstruction engineering and design were appropriated in Fiscal Year 1986. Funds to initiate construction were appropriated in Fiscal Year 1991. Construction of the Corrales Reach was completed in July 1997. The General Reevaluation Report for the Belen Unit has been expanded to include the authorized Mountainview and Isleta Reaches. These two reaches had been eliminated from further study due to lack of economic justification. Updated design and cost information indicate these areas may now be economically viable. Project costs and benefits are being revised as part of a General Reevaluation Report now under way. The General Reevaluation Report is scheduled to be approved in January 2003. The estimated cost of fish and wildlife mitigation is $810,000.


U.S. ARMY
CORPS OF ENGINEERS
TORRANCE COUNTY
BERNALILLO COUNTY
SANDOVAL COUNTY
Bernalillo
Corrales
Alameda Bridge
Tijeras Canyon
Albuquerque
Mountain View
Arroyo de los Calabacillas
Cañada Colorado
Isleta Diversion Dam
Rio Grande
Arriso
Belen
PROJECT LOCATION
STATUS OF WORK
Work Completed As of 30 Sept. 1999
Work Proposed With Funds Available For FY 2000
Work Proposed With Funds Requested For FY 2001
Work Required To Complete The Project After 30 Sept. 2001
SCALE IN MILES
MIDDLE RIO GRANDE FLOOD PROTECTION
BERNALILLO TO BELEN
NEW MEXICO
U.S. Army Corps of Engineers
Albuquerque District, South Pacific Division
Albuquerque, New Mexico
1 January 2000
7 February 2000
241

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Rio Grande Floodway, San Acacia to Bosque del Apache Unit, New Mexico (Continuing)

LOCATION: The project is located in Socorro County, New Mexico along the Rio Grande, and extends from the upper end of the Rio Grande low-flow conveyance channel at the San Acacia diversion works to the head of Elephant Butte Reservoir.

DESCRIPTION: The plan of improvement consists of the reconstruction of 55 miles of existing spoil bank levee which separates the Rio Grande low flow conveyance channel from the cleared floodway. The level of protection is a discharge of 46,000 c.f.s. at Socorro, New Mexico, corresponding to an exceedance interval of 100 years.

AUTHORIZATION: Flood Control Act of 1948 and Water Resources Development Act of 1992.

REMAINING BENEFIT - REMAINING COST RATIO: 2.4 to 1 at 8-7/8 percent.

TOTAL BENEFIT - COST RATIO: 2.2 to 1 at 8-7/8 percent.

INITIAL BENEFIT - COST RATIO: 2.2 to 1 at 8-7/8 percent (FY 1992).

BASIS OF BENEFIT - COST RATIO: Benefits are from the Appendix to the Project Decision Document dated December 1993 at October 1993 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM. PCT. OF EST. FED. COST
Estimated Federal Cost		$62,300,000	
Estimated Non-Federal Cost		8,900,000	
Cash Contribution	$5,800,000		
Other Costs	3,100,000		
Total Estimated Project Cost		$71,200,000	
Allocations to 30 September 1999		$ 4,550,000	
Conference Allowance for FY 2000		600,000	
Allocation for FY 2000		515,000 1/	
Allocations through FY 2000		5,065,000	8

STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project	0	Being Determined

PHYSICAL DATA

Levees - 55 Miles

1/ Reflects $85,000 reduction assigned as savings and slippage.

1828

SUMMARIZED FINANCIAL DATA (continued)		ACCUM. PCT. OF EST. FED. COST
Allocation Requested for FY 2001	$ 600,000	9
Programmed Balance to Complete after FY 2001	56,635,000	
Unprogrammed Balance to Complete after FY 2001	0	

JUSTIFICATION: The value of property within the 100-year flood plain is $318,000,000. Residential property within the 100-year flood plain is worth $42,000,000. The Rio Grande low-flow conveyance channel, built by the U.S. Bureau of Reclamation in 1961, is the primary damageable property in the project area. Cost to construct the channel at October 1999 price levels is $106,000,000. The U.S. Bureau of Reclamation estimates that following a flood severe enough to breach the spoil-bank levee separating the low-flow conveyance channel from the adjacent floodway, the low-flow conveyance channel would be obliterated and out of service for at least five years. As much as 455,000 acre-feet of water would be lost over such a five-year period, with an economic value of $99,000,000. Loss of the channel would also have international significance, as the 1906 Treaty with Mexico requires the delivery of 60,000 acre-feet of water annually. Single occurrence damages from the one percent chance floods are $216,000,000. Average annual damages without the project are $13,386,000 and with the project are $1,088,000. The project will provide protection from the 100-year flood. The flood of record, in September 1929, produced a peak discharge of 60,000 cubic feet per second on the Rio Grande at the San Acacia gage. Irrigation and transportation facilities were either disrupted or destroyed. Over 90 percent of the irrigated farmland in a 60 mile reach of the Rio Grande was severely damaged, and the original villages of San Acacia, San Antonio, and San Marcial were destroyed. Damages sustained at that time were $1,500,000; under current conditions and prices the damages would be $222,000,000. The last major flood event occurred in 1965 with minor flooding in 1967 and 1979. The project avoids long and short term impacts associated with the destruction or modification of wetlands; in fact, the project protects existing wetlands at Bosque del Apache National Wildlife Refuge. Average annual benefits are $12,298,000, all flood control, based on October 1993 price levels.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Planning, Engineering and Design	$600,000
Total	$600,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, and the Water Resources Development Act of 1992, PL 102-580, Section 102(S), the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	$3,100,000	
Pay 8.1 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 12.5 percent, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	5,800,000	$188,000
Total Non-Federal Cost	$8,900,000	$188,000

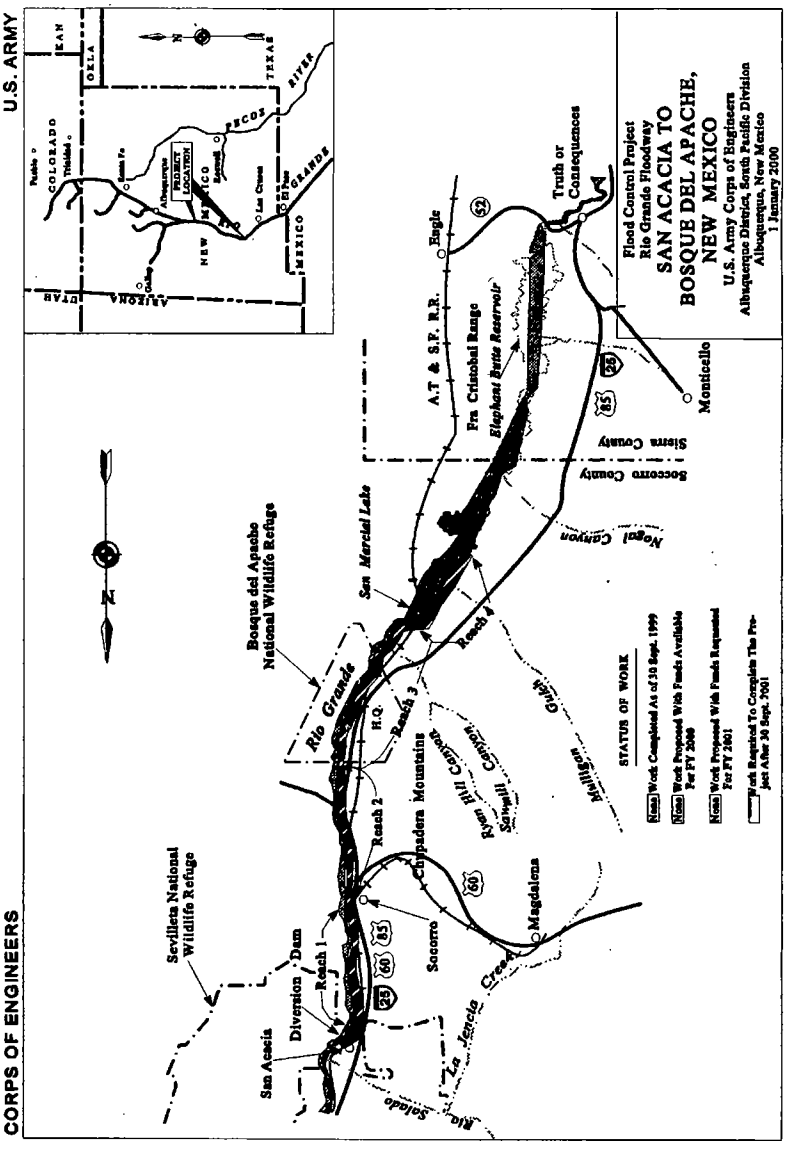
The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The Middle Rio Grande Conservancy District supports the authorized levee project, as currently modified, to provide needed flood protection to the Middle Rio Grande Valley below San Acacia. By letter dated 28 July 1995, the New Mexico State Engineer indicated that funding for a portion of the non-Federal share of the project may be provided by the New Mexico Interstate Stream Commission from the Improvement of the Rio Grande Income Fund. The Middle Rio Grande Conservancy District may also solicit the financial support of other project beneficiaries. The Project Cooperation Agreement is scheduled to be executed in January 2001.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $62,300,000 is the same as the latest estimate ($62,300,000) presented to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed in February 1992. A supplemental Environmental Impact Statement will be filed with the Environmental Protection Agency in June 2000.

OTHER INFORMATION: Funds to initiate Preconstruction Engineering and Design were appropriated in Fiscal Year 1987 and funds to initiate construction were appropriated in Fiscal Year 1992. The cost of fish and wildlife mitigation is $1,260,000 based on 1 October 1999 price levels. The General Reevaluation Report is scheduled to be approved in July 2000.


U.S. ARMY
CORPS OF ENGINEERS
Flood Control Project
Rio Grande Floodway
SAN ACACIA TO
BOSQUE DEL APACHE,
NEW MEXICO
U.S. Army Corps of Engineers
Albuquerque District, South Pacific Division
Albuquerque, New Mexico
1 January 2000
246
7 February 2000
STATUS OF WORK
Work Completed As of 30 Sept. 1999
Work Proposed With Funds Available Per FY 2000
Work Proposed With Funds Requested For FY 2001
Work Required To Complete The Project After 30 Sept. 2001
Bosque del Apache National Wildlife Refuge
Sevilleta National Wildlife Refuge
San Acacia Diversion Dam
Reach 1
Reach 2
Reach 3
Reach 4
H.Q.
Rio Grande
San Marcial Lake
Socorro
Chupadera Mountains
Magdalena
Rio Salado
La Jencia Creek
Rio Puerco
Sawmill Canyon
Mallory Canyon
Gulch
Nogal Canyon
A.T. & S.F. R.R.
Fra Cristobal Range
Elephant Butte Reservoir
Eagle
Truth or Consequences
Monticello
Socorro County
Sierra County
COLORADO
KANSAS
OKLA.
TEXAS
NEW MEXICO
ARIZONA
UTAH
MEXICO
RIVER
PECOS
RIO GRANDE
Albuquerque
Project Location
Las Cruces
El Paso

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: El Paso, Texas (Continuing)

LOCATION: The project is located in El Paso, El Paso County, Texas

DESCRIPTION: The project consists of a single-purpose flood control system of detention dams, diversion dikes, conduits, and channels to collect, regulate and discharge runoff into the Rio Grande.

AUTHORIZATION: Flood Control Act of 1965.

REMAINING BENEFIT - REMAINING COST RATIO: 6.9 to 1 at 3 1/4 percent.

TOTAL BENEFIT - COST RATIO: 2.0 to 1 at 3 1/4 percent.

INITIAL BENEFIT - COST RATIO: 1.5 to 1 at 3 1/4 percent (FY 1970).

BASIS OF BENEFIT - COST RATIO: Benefits are from the General Design Memorandum approved in September 1987 at October 1987 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM. PCT. OF EST. FED. COST
Estimated Federal Cost		$116,300,000	
Estimated Non-Federal Cost		39,900,000	
Cash Contribution	$ 4,160,000		
Other Costs	35,740,000		
Total Estimated Project Cost		$156,200,000	
Allocations to 30 September 1999		$104,773,000	
Conference Allowance for FY 2000		5,600,000	
Allocation for FY 2000		1,777,000 1/	
Allocations through FY 2000		106,550,000	92

STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project	89	Being Determined

PHYSICAL DATA

Central Area:
Dams - 6
Channels - 34,900 ft.
Conduits - 25,900 ft.

Southeast Area:
Dams - 4
Channels - 26,000 ft.

Northwest Area:
Dams - 5
Channels - 21,000 ft.
Conduits - 13,700 ft.

Detention Basins:
Chevron
Phelps Dodge
Lomaland
Americas

1/ Reflects $797,000 reduction assigned as savings and slippage, and $3,026,000 reprogrammed from the project.

Division: South Pacific

District: Albuquerque
7 February 2000

El Paso, TX
247

SUMMARIZED FINANCIAL DATA (Continued)		ACCUM. PCT. OF EST. FED. COST
Allocation Requested for FY 2001	$ 5,200,000	96
Programmed Balance to Complete after 2001	4,550,000	
Unprogrammed Balance to Complete after FY 2001	0	

JUSTIFICATION: The project provides flood protection for urban areas subject to damaging floods from arroyos on the slopes of the adjacent mountains. Major damaging floods occurred in 1950, 1955, 1958, 1962, 1963, 1966, 1967, 1968, and 1974. The flood of record occurred in 1958 and caused estimated damages of $984,000. Recurrence of this flood based on October 1999 prices would cause damages estimated at $7,900,000. Standard Project Flood is the design flood for the Central and Northwest Areas. The National Economic Development Plan has been selected for the Southeast Area. Estimated urban acres protected by the authorized project are 8,830. Value of land and improvements in the Standard Project Flood Plain is about $3.0 billion (October 1999 prices). Average annual benefits are $10,873,000, all flood control, based on October 1987 price levels.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Construction of Lomaland System	$4,400,000
Planning, Engineering and Design	400,000
Construction Management	400,000
Total	$5,200,000

1834

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursement	Annual Operation, Maintenance, Repair, Rehabilitation & Replacement Costs
Central and Northwest Areas:		
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$10,740,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	2,560,000	
Bear all costs of operation, maintenance, repair, rehabilitation, and replacement of flood control facilities.	0	$530,000
Total Non-Federal Costs (Central and Northwest Areas)	$13,300,000	$530,000
Southeast Area:		
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$20,110,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	2,330,000	
Pay 5 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	4,160,000	$ 88,000
Total Non-Federal Costs (Southeast Area)	$26,600,000	$ 88,000
Total Non-Federal Costs (Southeast, Central and Northwest Areas)	$39,900,000	$618,000

STATUS OF LOCAL COOPERATION: The project sponsor, the city of El Paso, executed a Section 221 agreement on 31 August 1972 which was approved by the Assistant Secretary of the Army for Civil Works on 7 September 1972. The city of El Paso is acquiring rights-of-way for each item of construction as required.

The Local Cooperation Agreement for construction in the Southeast Area was executed with the city of El Paso, Texas, in September 1988. The current non-Federal cost estimate of $26,600,000, for the Southeast Area, which includes a cash contribution of $4,160,000 is an increase of $4,900,000 from the non-Federal cost estimate of $21,700,000 noted in the Local Cooperation Agreement, which included a cash contribution of $3,700,000. In the Local Cooperation Agreement, the non-Federal Sponsor indicated that it is financially capable and willing to contribute the non-Federal share. Our analysis of the non-Federal Sponsor's financial capability to participate in the project affirms that the sponsor has a reasonable and implementable plan for meeting its financial commitment.

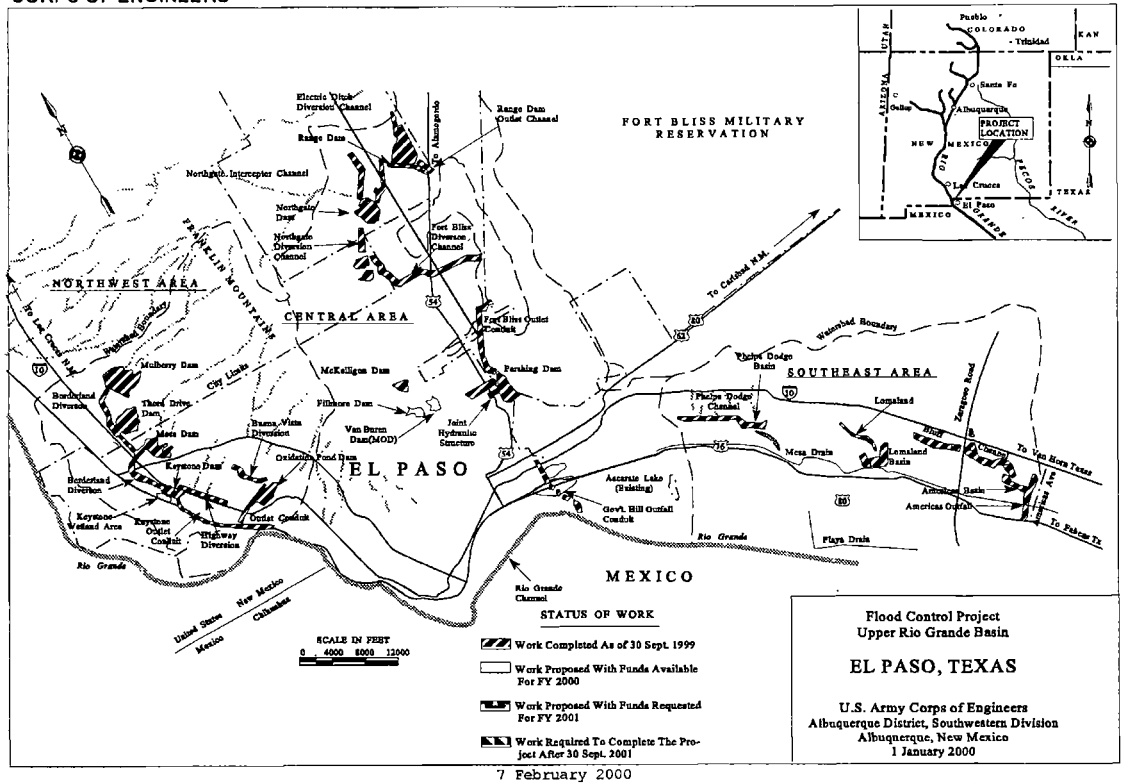
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $116,300,000 is the same as the latest estimate ($116,300,000) presented to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement for the Central Area was filed with the Council on Environmental Quality in November 1970. The final Environmental Impact Statement for the Northwest Area was submitted to the Council on Environmental Quality in November 1977. The final Environmental Impact Statement for the Southeast Area was filed with the Environmental Protection Agency in November 1987.

OTHER INFORMATION: Funds to initiate engineering and design were appropriated in Fiscal Year 1967, and for construction in Fiscal Year 1970. Funds to initiate construction of the Southeast Area were appropriated in Fiscal Year 1988.

CORPS OF ENGINEERS

U.S. ARMY



Flood Control Project
Upper Rio Grande Basin

EL PASO, TEXAS

U.S. Army Corps of Engineers
Albuquerque District, Southwestern Division
Albuquerque, New Mexico
1 January 2000

7 February 2000

1837

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Upper Jordan River, Utah (Continuing)

LOCATION: The project is located in Salt Lake County, Utah, just south of the Salt Lake City corporate limit. The drainage area encompasses a portion of the western slope of the Wasatch Mountains and bench and valley lands tributary to Mill Creek. Mill Creek is tributary to the Jordan River.

DESCRIPTION: The project includes construction of a flood control diversion and sediment control structure on Mill Creek, a 1.4 mile underground conduit from the diversion structure to a detention basin, and construction of a 100 acre foot Hillview Detention Basin. The project will divert flood flows from Mill Creek to the detention basin and to a storm drain discharging to Big Cottonwood Creek. The project will provide 100 year flood protection on Mill Creek above State Street.

AUTHORIZATION: Water Resources Development Act of 1990 and 1996.

REMAINING BENEFIT-REMAINING COST RATIO: 1.8 to 1 at 7-3/4 percent.

TOTAL BENEFIT-COST RATIO: 1.7 to 1 at 7-3/4 percent.

INITIAL BENEFIT-COST RATIO: 1.4 to 1 at 7-3/4 percent.

BASIS OF BENEFIT-COST RATIO: Benefits are from the Upper Jordan River, Utah, Mill Creek Flood Control Project, Post Authorization Change Report dated 18 January 1995 at October 1992 price levels.

PHYSICAL

SUMMARIZED FINANCIAL DATA			STATUS (1 JAN 2000)	PERCENT COMPLETE	COMPLETION SCHEDULE
Estimated Federal Cost		$ 9,660,000	Entire Project	Not Started	Unscheduled
Estimated Non-Federal Cost		5,140,000			
Cash Contribution	$ 890,000				
Other Costs	4,250,000				
Total Estimated Project Cost		$14,800,000			

SUMMARIZED FINANCIAL DATA (Continued)

		ACCUM PCT Of EST FED COST
Allocations to 30 September 1999	$ 2,109,000	
Conference Allowance for FY 2000	0	
Allocation for FY 2000	200,000 1/	
Allocations through FY 2000	2,309,000	24
Allocation Requested for FY 2001	800,000	32
Programmed Balance to Complete after FY 2001	500,000	
Unprogrammed Balance to Complete after FY 2001	0	
	6,051,000	

PHYSICAL DATA

Diversion Structure:	Length: 200 feet Width: 41 feet
Diversion Conduit:	Length: 1.4 miles Diameter: 96 inches
Detention Basin:	100 acre-foot capacity

1/ Reflects $200,000 reprogrammed to the project.

JUSTIFICATION: There has been a long history of flooding which is most commonly associated with snowmelt and rainfall. The most recent flooding occurred in 1982, 1983, and 1984. Damages to highly developed residential, commercial and public infrastructure in 1982 amounted to approximately $4.5 million. The most severe and extensive snowmelt in the history of Utah occurred during the spring of 1983. Damages from Mill Creek alone were estimated at $5.5 million and damages for the entire Jordan River Basin exceeded $40 million. Mill Creek damages in 1984 were estimated at $3 million. Salt Lake County qualified for disaster relief in both 1983 and 1984. A feasibility report was completed in 1987 and planning engineering and design was completed in 1996. The project will provide 100 year flood protection on Mill Creek above State Street. Average annual benefits, all flood control, are estimated at $2,000,000 at October 1992 price levels.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Planning, Engineering, and Design	$800,000
Total	$800,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas.	$1,070,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary in the construction of the project.	3,180,000	
Pay 6 percent of the costs allocated to flood control and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	$ 890,000	$ 33,000
Total Non-Federal Costs	$5,140,000	$ 33,000

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: Salt Lake County will act as the local sponsor for the project. A Project Cooperation Agreement is pending completion of the Supplemental Design Memorandum (see Other Information).

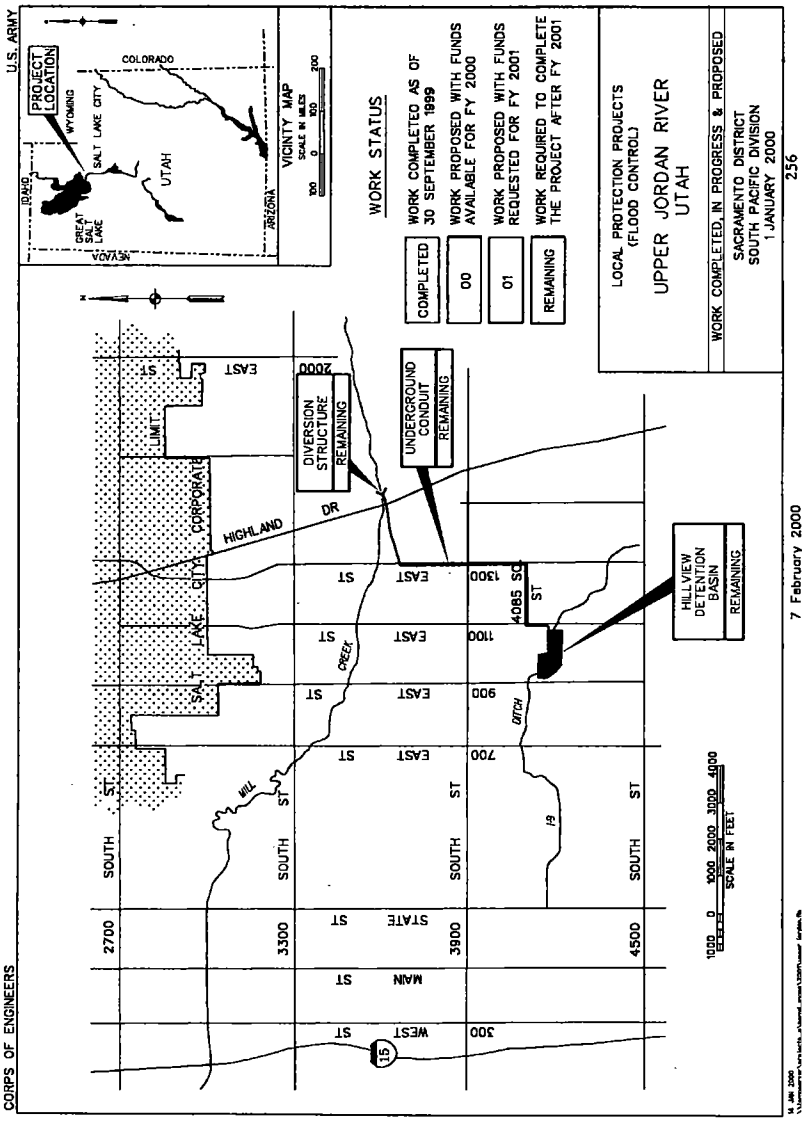
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $9,660,000 the same as the latest estimate presented to Congress (FY 1999).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Final Environmental Impact Statement was filed with EPA on 22 July 1988. The Finding of No Significant Impacts was signed on 7 April 1993.

OTHER INFORMATION: Funds to initiate Preconstruction Engineering and Design were appropriated in FY 1990, and funds to initiate construction were appropriated in FY 1997. At the request of Salt Lake County, the project is being reevaluated to address potential downsizing of the diversion structure and other project features. A Limited Reevaluation Report is being prepared to address potential changes and the associated project costs and benefits. Results of the reevaluation will be included as a supplement to the Design Memorandum to be completed in FY 2001.

Project completion is currently unscheduled pending completion of the Supplemental Design Memorandum.

Fish and Wildlife mitigation costs are currently estimated at $495,000.


U.S. ARMY
CORPS OF ENGINEERS
PROJECT LOCATION
WYOMING
COLORADO
SALT LAKE CITY
UTAH
IDAHO
NEVADA
ARIZONA
GREAT SALT LAKE
VICINITY MAP
SCALE IN MILES
0 100 200
WORK STATUS
WORK COMPLETED AS OF 30 SEPTEMBER 1999
COMPLETED
WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2000
00
WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
01
WORK REQUIRED TO COMPLETE THE PROJECT AFTER FY 2001
REMAINING
LOCAL PROTECTION PROJECTS
(FLOOD CONTROL)
UPPER JORDAN RIVER
UTAH
WORK COMPLETED, IN PROGRESS & PROPOSED
SACRAMENTO DISTRICT
SOUTH PACIFIC DIVISION
1 JANUARY 2000
256
DIVERSION STRUCTURE
REMAINING
UNDERGROUND CONDUIT
REMAINING
HILLVIEW DETENTION BASIN
REMAINING
HIGHLAND DR
SALT LAKE CITY CORPORATE LIMIT
4085 SQ
CREEK
DITCH
MILL
I-15
2000 EAST ST
1300 EAST ST
1100 EAST ST
900 EAST ST
700 EAST ST
2700 SOUTH ST
3300 SOUTH ST
3900 SOUTH ST
4500 SOUTH ST
STATE ST
MAIN ST
WEST ST
1000 0 1000 2000 3000 4000
SCALE IN FEET
7 February 2000

APPROPRIATION TITLE: Construction, General - Dam Safety Assurance

PROJECT: Success Dam and Reservoir, Tule River, California - Dam Safety Seismic Remediation (Dam Safety Assurance) (Continuing)

LOCATION: The project area is located in Tulare County within the 12,500 square-mile Tulare Lake Basin in the southeastern portion of the San Joaquin Valley about 60 miles north of the city of Bakersfield, California. The Tule River drains about 390 square miles into Success Lake and flows from the lake on to the valley through the city of Porterville, and continues another 25 miles through agricultural areas.

DESCRIPTION: A Dam Safety Assurance Program (DSAP) Evaluation Report recommends remedial treatment at Success Dam to prevent foundation liquefaction that could lead to a catastrophic failure of the dam.

AUTHORIZATION: Flood Control Act of 1944.

REMAINING BENEFIT-REMAINING COST RATIO: Not Applicable

TOTAL BENEFIT-COST RATIO: Not Applicable

BASIS OF BENEFIT-COST RATIO: Not Applicable

SUMMARIZED FINANCIAL DATA		
Estimated Appropriation Requirements (COE)		$30,900,000
Future Non-Federal Reimbursement		440,325
Estimated Federal Cost (Ultimate)		30,459,675
Estimated Non-Federal Cost		440,325
Cash Contribution	$0	
Other Costs	0	
Reimbursements	440,325	
Total Estimated Project Cost		$30,900,000

STATUS (1 JAN 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Entire Project Not Started		Being Determined

PHYSICAL DATA

Dam-earthfill
Gated outlet conduit
Uncontrolled spillway 200 feet wide
Crest length 22.5 feet
Crest width 16.0 feet

1843

SUMMARIZED FINANCIAL DATA (Continued)

		ACCUM PCT OF EST FED COST
Allocations to 30 September 1999	$ 1,140,000 1/	
Conference Allowance for FY 2000	1,250,000	
Allocation for FY 2000	872,000 2/	
Allocations through FY 2000	872,000	7
Allocation Requested for FY 2001	2,012,000	10
Programmed Balance to Complete after FY 2001	27,888,000	
Unprogrammed Balance to Complete after FY 2001	0	

1/ After May 7, 1999 approval of the DSAP Evaluation Report, funds were reprogrammed from available sources utilizing Operations and Maintenance to initiate planning, engineering, and design.
2/ Reflects $178,000 reduction assigned as savings and slippage and $200,000 reprogrammed from the project.

JUSTIFICATION: Success Dam and Reservoir is located on the Tule River about 5 miles east and upstream of the town of Porterville, Tulare County, California. Construction of the main dam and appurtenances was begun during October 1958. The project was certified complete and accepted by the Government for operation on 15 May 1961. The total first cost of the project is approximately $14,247,000 (1961 dollars). The project lies within Seismic Zone 3 (major seismic hazard), and is operated and maintained under the jurisdiction of the US Army Corps of Engineers, Sacramento District. The main dam is a rolled earthfill structure with a maximum height of 142 feet and is 3,404 feet long.

A 1983 report, ADynamic Analysis of Success Dam, Success Reservoir, Tule River, California@ (US Army Corps of Engineers, Sacramento District, June 1983), concluded that Success Dam would perform adequately in the event of a Maximum Credible Earthquake as required by criteria in ER 1110-2-1806 (16 May 1983). During the review of the dynamic analysis report, it was noted that there was considerable uncertainty about the amount of actual deformation the dam would experience under seismic loading. However, the dam was deemed safe due to the available freeboard of 39 feet when the reservoir is at gross pool. In June 1992, a Technical Review Conference (TRC) reexamined the 1983 report and concluded that the 1983 study was representative of accepted engineering practices at the time of its completion. However, the TRC recognized that recent advances allowed better understanding of the alluvial soils present in the foundation of Success Dam and recommended further studies be performed to update the seismic evaluation.

These recent studies concluded that a Maximum Credible Earthquake would cause extensive loss of strength, slope instability, and deformation over a section of the Success Dam embankment. This damage may be sufficient to result in an uncontrollable loss of the reservoir pool through a breach in the embankment. Similar damage levels may also result from lesser earthquake events. Any breach of the dam should be expected to result in loss of life and damages estimated at $684 million.

JUSTIFICATION (Continued)

The Lower Tule River Irrigation District has been identified as the primary non-Federal cost-sharing sponsor based on their conservation use of the project.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Planning, Engineering, and Design	$1,000,000
Total	$1,000,000

NON-FEDERAL COST: In accordance with the cost-sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payment During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Reimburse 15 percent of the costs of modification allocated to irrigation water supply within a period of 50 years following completion of construction.	$440,325	
Total Non-Federal Costs	$440,325	

The non-Federal sponsor has agreed to reimburse its share of construction costs within a period of 50 years following completion of construction in accordance with Water Resources Development Act of 1986 and Public Law 98-404.

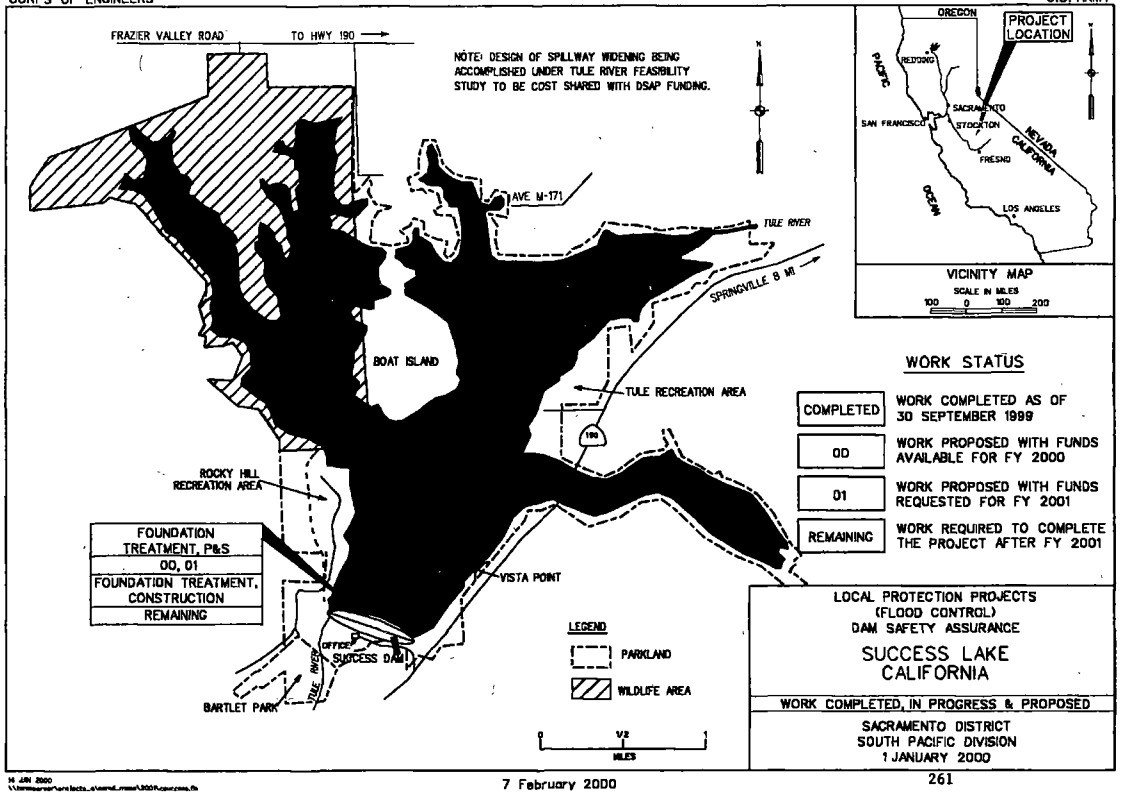
STATUS OF LOCAL COOPERATION: In accordance with Water Resources Development Act of 1986 and Public Law 98B404 the sponsor is required to sign a Cost-Sharing Agreement with the Department of Interior prior to construction.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $30,900,000 is the same as the latest estimate presented to Congress (FY 2000).

1845

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: A complete environmental assessment will be conducted prior to initiating remedial work.

OTHER INFORMATION: The Success Dam, Success Lake, Tule River, California Dam Safety Assurance Program Evaluation Report dated December 1998 was approved on 7 May 1999.



14 JAN 2000

7 February 2000

261

1847

SOUTH PACIFIC DIVISION
JUSTIFICATION OF ESTIMATE

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. NAVIGATION

a. Channels and Harbors.

The budget estimate of $50,104,000 provides for essential operation and maintenance work on 20 channel and harbor projects named in the list which follows. The work to be accomplished under this activity consists of operating and maintaining the coastal navigation channels, harbors and anchorages by means of dredging, constructing bulkheads and spoil disposal areas, snagging, and repairing channel stabilization works, navigation structures; and harbor jetties, all as authorized in the laws pertaining to river and harbor projects.

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total	FY 2001 Total	Reason For Change And Major Maintenance Items
	(Operations) (Maintenance)	(Operations) (Maintenance)	1. Reasons for change in Operations from FY 2000 to FY 2001 (10%+/-) 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000)
CALIFORNIA			
Channel Islands Harbor	174,000	3,000,000	
	(0)	(0)	1. None.
	(174,000)	(3,000,000)	2. Dredging
Humboldt Harbor and Bay	4,065,000	4,710,000	
	(0)	(0)	1. None.
	(4,065,000)	(4,710,000)	2. Dredging.
Los Angeles-Long Beach Harbor Model	160,000	170,000	
	(0)	(0)	1. None.
	(160,000)	(170,000)	2. None.
Los Angeles-Long Beach Harbors	980,000	3,910,000	
	(97,000)	(100,000)	1. None
	(883,000)	(3,810,000)	2. Dredging

SOUTH PACIFIC DIVISION
JUSTIFICATION OF ESTIMATE

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. NAVIGATION (Cont'd)

a. Channels and Harbors (Cont'd)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	FY 2001 Total (Operations) (Maintenance)	Reason For Change And Major Maintenance Items 1. Reasons for change in Operations from FY 2000 to FY 2001 (10%+/-) 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000)
CALIFORNIA (Cont'd)			
Marina del Rey	3,450,000	5,335,000	
	(0)	(0)	1. None.
	(3,450,000)	(5,335,000)	2. Dredging.
Morro Bay Harbor	3,723,000	170,000	
	(0)	(0)	1. None.
	(3,723,000)	(170,000)	2. None.
Newport Bay Harbor	40,000	40,000	
	(40,000)	(40,000)	1. None.
	(0)	(0)	2. None.
Oakland Harbor	7,937,000	8,118,000	
	(590,000)	(1,213,000)	1. Increase in cost of monitoring of ocean disposal site in FY 01.
	(7,347,000)	(6,905,000)	2. Dredging.
Oceanside Harbor	1,151,000	1,535,000	
	(0)	(0)	1. None.
	(1,151,000)	(1,535,000)	2. Dredging

1849

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. NAVIGATION (Cont'd)

a. Channels and Harbors (Cont'd)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	FY 2001 Total (Operations) (Maintenance)	Reason For Change And Major Maintenance Items 1. Reasons for change in Operations from FY 2000 to FY 2001 (10%+/-) 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000)
CALIFORNIA (Cont'd)			
Richmond Harbor	5,391,000	5,774,000	
	(56,000)	(658,000)	1. Increase in cost of monitoring of ocean disposal site in FY 01
	(5,335,000)	(5,116,000)	2. Dredging.
Sacramento River (30' Channel)	269,000	2,037,000	
	(30,000)	(36,000)	1. None.
	(239,000)	(2,001,000)	2. Dredging.
Sacramento River (Shallow Draft Channel)	90,000	163,000	
	(88,000)	(161,000)	1. Periodic inspection in FY 01. Variation in operations requirements.
	(2,000)	(2,000)	2. None.
Sacramento River (Debris Control)	1,120,000	1,113,000	
	(966,000)	(959,000)	1. None.
	(154,000)	(154,000)	2. None.
San Francisco Bay-Delta Model Structure	2,244,000	2,382,000	
	(1,087,000)	(1,154,000)	1. None.
	(1,157,000)	(1,228,000)	2. None.

1850

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. NAVIGATION (Cont'd)

a. Channels and Harbors (Cont'd)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	FY 2001 Total (Operations) (Maintenance)	Reason For Change And Major Maintenance Items 1. Reasons for change in Operations from FY 2000 to FY 2001 (10%+/-) 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000)
CALIFORNIA (Cont'd)			
San Francisco Harbor	2,369,000	2,573,000	
	(57,000)	(158,000)	1. Develop Dredge Material Management Plan in FY 01.
	(2,312,000)	(2,415,000)	2. Dredging.
San Joaquin River	3,034,000	2,028,000	
	(58,000)	(44,000)	1. Decrease in condition surveys in FY 01.
	(2,976,000)	(1,984,000)	2. Dredging.
Santa Barbara Harbor	1,553,000	1,615,000	
	(0)	(0)	1. None.
	(1,553,000)	(1,615,000)	2. Dredging.
Suisun Bay Channel	2,658,000	3,117,000	
	(56,000)	(158,000)	1. Develop Dredge Material Management Plan in FY 01.
	(2,602,000)	(2,959,000)	2. Dredging.
Ventura Harbor	2,654,000	2,240,000	
	(0)	(0)	1. None.
	(2,654,000)	(2,240,000)	2. Dredging.

SOUTH PACIFIC DIVISION
JUSTIFICATION OF ESTIMATE

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

1. NAVIGATION (Cont'd)

a. Channels and Harbors (Cont'd)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total	FY 2001 Total	Reason For Change And Major Maintenance Items
	(Operations)	(Operations)	1. Reasons for change in Operations from FY 2000 to FY 2001 (10%+/-)
	(Maintenance)	(Maintenance)	2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000)
CALIFORNIA (Cont'd)			
Yuba River	106,000	74,000	
	(50,000)	(53,000)	1. None.
	(56,000)	(21,000)	2. None.
OTHER PROJECTS MAINTAINED PERIODICALLY	7,035,000		
	(0)		
	(7,035,000)		
TOTAL - Channels and Harbors	50,203,000	50,104,000	
	(3,175,000)	(4,734,000)	
	(47,028,000)	(45,370,000)	

b. Locks and Dam - None

TOTAL - NAVIGATION	50,203,000	50,104,000	
	(3,175,000)	(4,734,000)	
	(47,028,000)	(45,370,000)	

1852

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. FLOOD CONTROL

a. Reservoirs

The program request of $42,398,000 provides for the operation and maintenance of 29 flood control projects and scheduling of flood control reservoir operations at operating publicly owned and Bureau of Reclamation projects in the Division. The request also includes the requirements for operation and maintenance of recreation facilities at reservoir projects. The amount requested is necessary for operation and ordinary maintenance of project facilities; labor, supplies, replacements; and contract law enforcement. The requested amount also includes application of special recreation use fees for recreation areas.

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	FY 2001 Total (Operations) (Maintenance)	Reason For Change And Major Maintenance Items 1. Reasons for change in Operations from FY 2000 to FY 2001 (10%+/-) 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000)
ARIZONA			
Alamo Lake	1,166,000 (1,007,000) (159,000)	1,166,000 (992,000) (174,000)	1. None. 2. None.
Painted Rock Dam	1,095,000 (901,000) (194,000)	1,186,000 (970,000) (216,000)	1. None. 2. None.
Whitlow Ranch Dam	153,000 (95,000) (58,000)	168,000 (100,000) (68,000)	1. None. 2. None.

1853

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. FLOOD CONTROL (Cont'd)

a. Reservoirs (Cont'd)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	FY 2001 Total (Operations) (Maintenance)	Reason For Change And Major Maintenance Items (1. Reasons for change in Operations from FY 2000 to FY 2001 (10%+/-) 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000)
CALIFORNIA			
Black Butte Lake	1,795,000	1,854,000	
	(1,303,000)	(1,347,000)	1. None.
	(492,000)	(507,000)	2. None.
Buchanan Dam - H.V. Eastman Lake	1,944,000	1,580,000	
	(1,463,000)	(1,090,000)	1. Dam safety assurance study in FY 00.
	(481,000)	(490,000)	2. None.
Coyote Valley Dam - Lake Mendocino	3,795,000	3,403,000	
	(3,348,000)	(3,240,000)	1. None.
	(447,000)	(163,000)	2. None.
Dry Creek (Warm Springs) Lake and Channel	4,148,000	4,437,000	
	(3,821,000)	(4,062,000)	1. None.
	(327,000)	(375,000)	2. None.
Farmington Dam	304,000	313,000	
	(265,000)	(246,000)	1. None.
	(39,000)	(67,000)	2. None.

1854

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. FLOOD CONTROL (Cont'd)

a. Reservoirs (Cont'd)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total	FY 2001 Total	Reason For Change And Major Maintenance Items
	(Operations) (Maintenance)	(Operations) (Maintenance)	1. Reasons for change in Operations from FY 2000 to FY 2001 (10%+/-) 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000)
CALIFORNIA (Cont'd)			
Hidden Dam - Hensley Lake	1,988,000	1,616,000	
	(1,836,000)	(1,474,000)	1. Dam safety assurances study in FY 00. Variation in operations requirements.
	(152,000)	(142,000)	2. None.
Isabella Lake	1,129,000	793,000	
	(439,000)	(603,000)	1. Variation in operations requirements.
	(690,000)	(190,000)	2. None.
Los Angeles County Drainage Area	3,916,000	3,956,000	
	(2,202,000)	(2,199,000)	1. None
	(1,714,000)	(1,757,000)	2. None.
Merced County Streams Group	239,000	288,000	
	(187,000)	(205,000)	1. None.
	(52,000)	(83,000)	2. None.
Mojave River Reservoir	251,000	251,000	
	(169,000)	(165,000)	1. None.
	(82,000)	(86,000)	2. None.

62-630 00-59

1855

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. FLOOD CONTROL (Cont'd)

a. Reservoirs (Cont'd)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total	FY 2001 Total	Reason For Change And Major Maintenance Items
	(Operations) (Maintenance)	(Operations) (Maintenance)	1. Reasons for change in Operations from FY 2000 to FY 2001 (10%+/-) 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000)
CALIFORNIA (Cont'd)			
New Hogan Lake	1,943,000	1,778,000	
	(1,342,000)	(1,275,000)	1. None.
	(601,000)	(503,000)	2. None.
Pine Flat Lake	2,288,000	2,248,000	
	(1,662,000)	(1,611,000)	1. None.
	(626,000)	(637,000)	2. None.
Santa Ana River Basin	2,970,000	3,086,000	
	(1,939,000)	(2,000,000)	1. None.
	(1,031,000)	(1,086,000)	2. None.
Success Lake	1,880,000	1,898,000	
	(1,673,000)	(1,686,000)	1. None.
	(207,000)	(212,000)	2. None.
Terminus Dam (Lake Kaweah)	1,669,000	1,659,000	
	(1,470,000)	(1,460,000)	1. None.
	(199,000)	(199,000)	2. None.

1856

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. FLOOD CONTROL (Cont'd)

a. Reservoirs (Cont'd)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	FY 2001 Total (Operations) (Maintenance)	Reason For Change And Major Maintenance Items 1. Reasons for change in Operations from FY 2000 to FY 2001 (10%+/-) 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000)
COLORADO			
John Martin Reservoir	2,057,000	1,543,000	
	(1,686,000)	(1,189,000)	1. Dam safety assurances study in FY 00, Variation in operations requirements.
	(371,000)	(354,000)	2. None.
Trindad Lake	642,000	619,000	
	(539,000)	(571,000)	1. None.
	(103,000)	(48,000)	2. None.
NEVADA			
Martis Creek Lake	569,000	522,000	
	(500,000)	(453,000)	1. None.
	(69,000)	(69,000)	2. None.
Pine and Mathews Canyons Lakes	185,000	193,000	
	(103,000)	(110,000)	1. None.
	(82,000)	(83,000)	2. None.

1857

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. FLOOD CONTROL (Cont'd)

a. Reservoirs (Cont'd)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total	FY 2001 Total	Reason For Change And Major Maintenance Items
	(Operations) (Maintenance)	(Operations) (Maintenance)	1. Reasons for change in Operations from FY 2000 to FY 2001 (10%+/-) 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000)
NEW MEXICO			
Abiquiu Dam	1,171,000	1,315,000	
	(1,043,000)	(893,000)	1. Variation in operations requirements.
	(128,000)	(422,000)	2. None.
Cochiti Lake	1,873,000	1,766,000	
	(1,699,000)	(1,420,000)	1. Variation in operations requirements.
	(174,000)	(346,000)	2. None.
Conchas Lake	1,121,000	1,037,000	
	(1,018,000)	(769,000)	1. Periodic inspection in FY 00. Variation in operations requirements
	(103,000)	(268,000)	2. None.
Galisteo Dam	306,000	305,000	
	(302,000)	(254,000)	1. Variation in operations requirements.
	(4,000)	(51,000)	2. None.
Jamez Canyon Dam	584,000	445,000	
	(515,000)	(367,000)	1. Periodic inspection n in FY 00. Variation in operations requirements
	(69,000)	(78,000)	2. None.

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APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. FLOOD CONTROL (Cont'd)

a. Reservoirs (Cont'd)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total	FY 2001 Total	Reason For Change And Major Maintenance Items
	(Operations) (Maintenance)	(Operations) (Maintenance)	1. Reasons for change in Operations from FY 2000 to FY 2001 (10%+/-) 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000)
NEW MEXICO (Cont'd)			
Santa Rosa Dam and Lake	815,000	846,000	
	(737,000)	(783,000)	1. None.
	(78,000)	(63,000)	2. None.
Two Rivers Dam	294,000	313,000	
	(262,000)	(276,000)	1. None.
	(32,000)	(37,000)	2. None.

Scheduling Reservoir Operations

The $1,814,000 requested in FY 2001 supports preparation, review and updating of water control manuals, real-time data collection to monitor hydrologic conditions, and the issuance of gate regulation instructions as necessary at 33 non-Corps dam and reservoir projects at which the Corps is responsible for flood control or navigation.

Arizona	71,000	74,000	
	(71,000)	(74,000)	1. None.
	(0)	(0)	2. None.
California	1,434,000	1,153,000	
	(1,065,000)	(976,000)	1. None.
	(369,000)	(177,000)	2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. FLOOD CONTROL (Cont'd)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total	FY 2001 Total	Reason For Change And Major Maintenance Items
	(Operations)	(Operations)	1. Reasons for change in Operations from FY 2000 to FY 2001 (10%+/-)
	(Maintenance)	(Maintenance)	2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000)
Scheduling Reservoir Operations (Cont'd)			
Colorado	269,000	209,000	
	(192,000)	(179,000)	1. None.
	(77,000)	(30,000)	2. None.
New Mexico	913,000	73,000	
	(913,000)	(73,000)	1. Development of computer model to assist water managers in Rio Grande Basin in FY 00.
	(0)	(0)	2. None.
Utah	417,000	305,000	
	(279,000)	(253,000)	1. None.
	(138,000)	(52,000)	2. None.
Total - Scheduling Reservoir Operation	3,104,000	1,814,000	
	(2,520,000)	(1,555,000)	
	(584,000)	(259,000)	
OTHER PROJECTS MAINTAINED PERIODICALLY	3,589,000		
	(3,589,000)		
	(0)		
TOTAL - Reservoirs	48,983,000	42,398,000	
	(39,635,000)	(33,365,000)	
	(9,348,000)	(9,033,000)	

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APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. FLOOD CONTROL (Cont'd)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total	FY 2001 Total	Reason For Change And Major Maintenance Items
	(Operations)	(Operations)	1. Reasons for change in Operations from FY 2000 to FY 2001 (10%+/-)
	(Maintenance)	(Maintenance)	2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000)

b. Channel Improvements, Inspections and Miscellaneous Maintenance

Inspection of Completed Works

The $1,137,000 requested in FY 2001 supports inspections at flood control projects constructed by the Corps and operated and maintained by non-Federal interests. The inspections are conducted to determine the extent of compliance with legal standards and to advise local interests, as necessary, of corrective measures required to ensure that project structures and facilities will continue to safely provide flood protection benefits. These projects consist of features such as channels, levees, flood walls, drainage structures and pumping plants.

Arizona	73,000	69,000	
	(73,000)	(69,000)	1. None.
	(0)	(0)	2. None.
California	1,000,000	843,000	
	(1,000,000)	(843,000)	1. Variation in number of projects inspected in FY 01.
	(0)	(0)	2. None.
Colorado	113,000	67,000	
	(113,000)	(67,000)	1. Variation in number of projects inspected in FY 01.
	(0)	(0)	2. None.
Nevada	37,000	34,000	
	(37,000)	(34,000)	1. None.
	(0)	(0)	2. None.

1861

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

2. FLOOD CONTROL (Cont'd)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total	FY 2001 Total	Reason For Change And Major Maintenance Items
	(Operations) (Maintenance)	(Operations) (Maintenance)	1. Reasons for change in Operations from FY 2000 to FY 2001 (10%+/-) 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000)
b. Channel Improvements, Inspections and Miscellaneous Maintenance			
Inspection of Completed Works (Cont'd)			
New Mexico	100,000	50,000	
	(100,000)	(50,000)	1. Variation in number of projets inspected in FY 01.
	(0)	(0)	2. None.
Texas	562,000	19,000	
	(562,000)	(19,000)	1. Spillway erodibility studies of eleven dams in El Paso in FY 00.
	(0)	(0)	2. None.
Utah	61,000	55,000	
	(61,000)	(55,000)	1. None.
	(0)	(0)	2. None.
TOTAL - Channel Improvements, Inspections and Miscellaneous Maintenance	1,946,000	1,137,000	
	(1,946,000)	(1,137,000)	
	(0)	(0)	
TOTAL - FLOOD CONTROL	50,929,000	43,535,000	
	(41,581,000)	(34,502,000)	
	(9,348,000)	(9,033,000)	

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APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

3. MULTIPLE PURPOSE POWER PROJECTS

The program request of $1,135,000 for the operation and maintenance of the channel below the multiple purpose New Melones Lake project provides the amount for operation requirements of recreation and natural resource facilities along the Stanislaus River downstream of the dam. The amount requested is necessary for operation and maintenance of downstream channel facilities; labor, supplies, materials, and parts required for the day-to-day functioning of the channel project.

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total	FY 2001 Total	Reason For Change And Major Maintenance Items
	(Operations)	(Operations)	1. Reasons for change in Operations from FY 2000 to FY 2001 (10%+/-)
CALIFORNIA	(Maintenance)	(Maintenance)	2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000)
New Melones Lake	1,199,000	1,135,000	
	(1,110,000)	(1,046,000)	1. None.
	(89,000)	(89,000)	2. None.
TOTAL - MULTIPLE PURPOSE	1,199,000	1,135,000	
	(1,110,000)	(1,046,000)	
	(89,000)	(89,000)	

4. PROTECTION OF NAVIGATION

The $3,256,000 requested in FY 2001 provides for removal of drift and debris; and supports hydrographic surveys, inspections, and studies to determine the condition of navigation channels that do not have any other maintenance work included in the budget request and disseminate the information to users of the projects. For the projects that do not require maintenance, surveys are performed at many of them in order to determine the degree of sedimentation so that users can be advised of channel conditions and future maintenance can be scheduled.

Drift Removal			
San Francisco Harbor, and	2,407,000	2,000,000	
Bay (Drift Removal), CA	(0)	(0)	1. None.
	(2,407,000)	(2,000,000)	2. Remove debris from navigation channels.

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SOUTH PACIFIC DIVISION
JUSTIFICATION OF ESTIMATE

APPROPRIATION TITLE: Operation and Maintenance, General, FY 2001

4. PROTECTION OF NAVIGATION (Cont'd)

State/ Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	FY 2001 Total (Operations) (Maintenance)	Reason For Change And Major Maintenance Items 1. Reasons for change in Operations from FY 2000 to FY 2001 (10%+/-) 2. Major Maintenance Items Budgeted in FY 2001 (Threshold $500,000)
Project Condition Surveys			
California	1,205,000	1,256,000	
	(1,205,000)	(1,256,000)	1. None.
	(0)	(0)	2. None.
TOTAL - PROTECTION OF NAVIGATION	3,612,000	3,256,000	
	(1,205,000)	(1,256,000)	
	(2,407,000)	(2,000,000)	
GRAND TOTAL-SOUTH PACIFIC DIVISION	105,943,000	98,030,000	
	(47,071,000)	(41,538,000)	
	(58,872,000)	(56,492,000)	

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U.S. ARMY CORPS OF ENGINEERS
CIVIL WORKS PROGRAM

CONGRESSIONAL SUBMISSION
FISCAL YEAR 2001

(1866)

SOUTHWESTERN DIVISION

Budgetary information will not be released
Outside the Department of the Army until
7 February 2000

Justification of Estimate for Civil Functions Activities
Department of the Army, Corps of Engineers
Fiscal Year 2001

SOUTHWESTERN DIVISION

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Justification of Estimate for Civil Functions Activities
Department of the Army, Corps of Engineers
Fiscal Year 2001

SOUTHWESTERN DIVISION

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Justification of Estimate for Civil Functions Activities
Department of the Army, Corps of Engineers
Fiscal Year 2001
SUMMARY, SOUTHWESTERN DIVISION

	FY 2000 Allocation	FY 2001 Request	Increase or Decrease
General Investigations			
Surveys	$ 7,819,000	$ 8,078,000	$ + 259,000
Preconstruction Engineering and Design	2,908,000	1,922,000	- 986,000
Subtotal General Investigations	(10,727,000)	(10,000,000)	(- 727,000)
Construction, General			
Construction	148,057,000	120,917,000	- 27,140,000
Major Rehabilitation	8,974,000	1,230,000	- 7,744,000
Dam Safety Assurance	17,067,000	12,820,000	- 4,247,000
Subtotal Construction, General	(174,098,000)	(134,967,000)	(- 39,131,000)
Operation and Maintenance			
Project Operation	112,922,000	122,357,000	+ 9,435,000
Project Maintenance	142,260,000	137,766,000	- 4,494,000
Subtotal Operation and Maintenance	(255,182,000)	(260,123,000)	(+ 4,941,000)
GRAND TOTAL, SOUTHWESTERN DIVISION	$ 440,007,000	$ 405,090,000	$ - 34,917,000

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$

1. SURVEYS - NEW

   a. Navigation Studies: None.

   b. Flood Damage Prevention Studies: None.

   c. Shoreline Protection Studies: None.

   d. Special Studies: None.

   e. Comprehensive Studies: None.

   f. Project Review Studies: None.

2. SURVEYS - CONTINUING

   a. Navigation Studies: The amount of $2,956,000 is requested in Fiscal Year 2001 for continuation of five studies.

Arkansas and Oklahoma

Arkansas River Navigation Study	5,800,000	84,000	835,000	753,000	4,128,000

The study area consists of the entire McClellan-Kerr Arkansas River Navigation System in Arkansas and Oklahoma. Reconnaissance phase studies were initiated to investigate potential flooding problems in the vicinity of Fort Smith, Arkansas. Based on these studies, it was determined that the localized flooding problems could better be addressed through the Corps of Engineers' Continuing Authorities Program. However, during the reconnaissance phase studies, representatives from the towing industry expressed concerns regarding the impacts of high flood flows on the system. Users (barge tow operators) have been experiencing delays in navigation due to low water conditions at the lower end of the system, and high flows resulting from flood conditions on the upper end of the system. The Corps of Engineers is currently constructing the Montgomery Point Lock and Dam in the White River Entrance Channel to alleviate the low water problem at the entrance of the system. The Users have requested the Corps of Engineers investigate problems associated with high flows on the system. When flows reach 60,000 cubic feet per second at Van Buren, Arkansas, barge tow operators are forced to restrict navigation during these high-flow periods. Floods have impacted navigation interests by restricting navigation from one to two months until velocity of the river slowed enough that barges could safely continue. The first phase of this feasibility study will be to investigate flow management to improve the overall economic benefits for navigation on the system by reducing the

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$

Arkansas and Oklahoma (Continued)

Arkansas River Navigation Study (Continued)

impacts of high flows from the upper reaches of the Arkansas River watershed. The high velocity period could be shortened by reallocating or adding additional storage in the existing reservoirs on the system; and by constructing additional lakes and levees for navigational flow management. The second phase of the study will investigate deepening of the navigation system over the entire length and providing passing lanes on the Verdigris River in Oklahoma.

Fiscal Year 2000 funds are being used to continue into the feasibility phase of the study, at full Federal expense. Feasibility study activities will include developing numerical hydrologic and hydraulic models of the McClellan-Kerr Arkansas River Navigation System to establish base conditions for analyzing alternatives to minimize the affects of high flood flows.

The reconnaissance phase is scheduled for completion in March 2000. The completion date for the feasibility study is being determined.

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Texas					
Corpus Christi Ship Channel	4,021,000	759,000	578,000	1,008,000	1,676,000

The Corpus Christi Ship Channel is a Federally constructed deep-draft navigation project serving the ports at Harbor Island, Ingleside, and Corpus Christi in Nueces County. The existing project consists of approximately 35 miles of channels: a jettied entrance channel 45 to 47 feet deep and 600 to 700 feet wide from the Gulf of Mexico; the Corpus Christi Ship Channel with a depth of 45 feet and a width of 400 feet; and a branch channel referred to as the La Quinta Channel with a depth of 45 feet and a width of 300 feet. Extension of the La Quinta Channel is being studied under a separate interim feasibility study. Tonnage transported on the Corpus Christi Ship Channel totaled approximately 78 million tons in 1994 and averaged 64 million tons over the past five years. Local interests desire that the existing channel be widened to 500 feet, and deepened to 50 feet for use by larger vessels, resulting in more efficient movement of commodities and, therefore, decreased shipping costs. The existing 45-foot project was designed to accommodate 59,000 dead weight ton (DWT) vessels with a loaded draft of 41 feet; however, large vessels of 100,000 DWT and greater, regularly use the channel. These larger vessels could be loaded to greater depths, offering substantial reductions in vessel operating costs if additional channel depth and width were available. Channel widening would allow for more efficient vessel movements, resulting in reduced traffic delays and increased traffic safety. The feasibility study will also address the addition of barge lanes adjacent to either side of the deep-draft navigation channel. The major commodity shipped on this waterway is crude oil. The reconnaissance study evaluated potential port commerce, transportation savings, construction costs, and dredged material disposal options and required complex economic considerations involving international grain and crude oil projections as well as the assessment of potential environmental impacts in a sensitive estuarine system. The reconnaissance study demonstrated that deepening the project to 50 feet is economically justified. Construction of this alternative would cost about $152 million and produce a benefit-cost ratio of 2.5. Benefits generated by this project are high priority, commercial navigation benefits, which are in accord with current Administration policy. The local sponsor for the study is the Port of Corpus Christi Authority. The Feasibility Cost Sharing Agreement was executed on June 2, 1999.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study. Fiscal Year 2001 funds will be used to continue the feasibility phase of the study. The estimated cost of the feasibility phase is $6,830,000 which will be shared on a 50-50 percent basis by the Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	7,436,000
Reconnaissance Phase (Federal)	606,000
Feasibility Phase (Federal)	3,415,000
Feasibility Phase (non-Federal)	3,415,000

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$

Texas (Continued)

Corpus Christi Ship Channel (Continued)

The completion dates for the Interim Feasibility Study for the La Quinta Channel and the overall Corpus Christi Ship Channel Feasibility Study are being determined.

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Texas (Continued)					
Corpus Christi Ship Channel, La Quinta Channel	1,100,000	0	400,000	456,000	244,000

The La Quinta Channel is a Federally constructed deep-draft navigation project serving the Port of Ingleside in Nueces County. It is a tributary channel to the Corpus Christ Ship Channel project, meeting it halfway between the Gulf of Mexico and the Port of Corpus Christi (approximately 12 miles from the Gulf). The existing project consists of over 5 miles of channel 45 feet deep and 300-400 feet wide. Tonnage transported on the La Quinta Channel averages 8.6 million tons per year. Local interests desire first that the existing La Quinta Channel be extended in length to take advantage of additional development, increasing the number of facilities served by the channel. Second, they would like the channel deepened to 50 feet for use by larger vessels, resulting in more efficient movement of commodities and, therefore, decreased shipping costs. The major commodities shipped on this waterway are primary metals and chemicals, with a majority of the tonnage in aluminum ore imports. The reconnaissance study for the entire Corpus Christi Ship Channel project evaluated potential port commerce, transportation savings, construction costs, and dredged material disposal options and required complex economic considerations involving international grain and crude oil projections as well as the assessment of potential environmental impacts in a sensitive estuarine system. Extending the La Quinta channel recently has been identified as the first priority of the sponsor, and is being studied as an interim feasibility study to the overall Corpus Christi Ship Channel feasibility study. Construction of the entire Corpus Christi Ship Channel project would cost about $152 million and produce a benefit-cost ratio of 2.5. Benefits generated by this project are high priority, commercial navigation benefits which are in accord with current administration policy. The local sponsor for the study is the Port of Corpus Christi Authority. The Feasibility Cost Sharing Agreement was executed on June 2, 1999.

Fiscal Year 2000 funds are being used to initiate the feasibility phase of the study. Fiscal Year 2001 funds will be used to continue the feasibility phase of the study. The estimated cost of the feasibility phase is $2,200,000 which will be shared on a 50-50 percent basis by the Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	2,200,000
Reconnaissance Phase (Federal)	0
Feasibility Phase (Federal)	1,100,000
Feasibility Phase (non-Federal)	1,100,000

The completion date for the interim feasibility study is being determined.

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Texas (Continued)					
Gulf Intracoastal Waterway Modifications	7,490,000	0	86,000	195,000	7,209,000

The study area encompasses two locations on the Gulf Intracoastal Waterway (GIWW) along the Texas coast. One, the Brazos River Floodgates, is located approximately 7 miles southwest of Freeport, Texas, at the intersection of the Brazos River and the GIWW in Brazoria County. The other, the Colorado River Locks, is located approximately 45 miles southwest of Freeport, Texas, at the intersection of the Colorado River and the GIWW in Matagorda County. Both projects improve navigational safety by controlling traffic flow and currents at these dangerous intersections. Both also serve to control sand and silt deposition at the intersection of the GIWW with the respective rivers. As sediment control structures, they reduce maintenance dredging costs by decreasing the trapping effects of the intersection. The Colorado River Locks has an additional purpose: to raise the navigation traffic from the GIWW to the level of the river during flood stages for crossing the river and lowering the traffic to the level of the GIWW after crossing. The purpose of this study is to determine the need and advisability of modifying the configurations of the crossings to reduce traffic accidents and delays. Delay costs are estimated to exceed $1 million annually at each location. In addition, the 75-foot gated thruway is too narrow to accommodate the new modern wider barges posing a major safety threat. The crossing was designed when barges were carried astern on a towline rather than the current practice of pushing a string of barges, making navigation of the crossing more difficult. Many tows have to "trip" or break down and moor their barges while taking one barge across at a time, causing delays, particularly during high river stages. Currently, 17 to 25 million tons of commerce pass through these facilities each year. The Gulf Intracoastal Canal Association (GICA) and Texas Waterway Operators Association (TWOA) representing the GIWW users are very interested in improving navigation at these locations. The study objective is to formulate alternative plans that would reduce the navigation difficulties at the crossings, thus reducing the number of accidents, the resulting excessive damages to the facilities and barges, and traffic delays. Potential solutions for minimizing navigation delays and safety concerns include realigning the approaches to the crossings or increasing the width of the gates. An initial appraisal of the entire 423-mile Texas section of the GIWW was completed in November 1989. The State of Texas, Texas Department of Transportation (TXDoT) is the non-Federal sponsor for this project. Although this study is fully Federally funded, construction of any recommended projects will be cost-shared with the Inland Waterways Trust Fund.

Fiscal Year 2000 funds are being used to initiate the reconnaissance phase at full Federal expense. If the reconnaissance report is certified to be in accord with policy, the funds requested for Fiscal Year 2001 will be used to complete the reconnaissance phase and continue into the feasibility phase of the study at full Federal expense. Subject to a favorable reconnaissance report, two interim feasibility studies will be recommended; one for each crossing. The preliminary estimated cost of each interim feasibility study is $3,695,000 for a feasibility phase total of $7,390,000.

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$

Texas (Continued)

Gulf Intracoastal Waterway Modifications (Continued)

The reconnaissance phase is scheduled for completion in January 2001. The interim feasibility study for the Brazos River Floodgates scheduled completion date is being determined. The interim feasibility study for the Colorado River Locks scheduled completion date is being determined.

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Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Texas (Continued)					
Sabine - Neches Waterway	3,515,000	127,000	516,000	544,000	2,328,000

The Sabine-Neches Waterway, Texas project is located in Beaumont, Orange, Port Arthur, and Sabine Pass in Jefferson and Orange Counties, Texas; and Cameron and Calcasieu Parishes, Louisiana. The Sabine-Neches Waterway is a 75 mile-long deep draft channel which extends from the 42-foot contour of the Gulf of Mexico through a jettied channel to Port Arthur, to Beaumont via the Neches River Channel, and to Orange via the Sabine River Channel. The Sabine-Neches Waterway serves the Ports of Port Arthur, Beaumont and Orange. Modifying the existing Sabine-Neches Waterway would result in a reduction in delays, increased safety, and increased efficiency of transporting commerce on the existing 40-foot deep waterway. Channel depths of 45 and 50 feet will be investigated, as well as, increased channel widths. A major effort in this study will be the coordination of environmentally suitable dredged material placement areas for construction materials, as well as, for future channel maintenance. The Jefferson County Navigation District is the local sponsor for the 40-foot Project to Port Arthur and Beaumont, Texas, and the Orange County Navigation District is the local sponsor for the 30-foot Sabine River Project. The sponsor for this feasibility study is the Jefferson County Navigation District. They have stated their willingness to cost share feasibility studies. The Feasibility Cost Sharing Agreement is scheduled to be executed in February 2000.

Fiscal Year 2000 funds are being used to initiate the feasibility phase of the study. The approved study cost estimate indicates a feasibility phase cost of $6,780,000; which is to be shared on a 50-50 basis by Federal and non-Federal interests. Up to one half of the non-federal share of the costs for feasibility studies may be in-kind services. A summary of the study cost sharing is as follows:

Total Estimated Study Cost	$6,905,000
Reconnaissance Phase (Federal)	125,000
Feasibility Phase (Federal)	3,390,000
Feasibility Phase (Non-Federal)	3,390,000

The reconnaissance phase is scheduled to be completed in February 2000. The feasibility study scheduled completion date is being determined.

SUBTOTAL NAVIGATION STUDIES	21,926,000	970,000	2,415,000	2,956,000	15,585,000

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$

b. Flood Damage Prevention Studies: The amount of $1,377,000 is requested in Fiscal Year 2001 for completion of one study and continuation of four studies.

Arkansas

May Branch, Fort Smith	840,000	421,000	172,000	247,000	0

May Branch lies entirely within the city limits of Fort Smith, Arkansas, which has a population of 73,000; and has a drainage area of 5.3 square miles. May Branch starts as an open channel that flows into a covered conduit storm sewer, which ends at the P Street pumping station, constructed by the Corps in 1948, that has an outlet through the Fort Smith Levee into the Arkansas River. The storm sewer was adequate until the 1930's when urbanization increased the amount of runoff, which routinely exceeds the capacity of the storm sewer. Flood runoff flows overland and ponds behind the levee until it is eventually evacuated. Average annual flood damages in the May Branch Basin are estimated at $5,840,000. Numerous floods have occurred, most notably during the spring of 1990, when 26 commercial and 44 residential units were inundated by an approximate 5 to 10-year flood event that caused an estimated $2.5 million in damages. The purpose of this study is to consider plans to alleviate the flooding, including a by-pass channel, channel widening, pump stations, detention basins, and additional relief openings through the levee. On November 13, 1998, the city of Fort Smith, Arkansas, the local sponsor, signed the Feasibility Cost Sharing Agreement.

Fiscal Year 2000 funds are being used to continue the feasibility phase of the study. The funds requested for Fiscal Year 2001 will be used to complete the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $1,480,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$1,580,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	740,000
Feasibility Phase (Non-Federal)	740,000

The reconnaissance phase was completed in November 1998. The feasibility study is scheduled for completion in September 2001.

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Oklahoma					
Warr Acres	1,100,000	0	86,000	200,000	814,000

Warr Acres is located next to Bethany, Oklahoma, in the Oklahoma City metropolitan area. The communities of Warr Acres and Bethany suffer from frequent flooding from North Canadian Tributary No. 14. Flooding occurs along the North Canadian River Tributary No. 14 drainage area, which is a heavily populated area of approximate 30 city blocks. Flooding conditions occur from a very small amount of rainfall because of topographic conditions of the area. The most recent flooding occurred in September 1998. Floods occur on average every two years. The cities of Warr Acres and Bethany have experienced considerable flooding difficulties, which disrupts transportation and emergency vehicles, and impacts homes in the two communities. Potential solutions could include channel improvements or flood detention, or a combination of both. In meetings held in January 1999, with the city of Warr Acres indicated intent to share equally in the feasibility phase cost that may follow the reconnaissance study.

Fiscal Year 2000 funds are being used to initiate the reconnaissance phase of the study at full Federal expense. Funds requested for Fiscal Year 2001 will be used to complete the reconnaissance phase. If the reconnaissance report is certified to be in accord with policy, the funds requested for Fiscal Year 2001 will also be used to continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $2,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

The reconnaissance phase is scheduled for completion in January 2001. The feasibility study completion date is being determined.

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Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Texas					
Bois d'Arc Creek, Bonham	1,100,000	0	86,000	200,000	814,000

Bois d'Arc Creek, a south bank tributary of the Red River at mile 611.0, has its source near Whitewright, Texas. The stream flows in a northeasterly direction about 58 miles to its confluence with the Red River. The basin has a maximum width of about 18 miles. Extensive flooding affects about 16,100 acres in the lower two-thirds of the basin. Approximately 3,000 acres below U.S. Highway 67 are subject to flooding from headwater overflow and from backwater during high stages along the Red River. The towns of Whitewright and Bonham lie within the basin and are subject to urban flood damages that have occurred four times, in the past 40 years. Flooding impacts Highway 67 and requires traffic re-routing and severely restricts access to local communities. The latest flood event in the late 1980's resulted in an excess of $200,000 in flood damages. During the 1960's several dam sites were studied for construction of a multipurpose reservoir, and a site near Bonham, Texas at river mile 43.1 was selected. The Bonham site is approximately 3.5 miles south of the town of Bonham, Texas, and would have controlled a drainage area of approximately 108 square miles. Previous studies in the 1960's concluded that a multipurpose reservoir project on the Bois d'Arc Creek at the Bonham site was economically feasible. However, local support was lacking and the dam was not authorized for construction. In letters dated 24 April 1995 and 16 March 1999, the city of Bonham, Texas indicated their intent to share equally in the feasibility phase cost that may follow the reconnaissance study.

Fiscal Year 2000 funds are being used to initiate the reconnaissance phase of the study at full Federal expense. Funds requested for Fiscal Year 2001 will be used to complete the reconnaissance phase. If the reconnaissance report is certified to be in accord with policy, the funds requested for Fiscal Year 2001 will also be used to continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $2,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$2,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	1,000,000
Feasibility Phase (Non-Federal)	1,000,000

The reconnaissance phase is scheduled for completion in January 2001. The feasibility study completion date is being determined.

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Texas (Continued)					
Buffalo Bayou and Tributaries (White Oak Bayou)	1,610,000	450,000	0	230,000	930,000

White Oak Bayou, a tributary of Buffalo Bayou has a drainage area of about 113 square miles and lies entirely within Harris County, Texas. White Oak Bayou rises in west central Harris County and flows in a southeasterly direction, a distance of about 34 miles to its confluence with Buffalo Bayou. Its major tributaries are Little White Oak Bayou which enters from the north at mile 1.5, Brickhouse Gully which enters from the west at miles 14.3, Cole Creek which enters from the west at mile 17.3, and Vogel Creek which enters from the north at mile 12.4. The primary water resource problem of the study area stems from frequent flooding of residential properties along White Oak Bayou and its tributaries, which is expected to worsen as the area becomes more populated and residential and commercial areas grow. Damaging floods have occurred in the White Oak Bayou Basin in 1935 (the flood of record), 1968, 1969, 1970, 1972, 1979, 1981, 1982, 1983, 1984, 1989, 1992, and 1998. The 1998 event, from Tropical Storm Frances, produced up to 14 inches of rain, flooded 1,200 homes in this watershed, and caused over $100 million in damages in the Houston and Galveston areas. There are over 7,000 structures subject to flooding in the 100 year (one percent chance) floodplain, with property values that exceed $400,000,000. The onetime occurrence of a 100 year (one percent chance) flood would cause property damages of approximately $258,000,000. The first 10.7 miles has been constructed as part of a Federal project authorized in FY 1954 and 1965. Due to extensive residential development of the flood plain and settlement due to extraction of ground water, the project is not effective as constructed. A series of detention reservoirs and channel adjustments in the upper reaches could facilitate drainage in the watershed. The non-Federal sponsor, the Harris County Flood Control District (HCFCD), will perform the study under the authority of Section 211 of the Water Resources Development Act of 1996 (WRDA 1996), to consider the entire White Oak Bayou Basin, including segments where the Federal project has already been constructed.

The reconnaissance report was certified to be in accordance with policy in March 1999. Available Fiscal Year 2000 funds are being used for Corps of Engineers' coordination expenses, and to reimburse the HCFCD for the Federal share of feasibility studies upon completion of the feasibility report. The funds requested for Fiscal Year 2001 will also be used to reimburse the HCFCD for the Federal share of the costs for completion of the reconnaissance report upon execution of the Feasibility Cost Sharing Agreement, and for Corps of Engineers' coordination expenses. The preliminary estimated cost of the feasibility phase is $2,920,000, which is to be shared on a 50-50 basis by Federal and non-Federal interests. A summary of study cost sharing is as follows:

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Texas (Continued)					
Buffalo Bayou and Tributaries (White Oak Bayou) (Continued)					
Total Estimated Study Cost	$3,070,000				
Reconnaissance Phase (Federal)	150,000				
Feasibility Phase (Federal)	1,460,000				
Feasibility Phase (non-Federal)	1,460,000				

The reconnaissance phase of the study was completed in March 1999. The feasibility study scheduled completion is being determined.

1882

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Texas (Continued)					
Upper Trinity River Basin	9,310,000	6,459,000	1,028,000	500,000	1,323,000

The Upper Trinity River basin extends upstream from the confluence of the East Fork and the mainstem of the Trinity River, and has a drainage area of approximately 8,100 square miles and includes the Dallas-Fort Worth, Texas, Metroplex. This area had an estimated 1998 population of over 4.1 million. Urban development of the Metroplex has greatly exceeded original expectations. In turn, the magnitude of storm runoff has increased beyond the original values used in design of these existing floodway projects; and thus reducing their effectiveness. Further, future development trends within the Dallas-Fort Worth Metroplex stand to worsen existing flooding potential. It is estimated that in the event of the Standard Project Flood, approximately 87,700 acres of flood plain properties within the Dallas-Fort Worth Metroplex would be inundated, resulting in an estimated $14.0 billion in damages. Major floods occurred May-June 1989 and in April-May 1990. In the April-May 1990 floods, over $300 million in flood damages occurred and three lives were lost. Flooding during January 1992 resulted in 9 deaths, over 200 homes and 12 businesses inundated, and millions of dollars in damages. Existing flood control projects in the Upper Trinity River Basin prevented a total estimated $318 million in damages in 1989 and $4 billion in 1990. In 1990, all of the Corps lakes in the Upper Trinity River Basin were either close to the top of, or overflowing the spillway. The North Central Texas Council of Governments is the local sponsor representing nine communities, three counties, and the Tarrant Regional Water District. Study efforts have been directed to addressing improvements in the interest of flood protection, environmental restoration, water quality, recreation, and other allied purposes in the Upper Trinity River Basin with specific attention on the Dallas-Fort Worth Metroplex. Phase I of this two-phase feasibility study was completed in February 1995, which established base conditions. Preliminary plan identification completed during Phase I for flood control, environmental, and recreational projects identified 88 potential measures which are economically viable. The results of these analyses were compiled into an Information Paper that was formally released to the public on 6 February 1995.

The Information Paper served as the basis for gaining sponsor commitments for undertaking more detailed studies of potential projects. To date, Project Study Plans (PSP) that establish specific project and specific study cost sharing have been developed for the Dallas Floodway and Stemmons North Industrial Corridor, Texas; Johnson Creek, Arlington, Texas; Fort Worth Sumps, and Clear/West Fork Environmental Restoration, Fort Worth, Texas. The Johnson Creek, Arlington, Texas Interim Feasibility Report was completed in March 1999. The Dallas Floodway and Stemmons North Industrial Corridor, Texas, Interim Feasibility Report is scheduled for completion in July 2001. The Clear/West Fork Environmental Restoration Interim Feasibility Study was initiated in January 2000. Additional Project Study Plans will be formalized prior to initiation of the interim feasibility studies for other potential projects where local sponsor interest prevails.

1883

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$

Texas (Continued)

Upper Trinity River Basin (Continued)

The funds requested for Fiscal Year 2001 will be used to complete the feasibility phase of the Dallas Floodway and Stemmons North Industrial Corridor, Texas study and continue the multi-purpose reevaluation of the Clear and West Forks. The Feasibility Cost Sharing Agreement, as modified totals $17 million, which is being shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$ 17,810,000
Reconnaissance Phase (Federal)	810,000
Feasibility Phase (Federal)	8,500,000
Feasibility Phase (non-Federal)	8,500,000

The reconnaissance phase was completed in August 1990. As each interim feasibility study is completed, interim feasibility reports will be issued. The overall feasibility study completion date is being determined.

SUBTOTAL FLOOD DAMAGE PREVENTION STUDIES	13,960,000	7,330,000	1,372,000	1,377,000	3,881,000

c. Shoreline Protection Studies: None.

1884

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$

d. Special Studies: The amount of $1,864,000 is requested for Fiscal Year 2001 for continuation of eight studies.

Kansas

Walnut and Whitewater River Watershed	2,100,000	0	86,000	200,000	1,814,000

The Walnut River Basin is a tributary of the Arkansas River and is located in south-central Kansas. It includes the Whitewater and Little Walnut Rivers. The basin has a drainage area of approximately 1,955 square miles and encompasses portions of Butler, Cowley, Sedgewick, and Greenwood Counties. The economy of the area is based chiefly on agriculture, manufacturing, and wholesale and retail sales and mineral industries consisting primarily of petroleum and natural gas. Over 100,000 acres along the Walnut River and its tributaries are subject to serious flood damages. Flooding occurs annually on the main stem and major tributaries. The maximum flood of record on Walnut River at Winfield occurred on April 23, 1944, with a peak discharge of 105,000 cubic feet per second, a gage height of 38.3 feet and a total volume of 382,600 acre-feet during the period of April 20-28, 1944. Major floods pose threats to the cities of El Dorado, Augusta, Winfield, Arkansas City and smaller communities. Ongoing projects in Winfield, Arkansas City, and a study in Augusta may result in decreased flood damages in protected areas; however, flooding in unprotected areas remains a significant problem. The basin recently experienced rural and urban flooding in October and November of 1998, in which damages were estimated at $28.4 million. The four counties were identified as Federal Disaster Areas. Levee failure in the cities of Augusta and Arkansas City caused major damage, though the majority of the flood damage occurred in the uncontrolled areas in the upper reaches of the basin. A reevaluation of the authorized Douglass Lake project on Little Walnut River was completed in 1988 and indicated that the project was marginally economically justified; however, changed basin conditions may warrant a restudy of the Douglass Lake project. In January 1999, the Kansas Water Office indicated their intent to share equally in the feasibility phase cost.

Fiscal Year 2000 funds are being used to initiate the reconnaissance phase of the study at full Federal expense. Funds requested for Fiscal Year 2001 will be used to complete the reconnaissance phase. If the reconnaissance report is certified to be in accord with policy, the funds requested for Fiscal Year 2001 will also be used to continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $4,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Kansas					
Walnut and Whitewater River Watershed (Continued)					
Total Estimated Study Cost		$4,100,000			
Reconnaissance Phase (Federal)		100,000			
Feasibility Phase (Federal)		2,000,000			
Feasibility Phase (Non-Federal)		2,000,000			

The reconnaissance phase is scheduled for completion in January 2001. The feasibility study completion date is being determined.

1886

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Oklahoma					
Cimarron River and Tributaries	2,600,000	0	86,000	200,000	2,314,000

The study area consists of the Cimarron River Basin, primarily a large portion of northwestern Oklahoma, and an equally large portion of southwestern Kansas. The basin also extends into Colorado and New Mexico. The river is about 600 miles long and drains an area of 18,600 square miles. The basin has benefited by various Federal programs spanning nearly a century, but those programs have left environmental scars that are becoming more evident as upstream reservoirs near the end of their evaluated life, and as habitat becomes critically scarce throughout the watershed. Prior to the Farm Bill of 1985, wetland "recovery" along the Cimarron in Oklahoma for agricultural production was Federally subsidized. The result was the loss of thousands of acres of wetland habitat. Over 50 small Federal reservoirs were constructed in the basin for the retention of sediments and flood storage. Within the next few years these reservoirs will no longer be effective for either purpose. The result will be increased sediment loads in the river and in Keystone Lake at the mouth of the Cimarron River. These increased loads are expected to impact the existing wetlands and will increase the rate of sediment pool filling in Keystone Lake, thereby impacting water supply and flood control storage, hydropower production, and recreation. The past negative impact of the small reservoirs was the loss of about 1,800 acres of riparian, upland, and grassland habitat. Construction of Keystone Lake in 1964, caused the destruction of about 3,500 acres of bottom land hardwoods and 9,000 acres of total habitat along the Cimarron River arm of the Lake. That habitat loss significantly impacted the Interior Least Tern by destroying over 25 river miles of nesting habitat. A 1970 Corps of Engineers study of the Cimarron River basin indicated significant flood problems and a high level of local interest in finding solutions. The 1970 study found two feasible multiple purpose projects; however, neither project was pursued due to other priorities. Floods of major proportion have occurred in 1973, 1974, 1982, 1986, 1966, 1993 and 1995. The frequency of major flooding varies for about once in 5 years in the upper basin to once in 11 years in the lower basin. Minor floods occur about once every 2 years. The record flood in 1986 caused $23 million in damages. There are no major flood control projects in the Cimarron River Basin. Average annual flood damages in the basin are estimated to be $5.5 million. Urban flood damages occur at Stillwater, Guthrie, Dover, Kingfisher, Coyle, Dacoma, Aline, Drumright, and Waynoka, Oklahoma. In addition there is over $1 billion in improvements in the cities of Tulsa, Jenks, Bixby and Broken Arrow at risk due to limited flood control storage provided by Keystone Dam. Environmental restoration efforts would improve the quality of the environment in the public interest. These efforts could include development of plans to halt erosion or control sediment, or plans to manage water resources and associated wetlands and riparian areas. The Oklahoma Water Resources Board, the potential local sponsor has expressed their continued support and willingness to share equally in the feasibility phase cost that may follow the reconnaissance study.

Fiscal Year 2000 funds are being used to initiate the reconnaissance phase of the study at full Federal expense. Funds requested for Fiscal Year 2001 will be used to complete the reconnaissance phase. If the reconnaissance report is certified

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$

Oklahoma (Continued)

Cimarron River and Tributaries (Continued)

to be in accord with policy, the funds requested for Fiscal Year 2001 will also be used to continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $5,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$5,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	2,500,000
Feasibility Phase (Non-Federal)	2,500,000

The reconnaissance phase is scheduled for completion in December 2000. The feasibility study completion date is being determined.

1888

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Oklahoma (Continued)					
Southeast Oklahoma Water Resources Study	4,100,000	0	86,000	200,000	3,814,000

The study would evaluate the water resources of the 26 county study area, including the Kiamichi River Basin and other tributaries of the Red River, and develop a basin wide watershed plan which will best utilize both the currently available and potential future water resources for multipurpose uses. Several Corps multipurpose reservoirs (Broken Bow, Hugo, and Sardis Lakes) in this region of Oklahoma provide warm-water fisheries. After these deep reservoirs were constructed, the fishery changed from warm-water to cold-water, especially below Broken Bow Lake. The Oklahoma Water Resources Board (OWRB) has expressed interest in having storage reallocated from existing purposes to fish and wildlife with the intent of maintaining minimum flows to support the trout fishery. Additional authorization has been added to Broken Bow Lake by the Water Resources Development Act of 1996 and 1999 to mitigate the impacts from the Federal project on the downstream fishery. In addition to the adverse environmental impacts from these reservoirs, there is uncommitted water supply storage. The City of Broken Bow has also stated an interest in participating in the construction of a new hydropower facility downstream of Broken Bow Lake. Due to the multiple demands for the available resources in the region, the state of Oklahoma considers it vital to Oklahoma's future to develop a comprehensive plan that will allow these resources to be best conserved and utilized. The study would assist state water resource planners in identifying the best plans for the study area and to provide basin data for use by OWRB in developing its Kiamichi River Basin plan to utilize water from the basin. Potential solutions include reallocation of storage at existing reservoirs to other project purposes; investigating alternatives to re-establish aquatic, wildlife and vegetative habits downstream of the existing reservoirs; and inter-basin transfer of available water supply storage to better meet the State of Oklahoma's future water resources needs. The OWRB understands the cost-sharing policy, and has stated their intent to be the cost-sharing sponsor for the study.

Fiscal Year 2000 funds are being used to initiate the reconnaissance phase of the study at full Federal expense. Funds requested for Fiscal Year 2001 will be used to complete the reconnaissance phase. If the reconnaissance report is certified to be in accord with policy, the funds requested for Fiscal Year 2001 will also be used to continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $8,000,000,

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$

Oklahoma (Continued)

Southeast Oklahoma Water Resources Study (Continued)

which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$8,100,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	4,000,000
Feasibility Phase (Non-Federal)	4,000,000

The reconnaissance phase is scheduled for completion in January 2001. The feasibility study completion date is being determined.

1890

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Texas					
Guadalupe and San Antonio Rivers	2,500,000	0	344,000	200,000	1,956,000

The study area includes the Guadalupe and San Antonio River Basins. It is located in south central Texas, extending approximately 110 miles southeasterly from the headwaters in Kerr and Bandera Counties, to the terminus at the Gulf of Mexico in Refugio and Calhoun Counties. The Guadalupe Basin has a drainage area of 3,430 square miles, and the San Antonio River Basin has 3,096 square miles at this location. Construction of Canyon Lake and the San Antonio Channel Improvement project has been completed. Flooding within various portions of the basin was severe in 1972, and in 1978 when portions of the river basins were declared disaster areas. Flooding again plagued the area in 1997, with total damages estimated at $1.9 million. In October 1998, the largest of all recent flood events within the region accounted for at least 31 deaths, and caused damages estimated to be $300 million. Many communities experienced inundation at rooftop levels, with water velocities great enough to completely demolish brick homes. The study consists of an investigation of the Guadalupe and San Antonio River Basins to address improvements in the interest of flood protection, environmental restoration and protection, water quality, water supply, and other allied purposes. Both structural and nonstructural solutions will be investigated to reduce flood damages while addressing the environmental needs of the watershed. The proposed study is supported by the Guadalupe-Blanco River Authority, San Antonio River Authority, and the San Antonio Water System, which could act as the local sponsors and are willing to share equally in the feasibility phase cost that may follow the reconnaissance study. The Feasibility Cost Sharing Agreement is scheduled for signing in July 2001.

Fiscal Year 2000 funds are being used to initiate the reconnaissance phase at full Federal expense. Fiscal Year 2001 funds will be used to complete the reconnaissance phase and, if the report is certified to be in accord with policy, to continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $4,000,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$4,500,000
Reconnaissance Phase (Federal)	500,000
Feasibility Phase (Federal)	2,000,000
Feasibility Phase (non-Federal)	2,000,000

The reconnaissance phase of the study is scheduled for completion in July 2001. The feasibility study completion date is being determined.

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Texas (Continued)					
Lower Colorado River	9,825,000	84,000	430,000	600,000	8,711,000

The Lower Colorado River basin encompasses a geographic area of approximately 21,000 square miles, and includes portions of the following counties in Central and South Texas: Bastrop, Blanco, Burnet, Colorado, Fayette, Hays, Lampasas, Llano, Matagorda, San Saba, Travis, and Wharton. The northernmost reaches of the study area include the Highland Lakes upstream of Austin, while the southernmost boundary is the Gulf of Mexico. The study area is bounded by the Guadalupe, Lacava, and Colorado-Lavaca basins on the west, and the Brazos and Brazos-Colorado basins on the east. The major Texas metropolitan areas within the study boundaries are Austin, Bastrop, Bay City, Columbus, LaGrange, Marble Falls, and Wharton. In October 1998, widespread flooding and related damages occurred throughout the Lower Colorado River Basin. A major component of the basin is the Onion Creek watershed which originates in Blanco County, continues through Hays County, and then into Travis County, where the creek flows into the Colorado River. The Onion Creek study area is located in the Lower Colorado River Basin, and within the rapid growing urban area of Austin, Texas. Onion Creek is the largest creek in the Austin area with a drainage area of 343 square miles, collecting flows from Williamson, Slaughter, Bear, Little Bear, Rinard, South Boggy, Marble and Cottonmouth Creeks and their tributaries. The creek has a long history of flooding dating back to 1869 and most recently in 1981, 1991 and 1998. Ten flood events have occurred since the turn of the century, resulting in extensive flood damages and the loss of seven lives. Flows in excess of the 100-year (one percent chance) event have occurred on two separate occasions, while the 50-year (two percent chance) event has occurred on two other occasions. A reconnaissance study of the Lower Colorado Basin identified several areas that have experienced severe flooding and present a very high risk for flooding catastrophe. In addition to Onion Creek, Shoal and Walnut Creeks, the Highland Lakes, and the city of Wharton are experiencing extensive development pressures resulting in increased flooding and alteration of wildlife habitats. Initially, a cost-shared basin-wide feasibility study will identify the problems, needs, and opportunities of the Lower Colorado River basin and focus on identifying problem areas where potentially viable implementation measures exist and a cost-sharing sponsor is available to cost-share interim feasibility studies. An interim feasibility study of Onion Creek will be conducted concurrently with the basin-wide study. Interim studies for Shoal and Walnut Creeks, the Highland Lakes, and the city of Wharton will be initiated upon successful negotiation of modifications to the Feasibility Cost Sharing Agreement (FCSA). The Lower Colorado River Authority is the local sponsor for the feasibility study and will act on behalf of the cities of Austin and Wharton, Travis County and other entities identified during the problem identification stage of basin-wide feasibility studies.

Fiscal Year 2000 funds are being used to complete the reconnaissance phase at full Federal expense. If the reconnaissance report is certified to be in accord with policy, funds appropriated in Fiscal Year 2000 will also be used to continue into

1892

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$

Texas (Continued)

Lower Colorado River (Continued)

the cost-shared feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $19,400,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Total Estimated Study Cost	$ 19,525,000
Reconnaissance Phase (Federal)	125,000
Feasibility Phase (Federal)	9,700,000
Feasibility Phase (non-Federal)	9,700,000

The reconnaissance phase is scheduled for completion in March 2000. The feasibility study completion date is being determined.

1893

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Texas (Continued)					
Middle Brazos River	1,560,000	599,000	258,000	300,000	403,000

The study area is located within the middle portion of the Brazos River Basin, which is bounded on the northwest by the Clear Fork of the Brazos River and on the southeast by Yegua Creek, and includes all or part of 32 counties. The study area includes 19 Federal and non-Federal reservoirs. Urbanization and concurrent changes in land use to support the human environment have facilitated many changes in the ecological character of the Middle Brazos River Basin, and have resulted in significant adverse impacts on the natural environment. The reconnaissance study included three major sub-basins; the North Bosque, Leon and the Lampasas. The North Bosque sub-basin is currently the most impacted of the three. A trends analysis conducted during this study indicated that if the environmental conditions continue as they have for 30 years, the quality of the environment will continue to degrade in the future. Consequently, the North Bosque River has been placed on the 1998 Clean Water Act Section 303(d) list by the Environmental Protection Agency. The purpose of this study is to develop plans for ecosystem restoration and water quality improvements. Downstream environmental damages occurred partially as a result of floodwater releases from both Federal and non-Federal reservoirs throughout the three major sub-basins in the Middle Brazos River watershed. These damages included destruction of wetlands along the river. In addition, sediment from erosion of riverbanks and loss of environmental habitats at the upstream reaches of existing Federal and non-Federal reservoirs resulted in a decrease in water quality. Potential solutions include possible ecosystem restoration projects in areas of all existing lakes in the Middle Brazos River Basin. Work to be performed consists of feasibility level studies to investigate alternatives to re-establish aquatic, wildlife and vegetative habitats. Projects identified in the reconnaissance phase include the use of conservation easements, riparian corridor restoration, hydraulic meadows, off-channel wetlands and combinations of these alternatives. The Brazos River Authority and the city of Waco, Texas support the proposed study. By letter dated 15 March 1999, the Brazos River Authority stated their intent to act as the non-Federal sponsor for the overall feasibility study and the North Bosque Interim Feasibility Study.

Fiscal Year 2000 funds are being used to initiate the feasibility phase of the study. Fiscal Year 2001 funds will be used to complete the first interim feasibility study and to continue the overall feasibility phase. The preliminary estimated cost of the feasibility phase is $2,100,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Texas (Continued)					
Middle Brazos River (Continued)					
Total Estimated Study Cost	$ 2,610,000				
Reconnaissance Phase (Federal)	510,000				
Feasibility Phase (Federal)	1,050,000				
Feasibility Phase (Non-Federal)	1,050,000				

The North Bosque River Interim Feasibility Study is scheduled for completion in June 2001. The overall Middle Brazos River Feasibility Study completion date is being determined.

1895

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Texas (Continued)					
Sabine Pass to Galveston Bay	4,835,000	0	86,000	114,000	4,635,000

The study area consists of approximately 62 miles of Gulf of Mexico shoreline in Jefferson, Chambers, and Galveston Counties along the upper Texas coast. The major problem identified is potential destruction of nationally significant wetlands, loss of land and damage to homes and commercial property, and significant damage to State Highway 87, caused by shoreline erosion. Interest has been expressed in a project to stabilize the shoreline and thus protect nationally significant wetlands and other resources immediately behind and protected by the beach. The area traverses 12 miles of the 81,700-acre McFaddin Marsh National Wildlife Refuge and approximately 2-1/2 miles of the 15,100-acre Sea Rim State Park. Sea Rim State Park is located in the easterly portion of the study area, approximately 10 miles west of Sabine Pass with McFaddin Marsh Refuge immediately to the west. The major cause of the erosion is a combination of repeated storm damage and a deficit in sediment supply. There are no major rivers located within this littoral cell which would add material to the littoral zone. The concerns have focused on alternatives to address storm damage to the shoreline from the Sabine Pass Jetties to the North Jetty of the Galveston Harbor Entrance Channel. The highway has been moved inland several times to escape the effects of erosion only to be affected later as the erosion continued or a hurricane struck the area. A 16.8-mile stretch of the highway between High Island and Sabine Pass remains closed as a result of damages caused by hurricanes Chantal and Jerry in 1989. Jefferson County has applied for a Department of the Army Permit to place fill material into waters of the United States and for a Department of Interior (DOI) Easement to cross the McFaddin Refuge. The Galveston District has determined that the proposal is a major Federal project significantly effecting the human environment and therefore required an Environmental Impact Statement. The DOI determined that an easement for the roadway would not be granted without the implementation of shore erosion protection. The potential Local Sponsors for the project are the Texas Department of Transportation and the General Land Office of Texas. A Feasibility Cost Sharing Agreement is scheduled for execution in March 2001.

Fiscal Year 2000 funds are being used to initiate the reconnaissance phase at full Federal expense. Funds requested in Fiscal Year 2001 will be used to complete the reconnaissance phase of the study. If the reconnaissance report is certified to be in accord with policy, the funds requested for Fiscal Year 2001 will also be used to continue into the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $9,470,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$

Texas (Continued)

Sabine Pass to Galveston Bay (Continued)

Total Estimated Study Cost	$9,570,000
Reconnaissance Phase (Federal)	100,000
Feasibility Phase (Federal)	4,735,000
Feasibility Phase (non-Federal)	4,735,000

The reconnaissance phase is scheduled for completion in March 2001. The feasibility study scheduled completion date is being determined.

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Texas (Continued)					
Sulphur River Environmental Restoration	580,000	84,000	211,000	50,000	235,000

The study area is located along the Sulphur River from Highway 271, located about one mile north of Talco, Texas, and extends approximately 10 miles upstream to Jim Chapman Lake. As part of the existing Jim Chapman Lake project, the improved channel terminates just downstream of Highway 37 about 2 miles north of Hagansport, and abruptly transitions into the natural channel. This constriction has caused extensive quantities of sediment and debris to accumulate such that the natural channel has been destroyed between Hagansport and Talco. Consequently, the river was forced to cut a new channel destroying local agricultural levees and making once prime farmland inaccessible. Downstream of Hagansport, the accumulation of sediment and debris has reduced the effectiveness of existing agricultural levees resulting in significant losses in agricultural production as prime farmland is now frequently inundated. In areas where agricultural interests continue to operate, production costs have risen dramatically. Local residences and public infrastructure are subject to an increased flood threat. Just as important is the loss of thousands of acres of riparian and wetland habitats as sediment is continually deposited in these environmentally sensitive areas. The severe impacts to agriculture and the loss of habitat will continue to get worse as the sediment continues to accumulate. The purpose of this study is to examine the extent and adverse environmental and flooding impacts, and to identify potential measures for reducing flood damages; sedimentation reduction; and environmental restoration opportunities. The counties of Franklin and Red River in Texas support the proposed study and discussions are ongoing with potential sponsors.

Fiscal Year 2000 funds are being used to complete the reconnaissance phase activities at full Federal expense. If the reconnaissance report is certified to be in accordance with policy, Fiscal Year 2000 funds will also be used to initiate the feasibility phase of the study. The preliminary estimated cost of the feasibility phase is $960,000, which is to be shared on a 50-50 percent basis by Federal and non-Federal interests. Up to one-half of the non-Federal share may be in-kind services. A summary of study cost sharing is as follows:

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Texas (Continued)					
Sulphur River Environmental Restoration (Continued)					
Total Estimated Study Cost	$ 1,060,000				
Reconnaissance Phase (Federal)	100,000				
Feasibility Phase (Federal)	480,000				
Feasibility Phase (Non-Federal)	480,000				
The reconnaissance phase is scheduled for completion in March 2000. The feasibility study completion date is being determined.					
SUBTOTAL SPECIAL STUDIES	28,100,000	767,000	1,587,000	1,864,000	23,882,000

1899

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$

e. Comprehensive Studies: None.

f. Project Review Studies: The amount of $1,881,000 is requested in Fiscal Year 2001 for completion of one study and continuation of two studies.

Texas

Gulf Intracoastal Waterway - Brazos River to Port O'Connor	4,370,000	1,460,000	936,000	500,000	1,474,000

The study area includes approximately 72 miles of the Gulf Intracoastal Waterway (GIWW) in Brazoria, Matagorda and Calhoun Counties, from the Brazos River near Freeport to Port O'Connor, Texas. Tonnage transported along this section of the GIWW totaled nearly 16 million tons in 1994, with petrochemicals as the major commodity shipped. This study will evaluate operational problems along this reach of the GIWW. Problems identified by users along this reach include difficulties navigating currents encountered as a result of river flows from the San Bernard River; shoaling in the open bay to landlocked transition area in Matagorda Bay; bank erosion and loss of wetlands; and deficiencies in mooring facilities and channel markers. One possible solution to reduce navigation operational difficulties would be to relocate the channel across portions of Matagorda Bay. Solutions to other problems identified will be developed during the study. Possible modifications to the existing Environmental Impact Statement and development of long term dredged material plans will be addressed independently using Operation and Maintenance, General appropriations. The State of Texas is the non-Federal sponsor of the GIWW and continues to maintain a high interest in the waterway because of the economic importance of the waterway to the State and their responsibility to provide dredged material disposal areas. The GIWW is designated as part of the Nation's Inland Waterway System and qualifies for 50-50 cost sharing from the Inland Waterways Trust Fund for construction purposes. An initial appraisal of the entire 423-mile Texas Section of the GIWW was completed in November 1989. Gulf Intracoastal Waterway Users have identified safety issues at the Matagorda Ship Channel crossing due to high shoaling rates and tidal currents. In order to expedite identifying a viable solution to the these issues, the Matagorda Bay reach will be studied separately as an interim to the overall feasibility study.

Fiscal Year 2000 funds will be used to continue the feasibility study, and to continue the interim feasibility study addressing the navigation issues along the Gulf Intracoastal Waterway in Matagorda Bay. Fiscal Year 2001 activities will include detailed assessments of project and environmental problems, needs, and opportunities. The reconnaissance phase was completed in August 1998. The GIWW - Matagorda Bay Interim Feasibility Study is scheduled to be completed in December 2000. The completion date of the overall feasibility study is being determined.

1900

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Texas (Continued)					
Gulf Intracoastal Waterway - High Island to Brazos River	6,007,000	4,517,000	762,000	728,000	0

The study area includes approximately 85 miles of the Gulf Intracoastal Waterway (GIWW) in Galveston and Brazoria Counties, from High Island, Texas, to the Brazos River. Tonnage transported along this section of the GIWW totaled nearly 50 million tons in 1994, with petrochemicals as the major commodity shipped. This study will evaluate operational problems along this reach of the GIWW. Some of the problems identified by users along this reach include difficulties in negotiating two 90-degree bends near High Island; difficulties accessing the Texas City Channel from the GIWW; difficulties negotiating a double "S" curve near Freeport; deficiencies in mooring facilities and channel markers; and developing long range disposal plans. The State of Texas is the non-Federal sponsor of the GIWW and continues to maintain a high interest in the waterway because of their responsibility to provide dredged material disposal areas. The State's interest is evident through monthly meetings of the State-chaired Gulf Intracoastal Waterway Advisory Committee. The GIWW is designated as part of the Nation's Inland Waterway System, and qualifies for 50-50 cost sharing from the Inland Waterways Trust Fund for construction of navigation improvements. An initial appraisal of the entire 423-mile Texas Section of the GIWW was completed in November 1989. The reconnaissance study, completed in February 1995, concluded that modifications to the existing GIWW were economically feasible from reduction in delay benefits. These modifications consisted of bend easing in the High Island area, shoaling reductions at Rollover Bay, turn improvements into the Texas City Channel, Pelican Cut and Galveston Channel moorings, entrance approach changes for the Galveston Causeway Railroad Bridge, and easing/realignment near Freeport. This resulted in an overall benefit/cost ratio in excess of 30 to 1.

Fiscal Year 2000 feasibility study efforts include environmental and real estate studies; and identification and design of the selected plan. The Feasibility Study is 100 percent Federally funded. In addition to the Feasibility Study, a long-term Dredge Material Management Plan is being developed concurrently for the High Island to Brazos River reach of the Gulf Intracoastal Waterway using Operations and Maintenance, General funds. Fiscal Year 2001 funds will used to complete the feasibility study in August 2001.

1901

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Texas (Continued)					
Gulf Intracoastal Waterway - Port O'Connor to Corpus Christi Bay	4,510,000	766,000	722,000	653,000	2,369,000

The study area includes approximately 79 miles of the Texas section of the main channel of the Gulf Intracoastal Waterway (GIWW), extending from Port O'Connor to the Kennedy Causeway at Corpus Christi Bay. Tonnage transported along this section of the GIWW totaled nearly 16 million tons in 1994. The purpose of this study is to evaluate operational problems and address environmental concerns along this reach of the waterway. Thirty-one (31) miles of this reach of the waterway are within the critical habitat of the endangered whooping crane. This segment has been addressed under a separate feasibility study for the Aransas National Wildlife Refuge, and is therefore, excluded from consideration for the subject study reach. Navigational difficulties caused by frequent shoaling at various locations within the remainder of this reach, traffic congestion near Port O'Connor, and the lack of navigational aids and mooring facilities have been previously identified by users as areas of concern. The State of Texas is the local sponsor of the GIWW and continues to maintain a high interest in the waterway because of the economic importance of the waterway to the State and their responsibility to provide dredged material disposal areas. The GIWW is designated as part of the Nation's Inland Waterway system and therefore, qualifies for 50-50 cost sharing from the Inland Waterways Trust Fund for construction of navigation improvements. Any potential environmental restoration projects identified by this study will require a cost sharing sponsor. Potential structural solutions may involve channel rerouting across Corpus Christi Bay, widening to relieve traffic congestion at Port O'Connor and Victoria Wye, stabilizing of banks in critical locations to relieve channel shoaling problems, and the coordination and siting of mooring facilities for holding vessels during inclement conditions. Other solutions may include restoration of areas previously impacted by project construction or subsequent maintenance activities, restoration of wetland habitat lost as a result of project usage, and dredging of circulation channels between designated dredged material disposal areas.

Fiscal Year 2000 funds will be used to continue plan formulation and start engineering, environmental, and economic studies required for feasibility studies. Fiscal Year 2001 funds will be used to continue feasibility studies.

The reconnaissance phase was completed in June 1998. No feasibility cost sharing agreement is required, and all study costs are 100 percent Federal. The completion date for the feasibility study is being determined.

Study	Total Estimated Federal Cost $	Allocation Prior To FY 2000 $	Allocation FY 2000 $	Tentative Allocation FY 2001 $	Additional To Complete After FY 2001 $
SUBTOTAL PROJECT REVIEW STUDIES	14,887,000	6,743,000	2,420,000	1,881,000	3,843,000
TOTAL SURVEYS - CONTINUING	78,873,000	15,810,000	7,794,000	8,078,000	47,191,000
TOTAL SURVEYS	78,873,000	15,810,000	7,794,000	8,078,000	47,191,000

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$

3. PRECONSTRUCTION ENGINEERING AND DESIGN ACTIVITIES (PED) - NEW

a. Environmental: The amount of $50,000 is requested in Fiscal year 2001 for initiation of PED on one project.

Texas

North Bosque River	300,000	0	0	50,000	250,000

The North Bosque Watershed is located within the middle portion of the Brazos River Basin, which includes Erath and Bosque Counties. Urbanization and concurrent changes in land use to support the human environment have facilitated many changes in the ecological character of the North Bosque River Basin, and have resulted in significant adverse impacts on the natural environment. A trend analysis indicated that if the environmental conditions continue as they have for 30 years, the quality of the environment will continue to degrade in the future. The North Bosque River Basin has been placed on the 1998 Clean Water Act Section 303(d) list by the Environmental Protection Agency. Downstream environmental damages occurred partially as a result of floodwater releases from both Federal and non-Federal reservoirs throughout the basin. This project was developed under the Middle Brazos River Basin Feasibility Study. The Interim Feasibility Study for the North Bosque River, Texas is scheduled to be completed in June 2001. The plan of improvement consists of reforestation, creation of conservation easements and wetland areas for the purpose of ecosystem restoration. Preconstruction Engineering and Design (PED) will ultimately be cost-shared at the rate for the project to be constructed but will be financed through the PED period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$ 400,000	Total Estimated Preconstruction Engineering and Design Costs	$ 400,000
Initial Federal Share	$ 300,000	Ultimate Federal Share	$ 260,000
Initial Non-Federal Share	$ 100,000	Ultimate Non-Federal Share	$ 140,000

The project is not authorized for construction. The cost sharing for construction of the project will be in accordance with Section 210 of the Water Resources Development Act of 1996. Local interests will be required to provide lands, easements, rights-of-way and borrow and excavated or dredged material disposal areas, modify or relocate utilities, roads, bridges

1904

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Texas					
North Bosque River (Continued)					
(except railroad bridges), and other facilities where necessary in the construction of the project; contribute an additional amount in cash to bring the total non-Federal share of costs to a minimum of 35 percent; and bear all costs of operation, maintenance, repair, replacement, and rehabilitation for the project.					
Fiscal Year 2000 funds from the Middle Brazos River Feasibility Study are being utilized to complete the cost-shared Interim Feasibility Study. Fiscal Year 2001 funds will be used to initiate Preconstruction Engineering and Design on the North Bosque River sub-basin. The schedule for completion of Preconstruction Engineering and Design is being determined.					
SUBTOTAL NEW ENVIRONMENTAL	300,000	0	0	50,000	250,000

1905

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$

b. Navigation: The amount of $100,000 is requested in Fiscal year 2001 for initiation of PED on one project.

Texas

Gulf Intracoastal Waterway - Matagorda Bay	1,100,000	0	0	100,000	1,000,000

This reach of the Gulf Intracoastal Waterway (GIWW) extends from Channel Mile 454 to 473, a distance of about 19 miles. The current GIWW alignment leaves the landlocked portion on the eastern side of Matagorda Bay near Mile 454 and turns in a southwesterly direction before turning west and running parallel to Matagorda Peninsula. At Mile 471, the GIWW intersects the deep-draft Matagorda Ship Channel Federal project. The GIWW enters the landlocked portion again at Port O'Connor near Mile 473. Historically, shoaling occurs at a rapid rate along this reach of the GIWW. Water depths in this area are naturally shallow and numerous oyster reefs characterize the area. The shoaling rate is the result of sediment movement by wind and tidal action between Matagorda Bay and West Matagorda Bay. At the GIWW reach between Mile 470 and Mile 472 where the GIWW intersects the Matagorda Ship Channel, dredging occurs almost annually. In addition to the high shoaling rates, navigation on the GIWW has been impacted by dangerous crosscurrents. These currents are due to the proximity of the GIWW to the natural pass of Pass Cavallo and the entrance channel to the deep-draft Matagorda Ship Channel Federal project. To the south of the GIWW, along this reach, is Sundown Island, a National Audubon Society bird sanctuary. To the north is the dredged material placement site for the maintenance dredging operations. This has effectively limited the ability of barge traffic to maneuver to compensate for the crosscurrents and shoaling. The waterways industry has reported numerous groundings. The industry is concerned about the continuing safety problems associated with this reach. As a result, the industry has self-imposed one-way traffic, and reduced speeds along this reach of the GIWW through Matagorda Bay. This project was developed as an interim feasibility study under the GIWW - Brazos River to Port O'Connor Feasibility Study. The plan of improvement includes realigning the channel to the North of the existing channel alignment beginning at mile 460. The realigned channel will intersect the deep-draft Matagorda Ship Channel Federal project approximately one mile north of the existing GIWW alignment. The proposed realignment will rejoin the existing channel at the Port O' Conner Jetties (approximately mile 473). The channel from mile 460 to mile 473 would be abandoned. The GIWW - Matagorda Bay Interim Feasibility Study is scheduled to be completed in December 2000. The recommended project is estimated to cost $ 10,000,000. The benefit to cost ratio is 1.6 to 1. The State of Texas is the non-Federal sponsor for the GIWW, and continues to maintain a high interest in the waterway because of their responsibility to provide dredged material disposal areas. The State's interest is evident through monthly meetings of the State-chaired Gulf Intracoastal Waterway Advisory Committee.

1906

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Texas (Continued)					
Gulf Intracoastal Waterway - Matagorda Bay (Continued)					
The project is not authorized for construction. In accordance with the cost sharing provisions of the Water Resources Development Act of 1986, as amended, a non-Federal sponsor is not required for project construction, since the GIWW is designated as part of the Nation's Inland Waterway System. Construction will be cost shared 50-50 from the Inland Waterways Trust Fund. Fiscal Year 2000 funds from the GIWW - Brazos River to Port O'Connor, Texas Feasibility Study are being used to complete the GIWW-Matagorda Bay, Texas Interim Feasibility Study. Fiscal Year 2001 funds will be used to initiate Plans and Specifications. The completion date for Preconstruction Engineering and Design is being determined.					
SUBTOTAL NEW NAVIGATION	1,100,000	0	0	100,000	1,000,000

1907

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$

c. Flood Control: The amount of $100,000 is requested in Fiscal Year 2001 for initiation of PED activities on one project.

Texas

Pecan Bayou, Brownwood	350,000	0	0	100,000	250,000

The Pecan Bayou watershed is located in Callahan, Coleman and Brown Counties of Texas. The watershed begins just southeast of Abilene and flows 85 miles in a southeasterly direction through the city of Brownwood to its confluence with the Colorado River west of Goldthwaite, Texas. It drains approximately 2,200 square miles. On 26 April 1990, the city of Brownwood and the Lake Brownwood area suffered a flood resulting in three deaths. A total of $10,000,000 in damages occurred with 528 residential structures and 70 businesses damaged or destroyed along with losses to public utilities and agriculture facilities. Another flood event of similar proportions occurred in December 1991, with about 213 residences and 40 businesses damaged in and around the city. The main problem areas are Adams Branch of Pecan Bayou and Willis Creek within the city of Brownwood. The recommended plan includes improvements to Willis Creek and Adams Branch of Pecan Bayou. The plan of improvement for Willis Creek includes enlarging and realigning 13,243 feet of earthen channel at a estimated total cost of $5,930,000. The proposed improvements will reduce the flood damages along the stream by 90 percent. The average annual benefits will be $856,700 and provide for a benefit-cost ratio of 1.9 to 1. The plan of improvement for Adams Branch of Pecan Bayou provides for enlarging and realigning 7,500 feet of earthen channel at an estimated total cost of $2,590,000. The proposed improvements will reduce the flood damages along the stream by 27 percent. The average annual benefits will be $395,900 and provide for a benefit-cost ratio of 1.6 to 1. Preconstruction Engineering and Design (PED) will ultimately be cost-shared at the rate for the project to be constructed but will be financed through the PED period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$ 470,000	Total Estimated Preconstruction Engineering and Design Costs	$ 470,000
Initial Federal Share	$ 350,000	Ultimate Federal Share	$ 305,000
Initial Non-Federal Share	$ 120,000	Ultimate Non-Federal Share	$ 165,000

The project is not authorized for construction. The cost sharing for construction of the project will be in accordance with Section 103(a)(2) of the Water Resources Development Act of 1986, as amended. Local interests will be required to provide

1908

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Texas					
Pecan Bayou, Brownwood (Continued)					

lands, easements, rights-of-way and borrow and excavated or dredged material disposal areas, modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities where necessary in the construction of the project; pay five percent of the costs allocated to flood control in cash during the period of construction; contribute an additional amount in cash or credits to bring the total non-Federal share of costs allocated to structural flood control to a minimum of 35 percent; and bear all costs of operation, maintenance, repair, replacement, and rehabilitation of flood control facilities.

Fiscal Year 2000 funds are being utilized to complete cost-shared feasibility studies. Fiscal Year 2001 funds will be used to initiate Preconstruction Engineering and Design. The scheduled completion date for Preconstruction Engineering and Design is being determined.

SUBTOTAL NEW FLOOD PREVENTION	350,000	0	0	100,000	250,000

d. Shoreline Protection: None.

e. Special Studies: None.

SUBTOTAL NEW PED	1,750,000	0	0	250,000	1,500,000

1909

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$

4. PRECONSTRUCTION ENGINEERING AND DESIGN (PED) - CONTINUING

a. Environmental: The amount of $164,000 is requested in Fiscal Year 2001 for continuation of PED activities on one project.

Texas

North Padre Island, Corpus Christi	2,100,000	145,000	215,000	164,000	1,576,000

The project is located along the south central Texas Coast on the Southern portion of Mustang Island. The locally preferred plan includes creating an opening between the Gulf of Mexico and Corpus Christi Bay, which consists of a jettied entrance and channel which extends from the Gulf of Mexico through Mustang Island, along the existing Packery Channel, and joins the main channel of the Gulf Intracoastal Waterway at mile 550.0. The project provides for added circulation to the upper Laguna Madre and the Southern portion of Corpus Christi Bay. Preliminary estimates have indicated that such an opening may decrease the salinity in the vicinity of the project, providing improved habitat for brown and white shrimp. The opening may also increase the tidal amplitude in the Upper Laguna Madre, which could result in up to 130 acres of additional shoreline becoming intertidal. The locally preferred plan also provides an additional access to the Gulf Intracoastal Waterway and Corpus Christi Bay that is not currently available. Potential users indicate that the entrance would provide safe access to smaller vessels that currently must enter Corpus Christi Bay through the Corpus Christi Ship Channel, and must be mixed with larger ocean-going vessels. The estimated total project costs is $30,000,000, with the Federal share estimated to be $19,500,000, and the non-Federal share estimated to be $10,500,000.

The project is authorized by the Water Resources Development Act of 1999. Local interests will be required to provide lands, easements, rights-of-way, modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities where necessary in the construction of the project; pay an additional amount in cash during the period of construction to bring the total non-Federal share of costs to a minimum of 35 percent, and bear all costs of operation, maintenance, repair, replacement, and rehabilitation for the project.

Fiscal Year 2000 funds are being used to initiate studies to determine if the locally preferred plan meets Corps of Engineers design standards/criteria, and is environmentally acceptable. Fiscal Year 2001 funds will be used to continue the studies. The Preconstruction Engineering and Design completion date is being determined.

SUBTOTAL CONTINUING ENVIRONMENTAL	2,100,000	145,000	215,000	164,000	1,576,000

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$

b. Navigation: None.

c. Flood Control: The amount of $1,508,000 is requested for Fiscal Year 2001 to complete PED activities on two projects, and to continue PED activities on four projects.

Arkansas

North Little Rock (Dark Hollow)	1,800,000	0	25,000	200,000	1,575,000

The Dark Hollow area is located entirely within the city limits of North Little Rock, Arkansas. The area is comprised of approximately 2,000 acres of residential, commercial, industrial, and agricultural activities. The residential areas contain about 600 units, which are occupied primarily by lower income families. About two-thirds of the homes are owner occupied. The major flood problem results from lack of an adequate outlet facility for removal of rapid runoff from higher elevations of the basin. The existing outlet facility, the Redwood Tunnel, has the capacity for carrying runoff from storms up to a 5-year frequency. Minor flooding occurs annually. In addition, the Redwood Tunnel, which was constructed in the early 1900's, is in poor condition, and the city of North Little Rock fears that failure of the tunnel will occur in the near future. The tunnel has experienced several cave-ins, and recent engineering examinations by the city indicate that the tunnel is severely deteriorated. Studies completed in the mid-1980's identified a Federal interest in proceeding with design for the project. This study will investigate alteration of existing bridges and construction of a new channel outlet to replace the existing Redwood Tunnel, at cost estimated to be approximately $30 million. The benefit to cost ratio for the proposed plan is 1.5 to 1. The city of North Little Rock understands the cost-sharing requirements and has indicated their intent to share in the Preconstruction Engineering and Design (PED) phase of the project. The Design Agreement is scheduled to be executed in May 2000. PED will ultimately be cost shared at the rate for the project to be constructed but will be financed through the PED period at 25% non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$2,400,000	Total Estimated Preconstruction Engineering and Design Costs	2,400,000
Initial Federal Share	1,800,000	Ultimate Federal Share	1,560,000
Initial Non-Federal Share	600,000	Ultimate Non-Federal Share	840,000

The project is authorized for construction by the Water Resources Development Act (WRDA) of 1999. The cost sharing for construction of the project will be in accordance with Section 103(a)(2) of the Water Resources Development Act of 1986, as amended. Local interests will be required to provide lands, easements, rights-of-way and borrow and excavated or dredged material disposal areas, modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities where

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$

Arkansas (Continued)

North Little Rock (Dark Hollow) (Continued)

necessary in the construction of the project; pay five percent of the costs allocated to flood control in cash during the period of construction; contribute an additional amount in cash or credits to bring the total non-Federal share of costs allocated to structural flood control to a minimum of 35 percent; and bear all costs of operation, maintenance, repair replacement, and rehabilitation of the flood control facilities.

Fiscal Year 2000 funds are being utilized to negotiate the Design Agreement and to initiate the Limited Reevaluation Report (LRR) to comply with the provisions of Section 576 or WRDA 1999. Fiscal Year 2001 funds will be used to complete the LRR. The completion date for Preconstruction Engineering and Design is being determined.

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Texas					
Dallas Floodway Extension, Trinity River	8,560,000	7,124,000	1,336,000	100,000	0

The project area is located in metropolitan Dallas, Texas. In 1960, the Corps of Engineers rebuilt the existing Dallas Floodway, which is located near the confluence of Elm Fork and West Fork of the Trinity River. The project was authorized in 1965 (Public Law 89-298) as part of the Trinity River, Texas project. The project consists of a 3.7-mile long overbank swale with an average width of 600 feet with the alignment being placed on the west Trinity River overbank; a Chain of Wetlands; and Standard project Flood (SPF) - level levees protecting the Lamar Street, Rochester Park, Central Waste Water Treatment Plant, and the Cadillac Heights area.

In May 1989, flooding in the Rochester Park area damaged approximately 300 homes and the city of Dallas Service Distribution Center. This same area was flooded during April and May 1990, a 50-year (two percent chance) flood event resulting in an estimated $50 million in flood damages. The most recent major flood was in January 1992. This 25-year (four percent chance) flood event inundated about 200 homes in the Rochester Park area, resulting in an estimated $30 million in flood damages. Due to these flood events, the City of Dallas, the non-Federal Sponsor, expedited the construction of Rochester Park levee and levee improvements to the Central Waste Water Treatment Plant during 1992-1993. The Water Resources Development Act of 1996 authorizes the non-Federal Sponsor credit against their share of project costs for the levee improvements, which are compatible with the Federal project. The project authorization has also been modified by the Water Resources Development Act of 1999 to include environmental restoration and recreation as project purposes. The estimated total costs for construction of the project is $135,400,000, of which the Federal share is currently estimated to be $89,029,000 and the non-Federal share is currently estimated to be $46,371,000. The City of Dallas, the local sponsor, passed a bond election on 2 May 1998 to fund their portion of the project and other improvements to the Trinity River within the city.

The project is authorized for construction by Public Law 89-298, dated October 27, 1965. The cost sharing for construction of the structural flood control features of the project will be in accordance with Section 103(a)(2) of the Water Resources Development Act of 1986. Local interests will be required to provide lands, easements, rights-of-way and borrow and excavated or dredged material disposal areas, modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities where necessary in the construction of the project; pay five percent of the costs allocated to flood control in cash during the period of construction; contribute an additional amount in cash or credits to bring the total non-Federal share of costs allocated to structural flood control to a minimum of 25 percent; and bear all costs of

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$

Texas (Continued)

Dallas Floodway Extension, Trinity River (Continued)

operation, maintenance, repair, replacement, and rehabilitation of flood control facilities. The non-Federal sponsor will be responsible for 35 percent of the total ecosystem restoration project costs. Recreational development including lands required for public access, health, and safety, are cost-shared on an equal (50/50 percent) basis between Federal and non-Federal public interests.

Fiscal Year 2000 funds are being used to complete the plans and specifications for the first construction contract. Fiscal Year 2001 funds will be used to continue preparation of plans and specifications for remaining reaches of the project. Preconstruction Engineering and Design is scheduled to be completed in September 2001.

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Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Texas (Continued)					
Greens Bayou, Houston	6,410,000	5,332,000	644,000	434,000	0

Greens Bayou, excluding its tributary of Halls Bayou, drains about 154 square miles in the north central area of the Buffalo Bayou watershed. The area is subject to rainstorms throughout the year and urban flooding is a common occurrence. About 10,967 homes and businesses are currently subject to flooding by the Standard Project Flood (SPF), and about 7,100 of these properties would be subject to flooding by a 100-year frequency flood. On an average annual basis, stream flooding could cause about $17,800,000 in damages per year to existing properties. Greens Bayou is one feature of a comprehensive flood control plan for the Buffalo Bayou watershed which has six separate elements providing flood control on Carpenters, Greens, Halls, Hunting, Little White Oak, and Brays Bayous. Plan features for Greens Bayou include 25 miles of channel improvements, 14 miles of selective clearing, acquisition of flood-prone properties, and 4 flood detention basins. The proposed project would provide about 25-year flood protection, and would reduce average annual damages by 91.2 percent. Aesthetic vegetation would be included to improve environmental quality, and mitigation would be required to compensate for the loss of 48 acres of riparian forest fish and wildlife habitat, and for 194 acres of upland forest wildlife habitat. Recreation features incorporated into the plan include trails, picnic facilities, sports fields, canoe launching ramps, comfort stations and parking areas. The total first cost of the recommended plan, based on October 1998 price levels (first cost), is estimated at $264,950,000, with an estimated Federal cost of $163,735,000 and an estimated non-Federal cost of $101,215,000. The average annual benefits are estimated at $61,722,100 for flood control, and $1,901,800 for recreation. The benefit-cost ratio is 2.5 to 1 based upon the latest economic analysis dated August 1993 with cost updated to October 1998. The local sponsor for the project is the Harris County Flood Control District (HCFCD), a certified agent of the Harris County Commissioners Court in Texas. The HCFCD is a willing and viable local sponsor, and the cost sharing partner on two major flood control projects, Clear Creek and Sims Bayou, Texas, which are currently under construction.

This project is authorized for construction by the Water Resources Development Act of 1990. The cost sharing for construction of the project will be in accordance with Section 103(a)(2) of the Water Resources Development Act of 1986, as amended. Local interests will be required to provide lands, easements, rights-of-way and borrow and excavated or dredged material disposal areas, modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities where necessary in the construction of the project; pay five percent of the costs allocated to flood control in cash during the period of construction; contribute an additional amount in cash or credits to bring the total non-Federal share of costs allocated to structural flood control to a minimum of 25 percent; and bear all costs of operation, maintenance, repair, replacement, and rehabilitation of the flood control facilities.

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$

Texas (Continued)

Greens Bayou, Houston (Continued)

Fiscal Year 2000 funds will be used to complete preparation of the General Reevaluation Report. Fiscal Year 2001 funds will be used to initiate and complete the first set of plans and specifications. The completion date for Preconstruction Engineering and Design is scheduled for August 2001.

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Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Texas (Continued)					
Hunting Bayou, Houston	1,665,000	1,000,000	0	100,000	565,000

Hunting Bayou, a major tributary of Buffalo Bayou, drains a 39 square mile area of northern Houston, about 4 to 5 miles from the central business district. In excess of 100,000 people reside in the watershed. Under existing conditions, a 100-year frequency flood would inundate more than 5,300 acres, affect almost 10,000 industrial, commercial and residential structures valued at $700 million, and cause flood damages of $180 million. The authorized plan of improvement includes 14.3 miles of stream improvements, as well as, recreation trails, picnic facilities, a comfort station, and access and parking areas. The total first cost of the recommended plan, based on October 1998 price levels with inflation through the construction period, is estimated at $157,630,000 (Federal $82,235,000 and non-Federal $75,395,000). The average annual benefits are estimated at $67,208,900 for flood control, and $360,000 for recreation. The benefit-cost ratio is 6.6 to 1 based upon the latest economic analysis dated July 1990 with cost updated to October 1989 prices. The non-Federal sponsor is Harris County Flood Control District (HCFCD), a certified agent of the Harris County Commissioners Court in Texas. On 26 January 1988, Commissioners Court of Harris County unanimously passed a resolution endorsing the Buffalo Bayou and Tributaries Report and expressed their willingness to provide sponsorship and continue to support the project. The HCFCD will perform all the Preconstruction Engineering and Design activities under the authority of Section 211 of the Water Resources Development Act of 1996 (WRDA 1996) (P.L. 104-303). Section 211 of the WRDA 96 provides the authority for non-Federal interests to undertake flood control projects, if approved by the Secretary, and enter into an agreement for reimbursement an amount equal to the estimated Federal share of the cost of such work (including work associated with studies, planning, design and construction) carried out by non-Federal interests if such work has obtained a permit as required by Federal and State laws in advance of construction and work is approved by the Secretary of the Army. Section 211(f) of WRDA 96 includes Hunting Bayou for the purpose of demonstrating the potential advantages and effectiveness of non-Federal implementation of flood control projects. Preconstruction Engineering and Design (PED) will ultimately be cost shared at the rate for the project to be constructed, but will be financed through the PED period at 25 percent non-Federal. Any adjustments that may be necessary to bring the non-Federal contribution in line with the project cost sharing will be accomplished in the first year of construction.

Total Estimated Preconstruction Engineering and Design Costs	$2,221,000	Total Estimated Preconstruction Engineering and Design Costs	$2,221,000
Initial Federal Share	1,665,000	Ultimate Federal Share	1,665,000
Initial Non-Federal Share	556,000	Ultimate Non-Federal Share	556,000

The project was authorized for construction in the Water Resources Development Act of 1990. In accordance with the cost-sharing and financing concepts reflected in the Water Resources Development Act of 1986, as amended, non-Federal interests

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$

Texas (Continued)

Hunting Bayou, Houston (Continued)

are required to provide land, easements, and rights-of-way; modify, or relocate buildings, pipelines, utilities, roads, and other facilities except railroad bridges, where necessary for the construction of the project; pay one-half of the separable costs allocated to recreation; bear all costs of operation, maintenance, repair, rehabilitation and replacement of recreation facilities; pay five percent of the costs allocated to flood control in cash during the period of construction; contribute an additional amount in cash or credits to bring the total non-Federal share of cost allocated to structural flood control to a minimum of 25 percent; and bear all costs of operation, maintenance and repair, replacement, and rehabilitation of flood control facilities.

Available Fiscal Year 2000 funds are being used for Corps of Engineers' coordination expenses, and to reimburse the HCFCD for the Federal share of general reevaluation studies upon completion and approval of the report. The funds requested for Fiscal Year 2001 will also be used to reimburse the HCFCD for the Federal share of the costs for completion of the General Reevaluation Report, and for Corps of Engineers' coordination expenses. The schedule for completion Preconstruction Engineering and Design is being determined.

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Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Texas (Continued)					
Raymondville Drain	2,340,000	166,000	172,000	100,000	1,902,000

The Raymondville channel provides a drainage outlet to the Laguna Madre for a large area in eastern Hidalgo and northern Willacy Counties. The flows of floodwaters in the basin are impeded by the relatively flat topography, inadequate drainage structures, irrigation canals that criss-cross the area in every direction and the lack of adequate outlets. Floodwaters inundate large agricultural areas, improved pastures, and urban areas for long periods, resulting in extensive damage to crops, properties, and structures. Floodwaters block transportation arteries causing interruption of economic activities, tourism, school attendance, and utility services and increase the activities of rescue and repair crews. Flooding of sanitation facilities occurs periodically in the many communities, contaminating water supplies resulting in health and safety problems to area residents. The area is subject to flooding from long-term accumulations of moderate rainfall as well as from torrential rainfall associated with tropical storms. Hurricane Beulah (1967), one of the largest in the history of the area, dumped more than 30 inches of rain in the Valley and caused almost $131,500,000 (1 October 1998 price levels) in damages in Cameron, Hidalgo, and Willacy Counties. The authorized plan will provide improvements by enlarging existing channels, and constructing new channels, a total of 43.8 miles of channel work including a 3.88-mile long levee and diversion channel along the west side of the City to protect it from sheet flow up to the Standard Project Flood. The city of Raymondville would receive flood protection against a 100-year storm. The local sponsor supports the project, and has confirmed by letter dated 12 September 1994 and in January 2000 their willingness to execute a Project Cooperation Agreement. The project costs based on October 1998 price levels, is estimated to be $102,800,000, with an estimated Federal cost of $77,100,000 and an estimated non-Federal cost of $25,700,000. The average annual benefits are estimated at $20,410,000 of which $4,011,000 is for drainage, $2,090,000 are rural flood control and $13,293,000 are urban flood control. The benefit-cost ratio is 3.9 to 1 based upon the latest economic analysis.

This is an element of the Lower Rio Grande Basin project, which was authorized for construction by the Water Resources Development Act of 1986. The cost sharing for construction of the project will be in accordance with Section 103(a)(2) of the Water Resources Development Act of 1986, as amended. Local interests will be required to provide lands, easements, rights-of-way and borrow and excavated or dredged material disposal areas, modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities where necessary in the construction of the project; pay five percent of the costs allocated to flood control in cash during the period of construction; contribute an additional amount in cash or credits to bring the total non-Federal share of costs allocated to structural flood control to a minimum of 25 percent; and bear all costs of operation, maintenance, repair, replacement, and rehabilitation of the flood control facilities. The project is dependent on implementation of lateral and on-farm drainage improvements to fully realize agricultural benefits and environmental protection. These improvements will be built during the economic life of the project. The on-farm improvements are being provided by continuing private investment.

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Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$

Texas (Continued)

Raymondville Drain (Continued)

Fiscal Year 2000 funds are being used to continue a General Reevaluation Report (GRR) to develop economic, environmental and design data on a locally preferred plan, which may be a reduced alternative to the authorized plan. Fiscal Year 2001 funds will be used to continue GRR studies to identify the recommended plan. The completion date for this Preconstruction Engineering and Design effort is currently being determined.

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Texas (Continued)					
South Main Channel	7,623,000	5,843,000	516,000	574,000	690,000

The South Main Channel is a major feature of the Lower Rio Grande Basin project, a comprehensive flood control-drainage project for the two-county Valley region of Texas. The South Main Channel project is located in Hidalgo and Willacy Counties, Texas. Existing drainage is extremely limited throughout the Lower Rio Grande Basin, and runoff is impeded by flat topography, roads, railroads, irrigation canals, and inadequate outlets. Flood waters damage homes, businesses, and crops; block transportation; interrupt business, tourism, school attendance, and utility services; and increase rescue and repair activities. Under existing conditions the average annual flood damages are estimated at $12,237,000 (1 October 1995 prices). The area is subject to flooding from long-term accumulations of moderate rainfall as well as from rainfall associated with tropical storms. Hurricane Beulah (1967), one of the largest in the history of the area, dumped more than 30 inches of rain in the Valley and caused almost $128,168,000 (1 October 1995 price levels) in damages in Cameron, Hidalgo, and Willacy Counties. Numerous cities and communities and almost 500,000 acres of agricultural land were flooded by the storm. The comprehensive flood control and drainage project for the region was authorized by the Water Resources Development Act of 1986. Late in Fiscal Year 1999, one of the Local Sponsors, Hidalgo County Drainage District No. 1, withdrew support of the project. Currently, General Reevaluation Studies have been initiated to reformulate the project to meet the needs of the remaining local sponsor, Willacy County Drainage District No. 1. In August 1999, Willacy County Drainage District No. 1 restated their intent to cost share in project construction. The authorized plan for the South Main Channel feature of the project, estimated to cost $221,790,000 based on October 1998 prices, including inflation, consisted of major outlet improvements which included enlargement of existing channels and construction of new channels totaling 113 miles. The authorized plan would provide flood protection for the cities of McAllen, Edinburg, Edcouch, La Villa and Lyford, as well as the rural areas of Hidalgo and Willacy Counties north of U.S. Highway 83. The average annual benefits for this feature amount to $17,744,000. The benefit-to-cost ratio is 1.30 to 1 based upon the 1985 Phase I General Design Memorandum with cost updated to October 1998 prices. The General Reevaluation report will be completed in September 2001.

The project is authorized for construction by the Water Resources Development Act of 1986. The cost sharing for construction of the project will be in accordance with Section 103(a)(2) of the Water Resources Development Act of 1986, as amended. Local interests will be required to provide lands, easements, rights-of-way and borrow and excavated or dredged material disposal areas, modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities where necessary in the construction of the project; pay five percent of the costs allocated to flood control in cash during the period of construction; contribute an additional amount in cash or credits to bring the total non-Federal share of costs allocated to structural flood control to a minimum of 25 percent; and bear all costs of operation, maintenance, repair, replacement, and rehabilitation of the flood control facilities.

Study	Total Estimated Federal Cost	Allocation Prior To FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional To Complete After FY 2001
	$	$	$	$	$
Texas (Continued)					
South Main Channel (Continued)					
Fiscal Year 2000 funds are being utilized to continue General Reevaluation studies. Fiscal year 2001 funds will be used to complete General Reevaluation Studies, and to initiate plans and specifications. The completion date for Preconstruction Engineering and Design is currently being determined.					
SUBTOTAL CONTINUING FLOOD CONTROL	28,398,000	19,465,000	2,693,000	1,508,000	4,732,000
d. Shoreline Protection: None.					
e. Multiple Purpose: None.					
TOTAL PRECONSTRUCTION ENGINEERING AND DESIGN ACTIVITIES (PED) CONTINUING	30,498,000	19,610,000	2,908,000	1,672,000	6,308,000
TOTAL PRECONSTRUCTION ENGINEERING AND DESIGN ACTIVITIES (PED)	32,248,000	19,610,000	2,908,000	1,922,000	7,808,000
GRAND TOTAL - SURVEYS AND PRECONSTRUCTION ENGINEERING AND DESIGN ACTIVITIES	111,121,000	35,420,000	10,702,000	10,000,000	54,999,000

1922

APPROPRIATION TITLE: Construction, General - Major Rehabilitation, Multiple Purpose (Including Power)

PROJECT: Ozark Powerhouse , Arkansas, (Major Rehabilitation) (New Start)

LOCATION: Ozark Powerhouse is located at Ozark Jeta-Taylor Lock & Dam on the Arkansas River in Franklin County, Arkansas.

DESCRIPTION: Replace the five turbines at the Ozark Powerhouse. The project is part of the McClellan-Kerr Arkansas River Navigation System.

AUTHORIZATION: River and Harbor Act of 1946.

REMAINING BENEFITS-REMAINING COST RATIO: 1.4 to 1 at 6 7/8 percent.

TOTAL BENEFIT-COST RATIO: 1.4 to 1 at 6 7/8 percent.

BASIS OF BENEFIT-COST RATIO: Benefits are from the Major Rehabilitation Evaluation Report, dated March 1999 at 1999 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Total Appropriation Requirement		$51,800,000		Entire Project	0	Being Determined
Future Non-Federal Reimbursement		51,800,000				
Estimated Federal Cost (Ultimate)		0				
Estimated Non-Federal Cost		51,800,000				
Cash Contributions	0					
Other Costs	0					
Reimbursements	$51,800,000					
Hydropower $51,800,000						
Total Estimated Project Cost		$51,800,000				

PHYSICAL DATA

Replace existing five turbines with new turbines.

Division: Southwestern **District:** Little Rock **Project:** Ozark Powerhouse , Arkansas, (Major) Rehabilitation)

SUMMARIZED FINANCIAL DATA (CONTINUED)

		ACCUM PCT OF EST FED COST
Allocations to 30 September 1999	0	
Conference Allowance for 2000	0	
Allocation for FY 2000	0	
Allocation through FY 2000	0	0
Allocation Requested for FY 2001	$ 1,230,000	2
Programmed Balance to Complete	50,570,000	
Unprogrammed Balance to Complete after FY 2001	0	

JUSTIFICATION: Ozark Powerhouse units are rapidly approaching failure and have exhibited reliability problems. Extensive repairs and/or replacement are required to maintain hydropower production. Replacement of the turbines with improved design turbines will allow for more efficient generation of power, restore power benefits, and extend the useful life of this feature. This project will remove the existing five turbines and replace them with "state of the art" turbines. Average annual benefits are $4,905,000, all hydropower, based on 1999 price levels.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate Construction of Turbines	$ 350,000
Planning, Engineering, and Design	700,000
Construction Management	180,000
Total	$1,230,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Flood Control Act of 1944, the non-Federal sponsor must comply with the requirements listed below.

1924

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Pay all costs allocated to hydropower and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of hydropower facilities.	$51,800,000	0
Cash Contribution	(0)	
Reimbursement	(51,800,000)	
Total Non-Federal Costs	$51,800,000	0

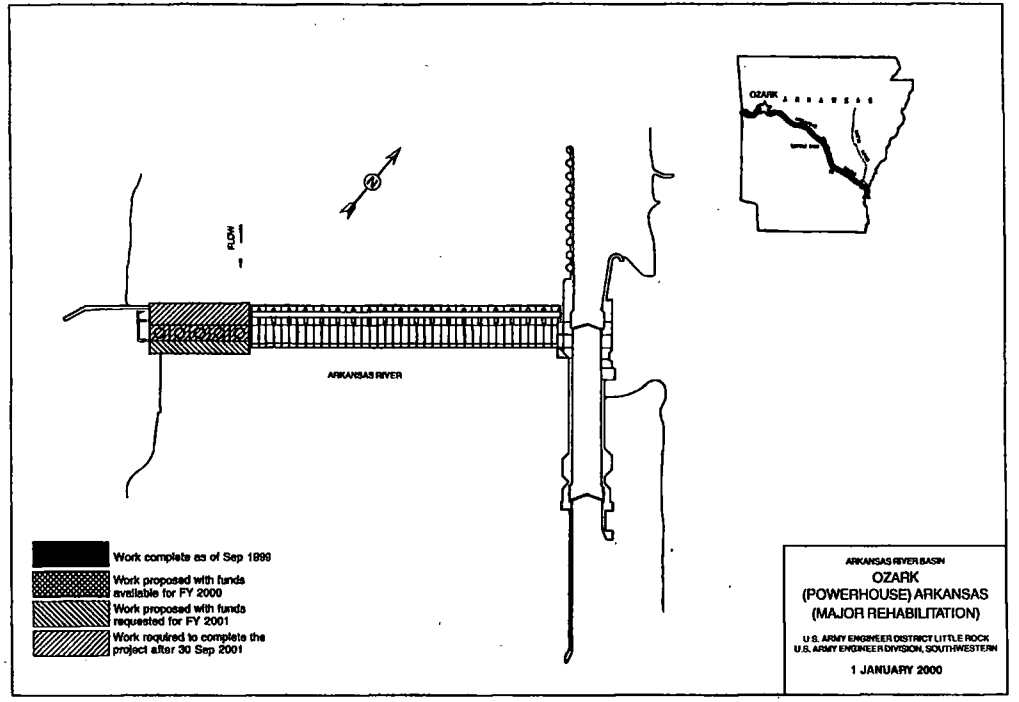
The non-Federal sponsor will reimburse its share of construction costs over a period not to exceed 50 years following completion of construction.

STATUS OF LOCAL COOPERATION: This project is to be 100 percent Federally funded with payback from the Southwestern Power Administration's sale of power. Reimbursement payments will be initiated at the completion of construction.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $51,800,000 is the initial estimate.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: An environmental assessment of the project was completed in January 1999. A Finding of No Significant Impact was signed 13 January 1999.

OTHER INFORMATION: Planning, engineering, and design is being accomplished with Operation and Maintenance, General funds.



Division: Southwestern

District: Little Rock

Project: Ozark Powerhouse , Arkansas, (Major) Rehabilitation)

APPROPRIATION TITLE: Construction, General - Channels and Harbors (Navigation)

PROJECT: Channel to Victoria, TX (Continuing)

LOCATION: The project is located in south central Texas within Calhoun and Victoria Counties. The channel extends approximately 35 miles from the Gulf Intracoastal Waterway in San Antonio Bay to a turning basin located approximately seven miles south of the City of Victoria.

DESCRIPTION: The existing 9-foot by 100-foot Channel to Victoria is a tributary channel to the Gulf Intracoastal Waterway (GIWW). The project, authorized by the Water Resources Development Act of 1988, consists of enlarging the 35-mile shallow-draft navigation channel to 12 feet by 125 feet from the GIWW in San Antonio Bay to a 500-foot by 800-foot turning basin near the City of Victoria. The 2.3 million cubic yards of material dredged from the 10-mile bay reach was deposited in two upland disposal areas, one 340 acres in size and the other 265 acres; the 4.3 million cubic yards of material dredged from the landlocked reach will be placed in disposal areas adjacent to the channel. The project also includes upgrading the fender systems at the Highway 35 bridge and the Missouri Pacific Railroad bridge and construction of two weir structures in the vicinity of Green Lake. The local sponsors for the project are the Victoria County Navigation District and the West Side Calhoun County Navigation District.

AUTHORIZATION: Water Resources Development Act of 1988.

REMAINING BENEFIT-REMAINING COST RATIO: 5.2 to 1 at 8 3/4 percent.

TOTAL BENEFIT-COST RATIO: 1.7 to 1 at 8 3/4 percent.

INITIAL BENEFIT-COST RATIO: 1.6 to 1 at 8 3/4 percent (FY 1993)

BASIS OF BENEFIT-COST RATIO: Benefits are based on Reevaluation Report approved at Southwestern Division January 1990, costs as included in the Project Design Memorandum approved by Southwestern Division October 1991, as amended and updated to October 1994 price levels. Benefits were reaffirmed in a Limited Reevaluation Report approved at the ASA (CW) on 18 October 1994.

1927

SUMMARIZED FINANCIAL DATA			ACCUM. PCT. OF EST FED. COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost (CoE)		$27,378,000		Entire Project	75	Being Determined
Scheduled Construction						
Estimated Federal Cost (DoT)		422,000				
Scheduled Construction						
Estimated Federal Cost (USCG)		60,000		PHYSICAL DATA		
Scheduled Construction						
				Channels:		
Estimated Total Federal Cost		$27,860,000		Shallow Draft Channel 12' x 125' x 35 miles long		
Estimated Non-Federal Cost		6,490,000		Upland Disposal Areas:		
Scheduled Construction	$6,490,000			13 disposal areas with total acreage of 1,930		
Cash Contribution	$3,042,000					
Other Costs	3,448,000					
Total Estimated Scheduled Construction Cost		$34,350,000				
Total Estimated Project Cost		34,350,000				
Allocations to 30 September 1999		14,120,000				
Conference Allowance for FY 2000		7,900,000				
Allocation for FY 2000		6,305,000 1/				
Allocations through FY 2000		20,425,000	75%			
Allocation Requested for FY 2001		6,104,000	98%			
Programmed Balance to Complete		849,000				
Unprogrammed Balance to Complete after FY 2001		0				

1/ Reflects $1,125,000 reduction assigned as savings and slippage, and $470,000 reprogrammed from the project.

1928

JUSTIFICATION: The existing channel is 9 feet deep by 100 feet wide. The channel primarily serves several sand and gravel shippers, and petrochemical plants along the waterway. The waterway currently carries approximately 3.4 million tons per year, and projections indicate that commerce will increase in the future. The proposed plan would create a safer channel for the increased future traffic and increase future development potential along the channel. The additional channel depth will accommodate barge traffic using the Gulf Intracoastal Waterway without light loading or trans-shipment. The average annual benefits are $5,586,700, all commercial navigation, based on October 1994 price levels.

FISCAL YEAR 2001: The requested amount of $6,104,000 will be applied as follows:

Complete Dredging Stations 1300+00 to 1841+21	$5,739,000
Federal Review of Land Acquisition and Relocations	5,000
Fish and Wildlife	10,000
Cultural Resources	20,000
Planning, Engineering, and Design	80,000
Construction Management	250,000
Total	$6,104,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, as amended, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments during Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, and rights-of-way.	$3,448,000	$67,000
Pay 10 percent of the costs allocated to shallow draft navigation, dredged material disposal areas, and mitigation during construction.	3,042,000	
Total Non-Federal Costs	$6,490,000	$67,000

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction. The local sponsor's share of the cost is being financed primarily from the sale of general obligation bonds. A bond issue was passed by voters, 65 percent for and 35 percent against, on 2 October 1993 to finance Victoria County's share of construction costs. The general obligation bonds were sold on 8 March 1994.

STATUS OF LOCAL COOPERATION: In a Letter of Assurance dated 16 April 1987, the Victoria County Navigation District agreed to cost-share in the project in accordance with the Water Resources Development Act of 1988. A Project Cooperation Agreement (PCA) was executed in November 1994. An amendment to the PCA, which was developed to incorporate new cost-sharing provisions for construction of disposal facilities of Water Resources and Development Act of 1996, was executed 14 December 1997.

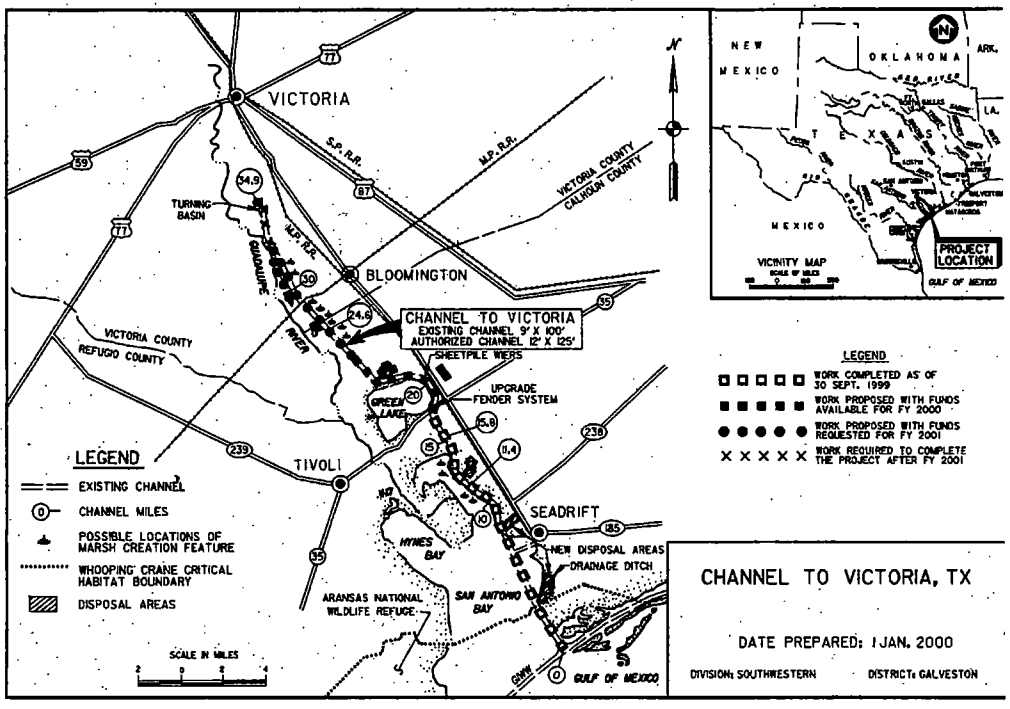
COMPARISON OF FEDERAL COST ESTIMATE: The current Federal (Corps of Engineers) cost estimate ($27,378,000) is an increase of $558,000 from the latest estimate of $26,820,000 presented to Congress (FY 2000). This change includes the following items.

Item	Amount
Price Escalation on Construction Features	$ 558,000
Total	$ 558,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed with Environmental Protection Agency on 15 August 1986. An Environmental Assessment was completed for the new project disposal areas, 20 September 1991.

OTHER INFORMATION: Funds were appropriated to initiate preconstruction engineering and design in Fiscal Year 1989 and funds to initiate construction were appropriated in Fiscal Year 1993.

1930


VICTORIA
BLOOMINGTON
TIVOLI
SEADRIFT
GULF OF MEXICO
TURNING BASIN
GUADALUPE RIVER
S.P. R.R.
M.P. R.R.
VICTORIA COUNTY
CALHOUN COUNTY
VICTORIA COUNTY
REFUGIO COUNTY
CHANNEL TO VICTORIA
EXISTING CHANNEL 9' X 100'
AUTHORIZED CHANNEL 12' X 125'
SHEETPILE WEIRS
UPGRADE FENDER SYSTEM
GREEN LAKE
HYNES BAY
SAN ANTONIO BAY
ARANSAS NATIONAL WILDLIFE REFUGE
NEW DISPOSAL AREAS
DRAINAGE DITCH
INTRACOASTAL WATERWAY
LEGEND
EXISTING CHANNEL
CHANNEL MILES
POSSIBLE LOCATIONS OF MARSH CREATION FEATURE
WHOOPING CRANE CRITICAL HABITAT BOUNDARY
DISPOSAL AREAS
SCALE IN MILES
NEW MEXICO
OKLAHOMA
ARK.
LA.
TEXAS
MEXICO
VICINITY MAP
PROJECT LOCATION
GULF OF MEXICO
LEGEND
WORK COMPLETED AS OF 30 SEPT. 1999
WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER FY 2001
CHANNEL TO VICTORIA, TX
DATE PREPARED: 1 JAN. 2000
DIVISION: SOUTHWESTERN
DISTRICT: GALVESTON

APPROPRIATION TITLE: Construction, General - Channels and Harbors (Navigation)

PROJECT: GIWW - Aransas National Wildlife Refuge, TX (Continuing)

LOCATION: The project is a 31-mile reach of the Gulf Intracoastal Waterway (GIWW) which crosses the critical wintering habitat of the rare and endangered whooping crane, including a 13.25 mile reach within the boundary of the Aransas National Wildlife Refuge. This area is located approximately 35 miles northeast of Corpus Christi, Texas in Aransas and Calhoun Counties.

DESCRIPTION: The project provides for erosion protection and limited spill containment for the existing alignment of the GIWW and includes marsh creation with the beneficial uses of dredged material.

AUTHORIZATION: Water Resources Development Act of 1996.

REMAINING BENEFIT-REMAINING COST RATIO: Not Applicable.

TOTAL BENEFIT-COST RATIO: Not Applicable.

BASIS OF BENEFIT-COST RATIO: The benefit-cost ratio is not applicable since justification for this project is based on provisions of the Endangered Species Act of 1973.

SUMMARIZED FINANCIAL DATA		ACCUM. PCT OF EST FED COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost	$ 17,900,000		Entire Project	67%	Sep 01
Estimated Non-Federal	0				
Total Estimated Project Cost	$ 17,900,000				

Allocations to 30 September 1999	9,006,000	
Conference Allowance for FY 2000	9,000,000	
Allocation for FY 2000	7,718,000	1/
Allocations through FY 2000	16,724,000	93%
Allocation Requested for FY 2001	1,176,000	100%
Programmed Balance to Complete after FY 2001	0	
Unprogrammed Balance to Complete after FY 2001	0	

PHYSICAL DATA

Erosion Protection
At Refuge 44,250 ft.
Erosion Protection at
Welder Flats 17,870 ft.
Grout Tube Breakwaters
10,500 ft.
Spill Containment 15,000 ft.

1/ Reflects $1,282,000 reduction assigned as savings and slippage.

JUSTIFICATION: In the Aransas National Wildlife Refuge area, there is a serious bank erosion problem. Whooping crane habitat losses of about 2 acres per year are caused by combinations of vessel traffic in the GIWW, wind generated waves, and to some extent dredged material disposal practices. This critical habitat loss adversely impacts the whooping crane, which is re-establishing itself along the Texas coast after nearing extinction in the 1940's. The importance of the GIWW to the economy of the lower Texas coast and its uninterrupted usage is also critical. Tonnage transported along this section of the GIWW totaled nearly 27 million tons in 1995, with petro-chemicals as the major commodity shipped. The average annual benefits are $44,668,000, all from providing protection to the habitat of the endangered whooping crane, based on October 1995 price levels.

1983

FISCAL YEAR 2001: The requested amount of $1,176,000 will be applied as follows:

Complete Sundown Bay Grout Tubes	$ 819,000
Lands and Damages (Hired Labor)	19,000
Planning, Engineering, and Design	133,000
Construction Management	205,000
Total	$ 1,176,000

NON-FEDERAL COST & REQUIREMENTS: The project is in the Aransas National Wildlife Refuge and is for protection of the Federally-designated critical habitat of an endangered species. Therefore it is funded entirely from Federal funds with no Non-Federal funds required.

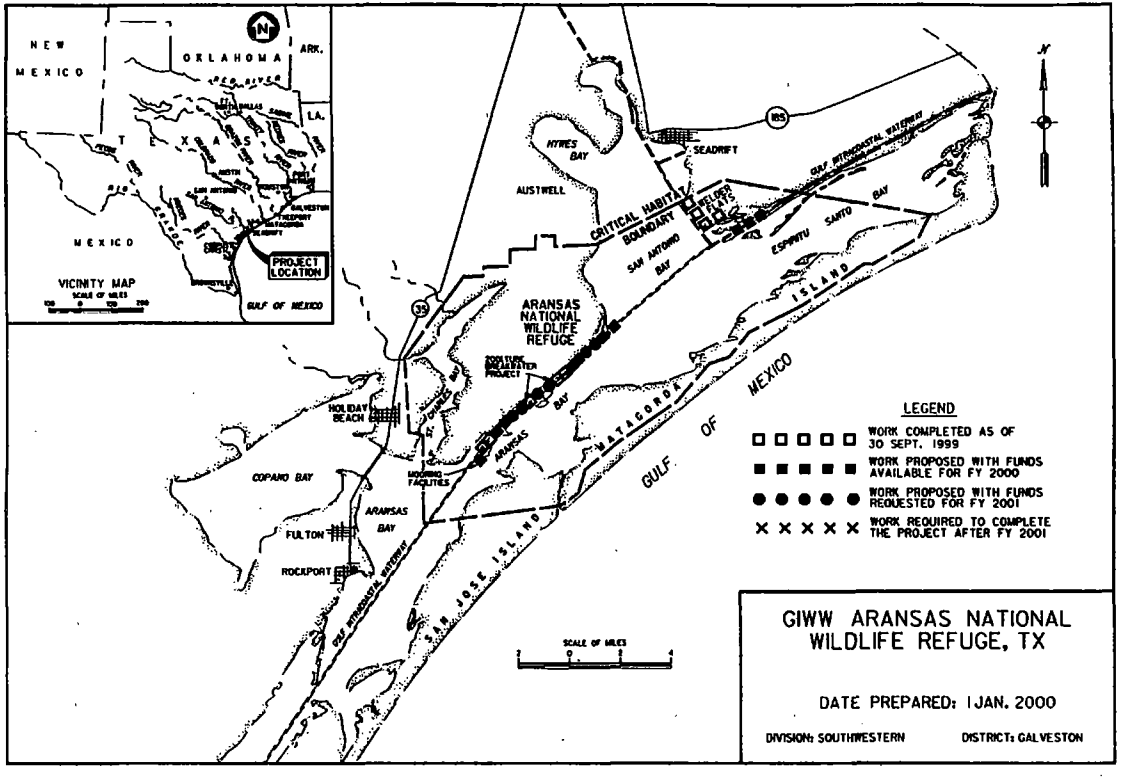
COMPARISON OF FEDERAL COST ESTIMATE: The current Federal Cost estimate of $17,900,000 is a decrease of $2,760,000 from the latest estimate ($20,660,000) presented to Congress (FY 2000). This change includes the following items.

ITEM	AMOUNT
Price escalation on Construction Features	$ 119,000
Post Contract Award and Other Estimating Adjustments	-2,879,000
Total	$-2,760,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed with Environmental Protection Agency on 3 November 1995.

OTHER INFORMATION: Funds were appropriated to initiate preconstruction engineering and design in Fiscal Year 1995.

Endangered Species Act issue: The US Fish and Wildlife Service issued a non-adverse Biological Opinion in 1995 contingent upon the Corps of Engineers completing two efforts: 1) protecting a minimum of 2,000 feet of shoreline each year (using Operation and Maintenance funds) until construction of the Section 216 project; and 2) initiating construction of the Section 216 project in FY 1998. Intense coordination with the Resource Agencies and others has avoided a jeopardy opinion to date and the Operation and Maintenance effort continues. Failure to comply with the Endangered Species Act could lead to prohibition of maintenance of that portion of the GIWW and possible waterway closure.



1935

Division: Southwestern

District: Galveston

Project: GIWW- Aransas National Wildlife Refuge

7 February 2000

APPROPRIATION TITLE: Construction, General - Channels and Harbors (Navigation)

PROJECT: Houston-Galveston Navigation Channels, TX (Continuing)

LOCATION: The project is located in the Galveston Bay system in Harris and Galveston Counties, Texas.

DESCRIPTION: The total project provides for a 45-foot project by enlarging the Houston Ship Channel to a depth of 45 feet and a width of 530 feet, and the Galveston Channel to a depth of 45 feet over a width which varies between 650 and 1112 feet, and deepening the entrance channel to the Galveston Harbor and Channel to 47 feet over its original 800-foot width and 10.5 mile length, and extending the channel an additional 3.9 miles to the 47-foot bottom contour in the Gulf of Mexico along the existing alignment. Dredged material will be used for construction of environmental restoration sites to include approximately 118 acres of oyster cultch, 4,250 acres of marsh, and 12 acres of bird island.

AUTHORIZATION: Water Resources Development Act (WRDA) of 1996.

REMAINING BENEFIT-COST RATIO: 2.3 to 1 at 7 5/8 percent.

TOTAL BENEFIT-COST RATIO: 1.8 to 1 at 7 5/8 percent. (Authorized Project)

INITIAL BENEFIT-COST RATIO: 1.8 to 1 at 7 5/8 percent. (FY 1996)

BASIS OF BENEFIT-COST RATIO: Benefits and costs are from the Limited Reevaluation Report and Supplemental Environmental Statement approved by HQUSACE in May 1996.

1936

SUMMARIZED FINANCIAL DATA		ACCUM. PCT. OF EST FED. COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Appropriation Requirement (CoE)	418,736,000		Entire Project	20	Being Determined
Programmed Construction 418,736,000					
Unprogrammed Construction 0					
Estimated Appropriation Requirement(OFA)	3,645,000				
Programmed Construction 3,645,000					
Unprogrammed Construction 0					
Estimated Appropriation Requirement	422,381,000				
Programmed Construction 422,381,000					
Unprogrammed Construction 0					
Future Non-Federal Reimbursement	24,065,000				
Programmed Construction 24,065,000					
Unprogrammed Construction 0					
Estimated Federal Cost (Ultimate) (CoE)	398,316,000				
Programmed Construction 398,316,000					
Unprogrammed Construction 0					
Estimated Non-Federal Cost	149,019,000				
Programmed Construction 149,019,000					
Cash Contributions 117,124,670					
Other Costs 9,496,000					
Credit 22,398,330					
Unprogrammed Construction 0					
Cash Contributions 0					
Other Costs 0					
Total Estimated Programmed Construction Cost	571,400,000				
Total Estimated Unprogrammed Construction Cost	0				
Total Estimated Project Cost	571,400,000				

PHYSICAL DATA - Total Project

Channels:
- Houston Ship Channel - 39.2 miles
- Galveston Channel - 3.8 miles
- Galveston Harbor Channel - 14.4 miles

Beneficial use of Dredged Material
- Oyster Cultch - 118 acres
- Marsh - 4,250 acres
- Bird Island - 12 acres
- Offshore Underwater Berm

Division: Southwestern **District: Galveston**

Project: Houston-Galveston Navigation Channels, Texas

SUMMARIZED FINANCIAL DATA (Continued)		ACCUM. PCT. OF EST FED. COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Allocations to 30 September 1999	$ 83,245,000				
Conference Allowance for FY 2000	60,000,000				
Allocation for FY 2000	51,455,000 1/				
Allocations through FY 2000	134,700,000	32%			
Allocation Requested for FY 2001	56,492,000	46%			
Programmed Balance to Complete after FY 2001	227,544,000 2/				
Unprogrammed Balance to Complete after FY 2001	0				

1/ Reflects $8,545,000 reduction assigned as savings and slippage.
2/ Includes $172,270,000 for deferred construction of environmental restoration sites.

JUSTIFICATION: The total project will include environmental restoration and will provide transportation savings from using larger or more efficient vessels, reduction in vessel casualties, and reduction of vessel delays. The average annual benefits for the Houston-Galveston project are $87,300,000, all commercial navigation, based on October 1994 price levels.

Annual Benefits	Amount
Navigation	$ 87,300,000
Total	$ 87,300,000

FISCAL YEAR 2001: Funds in the amount of $56,492,000 will be used in FY 01 as follows:

Initiate Construction Contract #2 Galveston Channel	1,000,000
Initiate Construction Contract #5 Mid Bay	15,000,000
Initiate Construction Contract #6 Goat Island	5,632,000
Continue Construction Contract #4 Upper Bay	7,378,000
Continue Construction Contract #8 Lower Bayou	8,500,000
Complete Construction Contract #9 Oyster Cultch	500,000
Complete Construction Contract #3 Lower Bay	13,332,000
Federal Review of Land Acquisition	50,000
Cultural Resources	100,000
Planning, Engineering, and Design	1,500,000
Construction Management	3,500,000
Total	$56,492,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, as amended, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	**Payments During Construction and Reimbursements**	**Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs**
Provide lands, easements, rights-of-way, and borrow and excavated or dredged material disposal areas.	$ 717,000	
Modify or relocate, utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	53,000	
Pay a percentage of the costs allocated to navigation improvements and to mitigate the project's adverse environmental impacts to bring the total share to 25 percent, and to pay a portion of the cost of operation, maintenance, and replacement of the project.	139,523,000	$604,000
Reimburse an additional 10 percent of the costs of general navigation features allocated to commercial navigation within a period of 30 year following completion of construction, as partially reduced by a credit allowed for the value of lands, easements, rights of way, relocations, and dredged or excavated material disposal areas provided for navigation.	23,295,000	
Total Non-Federal Costs	$163,588,000	$604,000

STATUS OF LOCAL COOPERATION: The Project Cooperation Agreement with the Port of Houston was executed on 10 June 1998. Houston and Harris County voters approved a $130 million Port of Houston bond issued on 7 November 1989, by a 63 percent to 37 percent margin. The City of Galveston expressed their support for the total project by letters dated January 1987 and 30 October 1995. The Project Cooperation Agreement with the Port of Galveston has been tentatively scheduled for March 2001.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal (Corps of Engineers) cost estimate of $418,736,000 is an increase of $3,193,000 from the latest estimate ($415,543,000) presented to Congress (FY 2000). This change includes the following items.

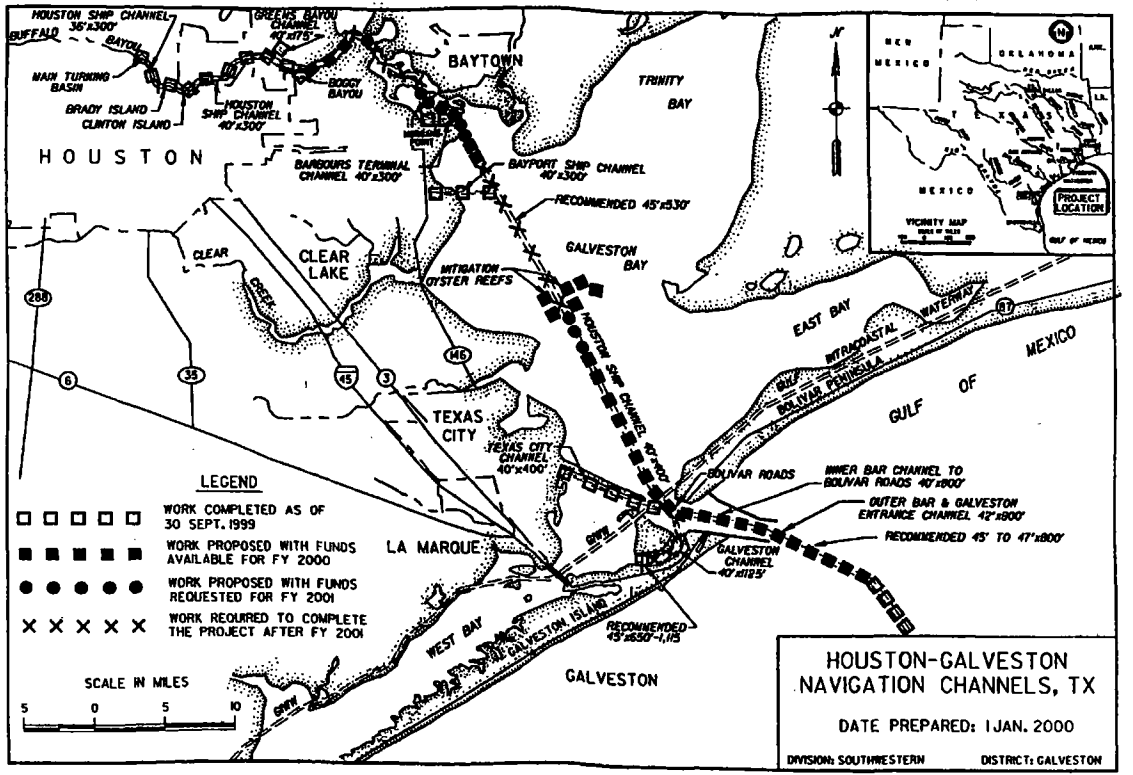
Item	Amount
Post Contract Award and Other Estimating Adjustments	$1,154,000
Adjustment in cubic yards for Galveston Channel Contract	(-6,703,000)
Price Escalation on Construction Features	8,742,000
Total	$ 3,193,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Final Environmental Impact Statement (FEIS) was filed with the Environmental Protection Agency in 25 November 1988. A supplement to the FEIS has been prepared and was listed in the Federal Register on 24 November 1995.

OTHER INFORMATION: The total project as authorized by WRDA 96 included channel deepening of the Galveston Entrance Channel, Galveston Harbor and Channel and the Houston Ship Channel to Boggy Bayou in Houston, Texas.

Funds to initiate preconstruction planning were appropriated in Fiscal Year 1990. Funds to initiate construction were appropriated in Fiscal Year 1998.

1940



Division: Southwestern

District: Galveston

Project: Houston-Galveston Navigation Channels, Texas

7 February 2000

APPROPRIATION TITLE: Construction General - Navigation/Mitigation

PROJECT: Neches River Saltwater Barrier, Texas (Continuing)

LOCATION: The project is located on the Neches River in Jefferson and Orange Counties, Texas, about 7 miles north of the I-10 bridge and just south of the Big Thicket National Preserve at Beaumont, Texas.

DESCRIPTION: The project provides for a tainter-gated saltwater barrier structure, a sector-gated navigation bypass channel, and an access road and levee.

AUTHORIZATION: Water Resources Development Act (WRDA) of 1976.

REMAINING BENEFIT-REMAINING COST RATIO 3.8 to 1 at 7 1/8 percent.

TOTAL BENEFIT-COST RATIO: 4.88 to 1 at 7 1/8 percent.

INITIAL BENEFIT-COST RATIO: 4.88 to 1 at 7 1/8 percent.

BASIS OF BENEFIT-COST RATIO: Benefits are from the General Revaluation Report dated Dec 97 at Oct 1997 price levels.

1942

SUMMARIZED FINANCIAL DATA			ACCUM PCT. OF EST. FED. COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
				Entire Project	0	Being Determined
Estimated Federal Cost		$ 42,795,000				
Estimated Non-Federal Cost		14,265,000				
Cash Contribution	$8,595,000					
Other Costs	$5,670,000					
Total Estimated Project Cost		$ 57,060,000				

			PHYSICAL DATA
Allocations to 30 September 1999	$ 6,107,000		Overflow Dam:
Conference Allowance for FY 2000	2,000,000		Neches River - at river mile 23
Allocation for FY 2000	1,715,000	1/	Relocations:
Allocations through FY 2000	7,822,000	18%	Cemeteries
			Utilities
Allocation Requested for FY 2001	9,000,000	39%	Roads
Programmed Balance to Complete after FY 2001	25,973,000		Lands & Damages:
			Acquisitions, Condemnations, Appraisals
Unprogrammed Balance to Complete after FY 2001	0		Tainter Gate Structure:
			Clearing, Excavation, etc.

1/ Reflects $285,000 reduction assigned as savings and slippage.

1943

JUSTIFICATION: Annually, the fresh water supply sources to the City of Beaumont and the Lower Neches Valley Authority (LNVA) are threatened by salt water intruding up the Neches River during periods of low river flow and high withdrawal rates by the water supply users. The Sabine - Neches Waterway project, constructed at 100 percent Federal costs, contributes to 75 percent of the saltwater intrusion. Upstream water supply withdrawals contribute to 25 percent of the saltwater intrusion. To avoid damages, the LNVA constructs temporary saltwater barriers in the Neches River and Pine Island Bayou. Although effective and economical, these barriers interfere with navigational and recreational use. However, these temporary barriers are unacceptable for environmental and navigation reasons as a long-term solution to the problem of salinity intrusion. This project will mitigate the saltwater intrusion impacts resulting from the Federal deepening of the Sabine - Neches Waterway. There are 26 industries in the Beaumont-Port Arthur area which use about 40 percent of the LNVA water (approximately 41 billion gallons annually). The type of industries range from refining petrochemical to tire and rubber, and raw products for resin. The industrial sector is entirely dependent on LNVA, and cannot accept water with more chloride than 150 parts per million (ppm) for processing, and 250 ppm for cooling. Additionally, high quality water is required for resin production. The area produces about 70 percent of resins (used for plastics) made in the United States.

Annual Benefits	**Amount**
Fish & Wildlife	$ 7,086,000
Other (Agricultural, Industrial, Municipal)	15,561,000
Total	$22,647,000

FISCAL YEAR 2001: The requested amount of $9,000,000 will be applied as follows:

Continue Construction	$ 8,440,000
Federal Review of Land Acquisition and Relocations	23,000
E&D During Construction	127,000
Construction Management	410,000
Total	$ 9,000,000

Division: Southwestern **District:** Galveston **Project:** Neches River Saltwater Barrier, Texas

NON-FEDERAL COST: By letter dated 9 May 1997,the Assistant Secretary of the Army (Civil Works) approved the project plan be cost shared at 75/25 as a navigation mitigation project to mitigate for the adverse impacts the Sabine-Neches Waterway has had on area water supplies by contributing to salt water intrusion. The Assistant Secretary of the Army (Civil Works) also approved a 75/25 cost sharing for the Operations, Maintenance Repairs, Rehabilitation , and Replacement Costs in a letter dated October 27, 1999. The non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights-of-way necessary for Construction	$ 230,000	
Relocations determined to be necessary for implementation of the project	$ 5,440,000	
Cash payment during the period of construction	$ 2,100,000	
Voluntarily contribute additional cash during the period of construction to make the non-Federal contribution equal to 25% of the total project first cost	$ 6,495,000	
Operation, Maintenance, Repair, Replacement & Rehabilitation		$114,318
Total	$14,265,000	

STATUS OF LOCAL COOPERATION: The sponsor for the navigation/mitigation project is Lower Neches Valley Authority (LNVA). The current non-Federal cost estimate of $14,265,000 for navigation/mitigation, includes a cash contribution of $8,595,000. In a letter dated September 20, 1991, the local sponsor expressed a renewed interest in the project. The Corps of Engineers requested a letter of assurance from the local sponsor and that letter was furnished on January 5, 1994. The letter confirmed the local sponsor's awareness of the WRDA 86 cost-sharing provisions, provided assurance of project support and ability to financially support the project, and recommended expeditious undertaking of the project reevaluation. The Sponsor's latest letter expressing their continued support is dated August 20, 1998. The Project Cooperation Agreement is scheduled to be executed in March 2000.

1945

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $42,795,000 is an increase of $900,000 from the latest estimate $41,895,000 presented to Congress (FY 2000). This change includes the following items:

ITEMS	AMOUNT
Price Escalation on Construction Features	$900,000
Total	$900,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: A supplement to the Final Environmental Impact Statement was prepared as part of the phase I GDM dated July 1981. The draft Environmental Assessment contained in the General Reevaluation Report, completed in December 1997, concluded that the recommended plan would not have a significant adverse environmental effect on the quality of the environment. The final Environmental Assessment was completed in October 1998.

OTHER INFORMATION: The project, as authorized by the Water Resources Development Act of 1976, limited the local sponsor's share of the total project cost to $2,100,000. By memorandum dated 9 May 1997, the Assistant Secretary of the Army (Civil Works) concluded that the project be cost shared as a navigation mitigation project to mitigate for the adverse impacts the Sabine-Neches Waterway has had on area water supplies by contributing to saltwater intrusion. The authorizing documents found that the Sabine-Neches Waterway project, constructed at 100 percent Federal costs, caused 75 percent of the saltwater intrusion, and that 25 percent of the problem resulted from upstream withdrawals. On this basis, the Chief of Engineers Report recommended a Federal cost of 75 percent, and a non-Federal cost of 25 percent. The local sponsor has agreed to voluntarily contribute funds, under the authority of Section 4 of the River and Harbors Act of 1915, in excess of the $2,100,000 to make the non-Federal share of project costs equal to 25 percent of total project costs.

1946

Division: Southwestern District: Galveston 7 February 2000

Project: Neches River Saltwater Barrier, Texas

79

APPROPRIATION TITLE: Construction, General - Locks and Dams (Navigation)

PROJECT: McClellan-Kerr Arkansas River Navigation System, Locks and Dams, AR and OK (Continuing)
(Excluding Montgomery Point Lock and Dam)

LOCATION: The project is located in 15 counties in Arkansas and six counties in Oklahoma. The project begins at the confluence of the Mississippi and White Rivers and follows the White River and the Arkansas Post Canal a distance of 19 miles to the Arkansas River; thence up the Arkansas River 374 miles to the mouth of the Verdigris River; and thence up the Verdigris River to Catoosa, Oklahoma, a distance of 50 miles.

DESCRIPTION: The authorized project provides for the improvement of the Arkansas River and its tributaries by the construction of dams and channels to serve navigation, afford additional flood control, produce hydroelectric power, and provide related benefits, such as recreation and wildlife propagation. The navigation feature of the project consists of a 9-foot navigation channel from the Mississippi River to Catoosa, Oklahoma, 15 miles east of Tulsa.

AUTHORIZATION: River and Harbor Act of 1946, Water Resources Development Acts of 1974, 1986, and 1992.

REMAINING BENEFIT-REMAINING COST RATIO: The remaining benefit-remaining cost ratio is not applicable because the project is nearing completion.

TOTAL BENEFIT-COST RATIO: See above.

INITIAL BENEFIT-COST RATIO: 1.3 to 1 at 2-1/2 percent (FY 1963).

BASIS OF BENEFIT-COST RATIO: Benefits are from evaluation approved in July 1968 at 1968 price levels.

SUMMARIZED FINANCIAL DATA		ACCUM PCT OF EST FED COST (CofE Only)	STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost (CoE)	$651,000,000		Entire Project	93	Being Determined
Estimated Federal Cost (USCG)	2,268,000				
Estimated Non-Federal Cost	0				
Total Estimated Project Cost	$653,268,000				

Division: Southwestern **District: Little Rock** **Project: McClellan-Kerr Arkansas River Navigation System, Locks and Dams Arkansas and Oklahoma**

1948

SUMMARIZED FINANCIAL DATA (CONTINUED)

		ACCUM PCT OF EST FED COST
Allocations to 30 September 1999	$607,450,000	
Conference Allowance for FY 2000	3,080,000	
Allocation for FY 2000	3,080,000 1/	
Allocations through FY 2000	610,530,000	94
Allocation Requested for FY 2001	3,300,000	94
Programmed Balance to Complete	37,170,000	
Unprogrammed Balance to Complete after FY 2001	0	

1/ Reflects $439,000 reduction assigned as savings and slippage and $439,000 reprogrammed to the project.

PHYSICAL DATA

Channels: White River - 9.8 mi, 300' wide, mi 9.8 to 0.0

Verdigris River - 50.3 mi, 150' wide (1965 survey)

Arkansas Post Canal - 9.2 mi, 300' wide, mi 19.0 to 9.8

Arkansas River - 374 mi, 250' wide, mi 460.2 (1940 survey) to 41.6 (1943 survey)

All navigation channels were excavated to an initial depth of 12' or more below normal pool level.

Locks: Type - Single Chamber, single lift with miter Gates
Size - 110' X 600'

Normal (maximum) Lift - Varies from 14' for Lock No. 4 to 30' for Lock No. 1.
Number of Locks and Dams - 11 on Arkansas River and canal, 2 on Verdigris River.

Dams: Movable nonnavigable type with low sills, piers, tainter gates, abutments, and overflow embankments where required.

Lands and Damages:
Acres: 126,501 Type: Predominately agricultural Improvements: Typical farm units

1949

Division: Southwestern **District: Little Rock** **Project: McClellan-Kerr Arkansas River Navigation System, Locks and Dams Arkansas and Oklahoma**

PHYSICAL DATA (CONT'D)

Relocations:

Roads:	18 miles	$45,280,000 (Includes replacing 9 bridges, alter 3 bridges, and abandon 1 bridge.)		
Railroads:	7 miles	$40,436,000 (Includes replacing 2 bridges, alter 6 bridges, and abandon 1 bridge.)		
Cemeteries, Utilities, and Structures:		$30,016,000	Entrance Channel	
(Conway Water Supply)		($21,324,000)	Levee: 3 miles	$13,932,000

JUSTIFICATION: The McClellan-Kerr Arkansas River Navigation System was conceived and authorized as an overall plan made up of a group of interrelated elements consisting of lakes, multiple-purpose structures, navigation structures, and bank stabilization works, all designed on a coordinated basis to provide for development of optimum benefits. In Oklahoma, construction of Keystone and Eufaula Lakes, Robert S. Kerr Lock and Dam, Webber Falls Lock and Dam and the initial and second phase of Oologah Lake are complete, as is construction of Dardanelle Lock and Dam and the Ozark-Jeta Taylor Lock and Dam in Arkansas and construction of bank stabilization and channel rectification between the Robert S. Kerr Dam in Oklahoma and the mouth. The project opened for navigation from the Mississippi River to the Port of Tulsa at Catoosa, Oklahoma in 1970. Completion of the navigation route was a significant benefit to the economy of the surrounding area. In 1999, an estimated 12,500,000 tons of cargo were moved on the navigation system. Of this traffic, 3,600,000 tons were inbound; 5,400,000 tons were outbound, 2,900,000 tons were moved internally; and 600,000 tons were through traffic. These movements included such commodities as rock, grain, iron and steel, chemicals, chemical fertilizers, coal, petroleum products, and sand and gravel. The average annual benefits, based on July 1968 price levels, are as follows:

Annual Benefits	Amount
Navigation	$40,470,000
Power	14,838,900
Channel Stabilization	6,575,000
Flood Control	6,602,600
Water Supply	828,900
Fish and Wildlife	312,000
Recreation	2,297,000
Area Redevelopment	3,355,800
Total	$75,280,200

1950

Division: Southwestern **District:** Little Rock **Project:** McClellan-Kerr Arkansas River Navigation System, Locks and Dams Arkansas and Oklahoma

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Land Acquisition	$3,300,000
Total	$3,300,000

NON-FEDERAL COST: Local interests are required to provide adequate terminal and transfer facilities for navigation and bear the increased cost of maintenance and operation of all altered rail and highway routes, including bridges and appurtenances and utilities and other existing improvements, other than federally owned.

STATUS OF LOCAL COOPERATION: Prior to authorization of the project, local interests furnished written assurances that they would construct suitable public terminals. The requirements relative to increased cost of maintenance and operation of altered facilities apply to the owners of these facilities and were covered during negotiations of relocations contracts for the alteration of the various facilities.

Laws enacted in 1959 by the States of Arkansas and Oklahoma authorized the organization and operation of port authorities and permitted political subdivisions to engage in port activities. Port authorities have been organized to develop facilities in Oklahoma for the Tulsa-Rogers counties and the city of Muskogee and these ports are in operation.

In the State of Arkansas, port authorities have been organized to develop public port and harbor facilities at Fort Smith, Van Buren, Clarksville, Dardanelle-Russellville, Morrilton, Little Rock, North Little Rock, Ozark, and Pine Bluff-Jefferson County Area. The Clarksville Port Authority has acquired a 28-acre tract of land for the development of its port facility. The Fort Smith, Little Rock, and Pine Bluff-Jefferson County Ports are in operation.

In addition to the public ports discussed above, 71 companies have developed private port facilities along the navigation route in the State of Arkansas.

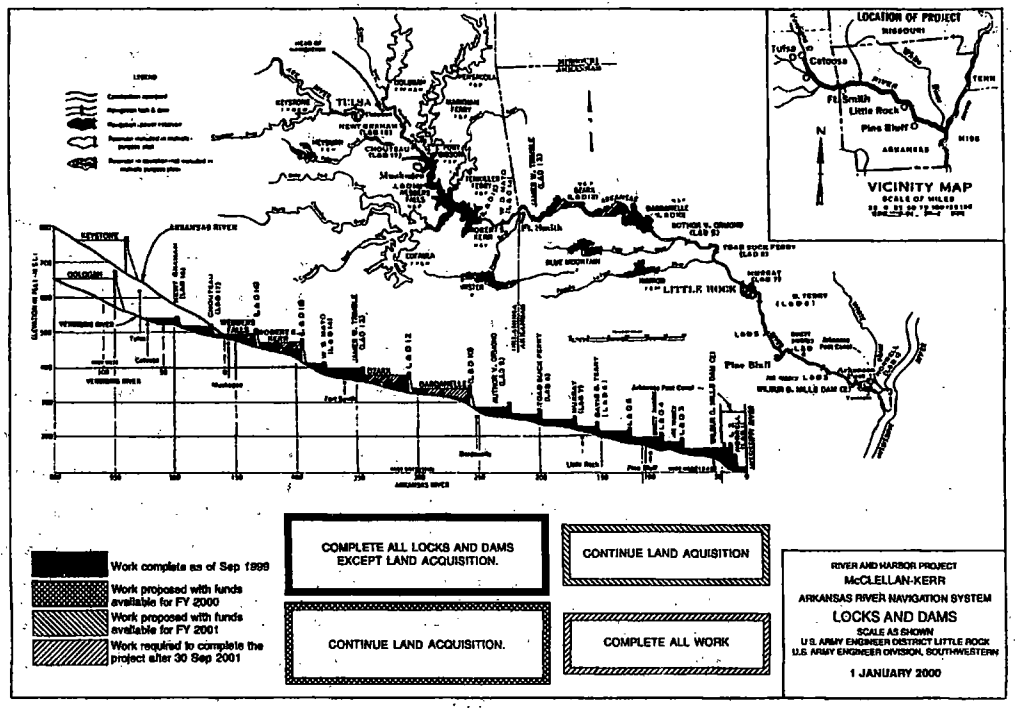
There are no other cost sharing or repayment requirements applicable to the project.

COMPARISON OF FEDERAL (CORPS OF ENGINEERS) COST ESTIMATES: The current Federal (Corps of Engineers) cost estimate of $651,000,000 is an increase of $18,500,00 from the latest estimate ($632,500,000) submitted to Congress (FY2000). This change was due to price escalation on real estate. Over the years, the total area of real estate has not changed, but many of the tracks of land have been subdivided resulting in a vastly increasing effort to purchase the same number of acres.

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The overall project is essentially complete and in operation. The Final Operating and Maintenance Environmental Impact Statement for the McClellan-Kerr Arkansas River Navigation System in the Little Rock District was filed with the Council on Environmental Quality on 6 March 1975. The final Environmental Impact Statement for Tulsa District was filed with the Council on Environmental Quality on 28 July 1975.

OTHER INFORMATION: Funds to initiate preconstruction planning were appropriated in FY 1949 and for construction in FY 1963. The Montgomery Point Lock and Dam is now a separate project under construction.

1952



Division: Southwestern

District: Little Rock

Project: McClellan-Kerr Arkansas River Navigation System, Locks and Dams Arkansas and Oklahoma

1953

APPROPRIATION TITLE: Construction, General - Locks and Dams (Navigation)

PROJECT: Montgomery Point Lock and Dam, AR (Continuing)

LOCATION: This project is located in Desha County, Arkansas, on the White River approximately one half mile from the Mississippi River.

DESCRIPTION: The authorized project provides for the improvement of the Arkansas River and its tributaries by the construction of dams and channels to serve navigation, afford additional flood control, produce hydroelectric power, and provide related benefits, such as recreation and wildlife propagation. The navigation feature of the project consists of a 9-foot navigation channel from the Mississippi River to Catoosa, Oklahoma, 15 miles east of Tulsa. The Montgomery Point Lock and Dam would be the first lock and dam on the system.

AUTHORIZATION: River and Harbor Act of 1946.

REMAINING BENEFIT-REMAINING COST RATIO: 1.10 to 1 at 8 percent.

TOTAL BENEFIT-COST RATIO: 1.14 to 1 at 8 percent.

INITIAL BENEFIT-COST RATIO: 1.14 to 1 at 8 percent (FY 1997).

BASIS OF BENEFIT-COST RATIO: Benefits are derived from an evaluation report approved in January 1994 at 1 October 1993 price levels.

SUMMARIZED FINANCIAL DATA	
Estimated Federal Cost (CoE)	$242,000,000
Estimated Non-Federal Cost	0
Total Estimated Project Cost	$242,000,000

STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Entire Project	34	Being Determined

1954

SUMMARIZED FINANCIAL DATA (CONTINUED)

		ACCUM PCT OF EST FED COST	
Allocations to 30 September 1999	$ 99,749,000		
Conference Allowance for 2000	45,000,000		
Allocation for 2000	38,592,000 1/		1/Reflects $6,408,000 reduction for savings and slippages.
Allocations through 2000	138,341,000,	57	
Allocation Requested for FY 2001	20,000,000	65	
Programmed Balance to Complete	83,659,000		
Unprogrammed Balance to Complete after 2001	0		

PHYSICAL DATA

Channels: White River - 9.8 mi, 300' wide, mi 9.8 to 0.0

Locks: Type - Single Chamber, single lift with miter gates
Size - 110' X 600' Lift up to 20 feet.
Normal (maximum) Lift - Varies from 14' for Lock No. 4 to 30' for Lock No. 1.

Dams: Movable navigable type with "bottom" operated gates

Lands and Damages:
Acres: 858 Type: Timber Improvements: None

1955

JUSTIFICATION: The McClellan-Kerr Arkansas River Navigation System was conceived and authorized as an overall plan made up of a group of interrelated elements consisting of lakes, multiple-purpose structures, navigation structures, and bank stabilization works, all designed on a coordinated basis to provide for development of optimum benefits. The project opened for navigation from the Mississippi River to the Port of Tulsa at Catoosa, Oklahoma in 1970. The White River Entrance Channel, the first 10 miles of the McClellan-Kerr Arkansas River Navigation Project, is the only reach in the navigation system where the minimum stage is not controlled by a downstream dam, but by the stages of the Mississippi River. Changes on the Mississippi River have been observed for a number of years and have resulted in low water problems in the White River Entrance Channel. Construction of the Montgomery Point Lock and Dam will greatly increase the reliability of the system as requested by the users. A more reliable system should increase commerce to 35-45 million tons per year. The average annual benefits, based on October 1993 price levels, are as follows:

Annual Benefits	Amount
Navigation	$20,327,000
Area Redevelopment	700,000
Total	$21,027,000

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Construction of Lock and Dam	$18,380,000
Planning, Engineering and Design	120,000
Construction Management	1,500,000
Total	$20,000,000

NON-FEDERAL COST: None

STATUS OF LOCAL COOPERATION: Congress has determined that the Inland Waterways Trust Fund will not be used.

There are no other cost sharing or repayment requirements applicable to the project.

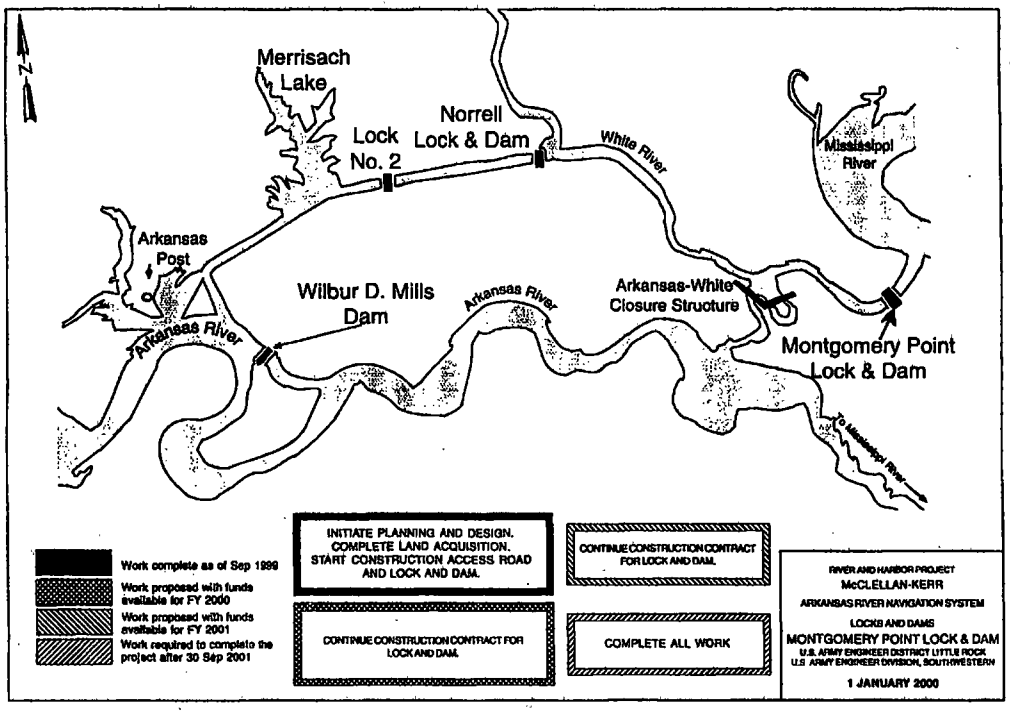
1956

COMPARISON OF FEDERAL (CORPS OF ENGINEERS) COST ESTIMATES: The total project cost estimate of $242,000,000 is the same as the latest estimate presented to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The overall navigation system is essentially complete and in operation. The Final Operating and Maintenance Environmental Impact Statement for the McClellan-Kerr Arkansas River Navigation System in the Little Rock District was filed with the Council on Environmental Quality on 6 March 1975. The final Environmental Impact Statement for Tulsa District was filed with the Council on Environmental Quality on 28 July 1975. The final Environmental Impact Statement for the Montgomery Point Lock and Dam was filed with the Environmental Protection Agency on 28 June 1991.

OTHER INFORMATION: The McClellan-Kerr project was authorized by the River and Harbor Act of 1946 and it has been determined the Montgomery Point Lock and Dam was included in the authorization. The real estate estimate includes purchase of 703 acres that will be used to mitigate construction of the Montgomery Point Lock and Dam. Acquisition of land for the lock and dam was completed in FY 1996. The construction contract for the lock and dam was awarded in July 1997. As directed by Congress in the Energy and Water Development Appropriations Act of 2000, $38,592,000 is being used to expedite the construction on the lock and dam.

1957



Division: Southwestern

District: Little Rock

Project:. Montgomery Point Lock and Dam, Arkansas

7 February 2000

90

1953

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Arkansas City, Kansas (Continuing)

LOCATION: The project is located at the confluence of the Arkansas and Walnut Rivers in southern Kansas in Cowley County.

DESCRIPTION: The authorized plan, the National Economic Development Plan, consists of raising and extending the existing levee to provide standard project flood protection for the city. The lower end of the Walnut River Channel will be modified to a 350-foot bottom width with 3 to 1 side slopes for 1.9 miles and the C Street Canal will be modified to a 25 to 50-foot bottom width with 2 to 1 side slopes for 1.2 miles. The locally preferred plan (LPP) will combine most of the levee in the Walnut River floodplain with a highway by-pass embankment. The LPP will also extend the area of protection beyond that of the National Economic Development Plan.

AUTHORIZATION: Water Resources Development Act of 1986.

REMAINING BENEFIT-REMAINING COST RATIO: 4.5 to 1 at 8 percent.

TOTAL BENEFIT-COST RATIO: 2.4 to 1 at 8 percent.

INITIAL BENEFIT-COST RATIO: 2.8 to 1 at 8 percent (FY 1996).

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest evaluation approved in June 1994, at 1994 price levels.

SUMMARIZED FINANCIAL DATA		ACCUM. PCT. OF EST. FED. COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost	$ 27,800,000		Entire Project	30	Being Determined
Estimated Non-Federal Cost	11,000,000				
Cash Contribution $1,940,000					
Other Costs 9,060,000					
Total Estimated Project Cost	$ 38,800,000				
Allocations to 30 September 1999	5,084,000				
Conference Allowance for FY 2000	4,300,000				
Allocation for FY 2000	3,288,000 1/				

PHYSICAL DATA

Grass and Stone Lined Channels: Length-1.9 miles
Bottom Width - 350 feet, Walnut River
- 25 to 50 feet, C Street Canal
Levees:
Length - 8.3 miles
Crest Width - 10 feet
Average Height - 21 feet

Division: Southwestern **District:** Tulsa **Project:** Arkansas City, Kansas

1959

SUMMARIZED FINANCIAL DATA (Continued):		ACCUM. PCT. OF EST. FED. COST
Allocations through FY 2000	$8,372,000	30
Allocation Requested for FY 2001	5,100,000	48
Programmed Balance to Complete	14,328,000	
Unprogrammed Balance to Complete after FY 2001	0	

1/ Reflects $612,000 reduction assigned as savings and slippage and $400,000 reprogrammed from the project.

JUSTIFICATION: The project will provide protection from periodic floods which have inundated the city numerous times in past years during periods of heavy spring and summer rains and storms. The maximum flood of record, that of 1923 with a 50 year frequency, would have caused an estimated $59 million in damages at October 1999 prices and conditions of development. Over $450 million in improvements would be severely impacted by events greater that 45-year on the Arkansas River and 75-year on the Walnut River. Average annual benefits are $7,980,000, all flood damage prevention, based on January 1994 price levels.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Construction	$ 4,488,000
Planning, Engineering & Design	258,000
Construction Management	354,000
Total	$ 5,100,000

1960

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction	Annual Operation, Maintenance, Repair Rehabilitation and Replacement Costs
Provide lands, easements, rights-of-way and dredged material disposal areas.	$ 1,314,000	
Modify or relocate utilities, roads, bridges (except railroad bridges and other facilities, where necessary in the construction of the project.	3,838,000	
Levees north of Madison Avenue East	3,908,000	
Pay 5 percent of the costs allocated to flood control and bear all cost of operation, maintenance and replacement of flood control facilities.	1,940,000	$ 92,000
Total Non-Federal Costs	$ 11,000,000	$ 92,000

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The city of Arkansas City indicated a willingness and capability by signing a resolution of assurance on 15 May 1994, and has since provided continued support for the project. The Project Cooperation Agreement (PCA) was executed 4 September 1996.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $27,800,000 is an increase of $400,000 from the latest estimate ($27,400,000) presented to Congress (FY 2000). The change includes the following items:

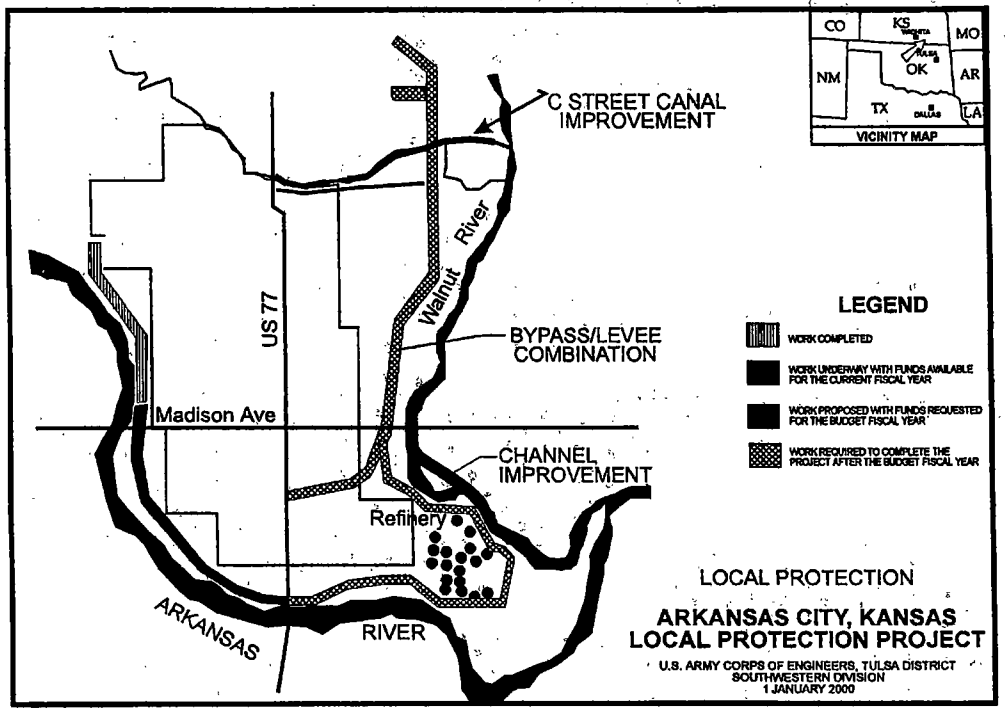
ITEM	AMOUNT
Price Escalation on Construction Features	$ 400,000
Total	$ 400,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed with the Environmental Protection Agency in April 1995.

1961

OTHER INFORMATION: Funds to initiate preconstruction, engineering and design were appropriated in FY 1989. Funds to initiate construction were appropriated in FY 1996. Authorization of the project, as set forth in the Water Resources Development Act of 1986, provides that the project also includes the purchase, development, and management of 35 acres of land adjacent to the Kaw Wildlife Management Area. This action would replace the 35 acres of land lost due to the Walnut River channel improvements and development of a 3.3-acre wetland, with a 1.2-acre buffer zone, in borrow area D in the northwest part of the city to mitigate the loss of 2.3 acres of wetlands. The total estimated cost for mitigation at the project is $75,000 for acquisition of 35 acres of land and $623,000 to establish a combination of high value woody vegetation and nesting cover on lands secured for mitigation.

1962


C STREET CANAL IMPROVEMENT
US 77
Walnut River
BYPASS/LEVEE COMBINATION
Madison Ave
CHANNEL IMPROVEMENT
Refinery
ARKANSAS
RIVER
CO
KS
MO
NM
OK
AR
TX
LA
VICINITY MAP
LEGEND
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR
LOCAL PROTECTION
ARKANSAS CITY, KANSAS
LOCAL PROTECTION PROJECT
U.S. ARMY CORPS OF ENGINEERS, TULSA DISTRICT
SOUTHWESTERN DIVISION
1 JANUARY 2000

1993

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Brays Bayou, Houston, Texas (Continuing)

LOCATION: The project is located in the metropolitan area of Houston, in Harris County, Texas.

DESCRIPTION: The project provides for 3 miles of channel improvements, 3 flood detention basins, 7 miles of stream diversion, and recreation features including hike-and-bike trails, picnic facilities, sports fields, comfort stations and parking areas. As stated in the Water Resources Development Act of 1996, Section 211, subject to the approval of the Secretary of the Army, the non-Federal interest may design and construct an alternative to the diversion component.

AUTHORIZATION: Water Resources Development Act of 1990.

REMAINING BENEFIT-REMAINING COST RATIO: 3.1 to 1 at 7 3/8 percent.

TOTAL BENEFIT-COST RATIO: 3.1 to 1 at 7 3/8 percent.

INITIAL BENEFIT-COST RATIO: 2.97 to 1 at 7 5/8 percent.

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest economic analysis included in the comprehensive Feasibility Report for Buffalo Bayou and Tributaries, dated July 1990 with October 1989 price levels.

1964

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST
Estimated Federal Cost		306,113,000	
Estimated Non-Federal Cost		165,277,000	
Cash Contributions	26,567,000		
Other Costs	138,710,000		
Total Estimated Project Cost		$ 471,390,000	
Allocations to 30 September 1999		10,504,000	
Conference Allowance for FY 2000		9,800,000	
Allocation for FY 2000		8,404,000 1/	
Allocations through FY 2000		18,908,000	6%
Allocation Requested for FY 2001		5,500,000	8%
Programmed Balance to Complete after FY 2001		281,705,000	
Unprogrammed Balance to Complete after FY 2001		0	

1/ Reflects $1,396,000 assigned as savings and slippage.

STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Detention Element	0	Being Determined
Diversion Element	0	Being Determined
Entire Project	0	Being Determined

PHYSICAL DATA

Channel:
(Detention Element)
Brays Bayou - 3.7 miles
Detention Basins - 3
(Diversion Element)
Stream Diversion - 7 miles, or
an alternative to Diversion
Recreation facilities: Hike-and-bike trails with picnic facilities, sports fields, and other day-use facilities.

JUSTIFICATION: Brays Bayou drains about 137 square miles in the south-central portion of the Buffalo Bayou watershed. The area is subject to rainstorms throughout the year and urban flooding is a common occurrence. About 53,400 homes and businesses are currently subject to flooding by the Standard Project Flood (SPF), and about 25,000 of these properties would be subject to flooding by a 100-year frequency flood. On an average annual basis, stream flooding could cause nearly $46,000,000 in damages per year to existing properties. The plan would reduce the existing 100-year frequency floodplain area by about 97 percent. Average annual flood damages would be reduced by about 95 percent. The recreational development will partially satisfy existing demand in the area. Average annual benefits, annualized at a 7-3/8% interest rate and based on October 1989 prices are as follows:

Annual Benefits	Amount
Flood Damage Prevention	87,268,400
Recreation	1,623,700
Total	88,892,100

Division: Southwestern **District:** Galveston **Project:** Brays Bayou, Houston, Texas

1965

FISCAL YEAR 2001: The total program amount of $5,500,000 will be applied as follows. Funds will be used to reimburse the Sponsor for completed discrete elements of the project in accord with Section 211(f) of Water Resources Development Act of 1996 and an executed Project Cooperation Agreement (PCA).

Complete reimbursement of sponsor for completed work (Discrete Segment #6)	$ 821,000
Reimburse sponsor for completed GRR	2,200,000
Partially reimburse sponsor for completed work (Discrete Segment #7)	2,434,000
Galveston District Section 211 implementations costs (auditing, coordinating, review of E&D, constr. management)	45,000
Total	$5,500,000

NON-FEDERAL COST & REQUIREMENTS: Brays Bayou has been identified as a demonstration project by Section 211 of the Water Resources Development Act of 1996 (P.L. 104-303). A Project Cooperation Agreement is required between the Corps and the Harris County Flood Control District, the project sponsor. In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Detention Element		
Provide lands, easements, rights-of-way, and borrow and excavated or dredged material disposal areas.	58,760,000	
Modify or relocate, utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	1,450,000	
Pay one-half of the separable costs allocated to recreation and bear all cost of operation, maintenance, repair, rehabilitation and replacement of recreation facilities.	2,760,000	300,000

1999

Requirements of Local Cooperation (cont'd)	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Pay 5 percent of the costs allocated to flood control, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	9,972,000	247,480
Diversion Element		
Provide lands, easements, rights-of-way, and borrow and excavated or dredged material disposal areas.	41,780,000	
Modify or relocate, utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	36,720,000	
Pay one-half of the separable costs allocated to recreation and bear all cost of operation, maintenance, repair, rehabilitation and replacement of recreation facilities.	570,000	57,300
Pay 5 percent of the costs allocated to flood control, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	13,265,000	371,220
Total Non-Federal Costs	165,277,000	976,000

The non-Federal sponsors must also agree to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The sponsor for the flood control project is Harris County, acting through the Harris County Flood Control District. The PCA for the flood control portion of the Detention Element will be executed in February, 2000. The current non-Federal cost estimate of $70,182,000 for this portion has not changed from the amount stated in the PCA. In accordance with Section 211 of the Water Resources Development Act of 1996, the sponsor is investigating the Diversion Element in an effort to find an alternative to the authorized project. A design agreement for this effort is currently being negotiated. There is currently no sponsor for the recreation features of the project.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $306,113,000 is an increase of $13,103,000 from the latest estimate ($293,010,000) presented to Congress (FY 2000). This change includes the following items.

Item	Amount
Price Escalation on Construction Features	$13,103,000
Total	$13,103,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The Environmental Impact Statement was filed with the Environmental Protection Agency in September 1988. The Environmental Assessment (EA) for the Detention Element was completed on 3 April 1998 with the signing of the Finding of No Significant Impacts (FONSI).

OTHER INFORMATION: Funds to initiate preconstruction engineering and design were appropriated in Fiscal Year 1990, and funds to initiate construction were appropriated in Fiscal Year 1998.

The Brays Bayou project is divided into two separable elements, a detention and a diversion element. The detention element has undergone design and construction was initiated in FY 98. The diversion element is not supported by the Sponsor or the homeowners in the area, so an alternative must be identified to provide a level of protection to this portion of the Houston area. The Harris County Flood Control District, the local sponsor, is currently conducting reformulation studies, and will propose an alternative to the diversion element.

The project was included in the Water Resources Development Act of 1996 (Section 211(f)(6)) as a demonstration project to show advantages and effectiveness of non-Federal interests to undertake planning, design, and construction of Federal Flood Control projects. The Galveston District and Harris County Flood Control District (HCFCD) are currently negotiating agreements for developing the scope and schedule. Details for development of a Project Cooperation Agreement have been determined in an intensive partnering effort between HCFCD and the Corps of Engineers, and approval by the Assistant Secretary of the Army, Civil Works is required.

The HCFCD will receive reimbursement upon completion and approval of discrete segments of the authorized project. Each discrete segment's work will be audited prior to reimbursement. Funds being appropriated will be used to reimburse the sponsor and to pay Corps oversight costs.

1968

Detention Separable Element

SUMMARIZED FINANCIAL DATA

Estimated Federal Cost		132,012,000
Estimated Non-Federal Cost		72,941,000
Cash Contributions	12,731,000	
Other Costs	60,210,000	

REMAINING BENEFIT-REMAINING COST RATIO: 4.5 to 1 at 7 3/8 percent.

TOTAL BENEFIT-COST RATIO: 4.5 to 1 at 7 3/8 percent.

Diversion Separable Element

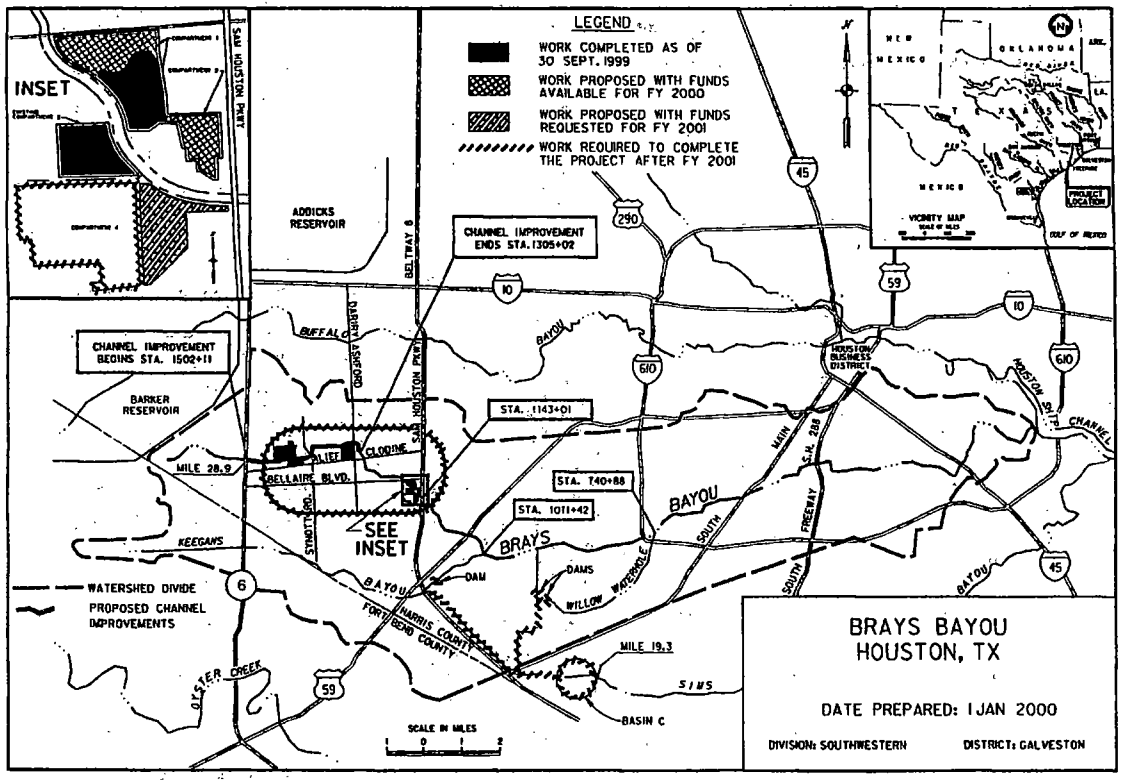
SUMMARIZED FINANCIAL DATA

Estimated Federal Cost		174,101,000
Estimated Non-Federal Cost		92,336,000
Cash Contributions	13,836,000	
Other Costs	78,500,000	

REMAINING BENEFIT-REMAINING COST RATIO: 2.5 to 1 at 7 3/8 percent.

TOTAL BENEFIT-COST RATIO: 2.5 to 1 at 7 3/8 percent.

1969



1970

Division: Southwestern **District:** Galveston **Project:** Brays Bayou, Houston, Texas

7 February 2000

APPROPRIATION TITLE: Construction, General - Local Protection (Flood Control)

PROJECT: Clear Creek, TX (Continuing)

LOCATION: The authorized project is located about midway between the two metropolitan centers of Houston, Texas, on the north and Galveston-Texas City on the south in Harris and Galveston Counties.

DESCRIPTION: The project provides for channel enlargement and easing of bends within the existing stream from Mile 3.8 to Mile 19.1, a second outlet with gated structure from Clear Lake to Galveston Bay, and replacements of riparian woodlands, brush, and wetlands to mitigate environmental effects.

AUTHORIZATION: Flood Control Act of 1968.

REMAINING BENEFIT-REMAINING COST RATIO: 3.3 to 1 at 3 1/4 percent.

TOTAL BENEFIT-COST RATIO: 2.1 to 1 at 3 1/4 percent

INITIAL BENEFIT-COST RATIO: 3.1 to 1 at 3 1/4 percent (FY 1985).

BASIS OF BENEFIT-COST RATIO: Benefits and costs are based on evaluation made in General Design Memorandum, approved October 1982, and updated by Design Memorandum 2 approved 3 September 1986, with October 1986 price levels.

1971

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost (CofE)		88,660,000		Entire Project	49	Being Determined
Estimated Non-Federal Cost		55,340,000				
Cash Contributions	7,200,000					
Other Costs	48,140,000					
Total Estimated Project Cost		144,000,000				

PHYSICAL DATA			
Allocations to 30 September 1999	22,156,000		Channels: 15.3 miles above Clear Lake
Conference Allowance for FY 2000	2,900,000		Second Outlet: Gated outlet structure and
Allocation for FY 2000	1,427,000	1/	channel from Clear Lake to Galveston Bay
Allocations through FY 2000	23,583,000	27%	Relocations:
Allocation Requested for FY 2001	1,525,000	28%	Railroads: Alterations to three bridges
Programmed Balance to Complete after FY 2001	63,552,000		($3,124,000)
Unprogrammed Balance to Complete after FY 2001	0		

1/ Reflects $413,000 reduction assigned as savings and slippage and $1,060,000 reprogrammed from the project.

JUSTIFICATION: The authorized project will provide flood protection for a rapidly developing residential and commercial area, a suburb of Houston. Value of land and improvements that will be protected from the design flood is estimated at $530,000,000 based on 1990 price levels. Flooding in June 1976 caused minor damages; however, development in the area has continued and more runoff and damages would occur under current conditions. In July 1979, major flooding occurred and approximately $52,300,000 in damages were experienced based on October 1996 price levels. The average annual benefits are $8,128,600, all flood control included in Design Memorandum 2, approved 3 September 1986, based on 1 October 1986 price levels.

FISCAL YEAR 2001: The requested amount of $1,525,000 will be applied as follows:

Continue General Reevaluation Studies	$1,525,000
Total	$1,525,000

Division: Southwestern **District: Galveston** **Project: Clear Creek, Texas**

1972

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsors must comply with the requirements listed below.

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Provide lands, easements, rights-of-way and borrow and excavated or dredged material placement areas.	22,600,000	
Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	25,540,000	
Pay 5 percent of the separable costs allocated for mitigation measures.	310,000	
Pay 5 percent of the costs allocated to flood control, and bear and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	6,890,000	430,000
Total Non-Federal Costs	55,340,000	430,000

The non-Federal sponsors have also agreed to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The sponsors are Galveston and Harris Counties. On 30 June 1986, the sponsors entered into a Local Cooperation Agreement to provide the necessary local cooperation. By letter of June 9, 1999, Brazoria County Drainage District No. 4 indicated its intent to be a project sponsor again beginning with participation in the General Reevaluation Report.

The current non-Federal cost estimate of $55,340,000, which includes a cash contribution of $7,200,000, is an increase of $21,551,000 over the non-Federal cost estimate of $33,789,000 in the Local Cooperation Agreement, which included a cash contribution of $4,789,000. Analysis of the non-Federal sponsor's financial capability to participate in the project affirms that the sponsors have a reasonable and implementable plan for meeting their financial commitment.

1978

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $88,660,000 is an increase of $12,830,000 from the latest estimate ($75,830,000) presented to Congress (FY 2000). This change includes the following items.

Item	Amount
General Reevaluation Report	$4,900,000
Post Contract Award and Other Estimating Adjustments	2,177,000
Price Escalation on Construction Features	5,753,000
Total	12,830,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed with the Environmental Protection Agency August 1982.

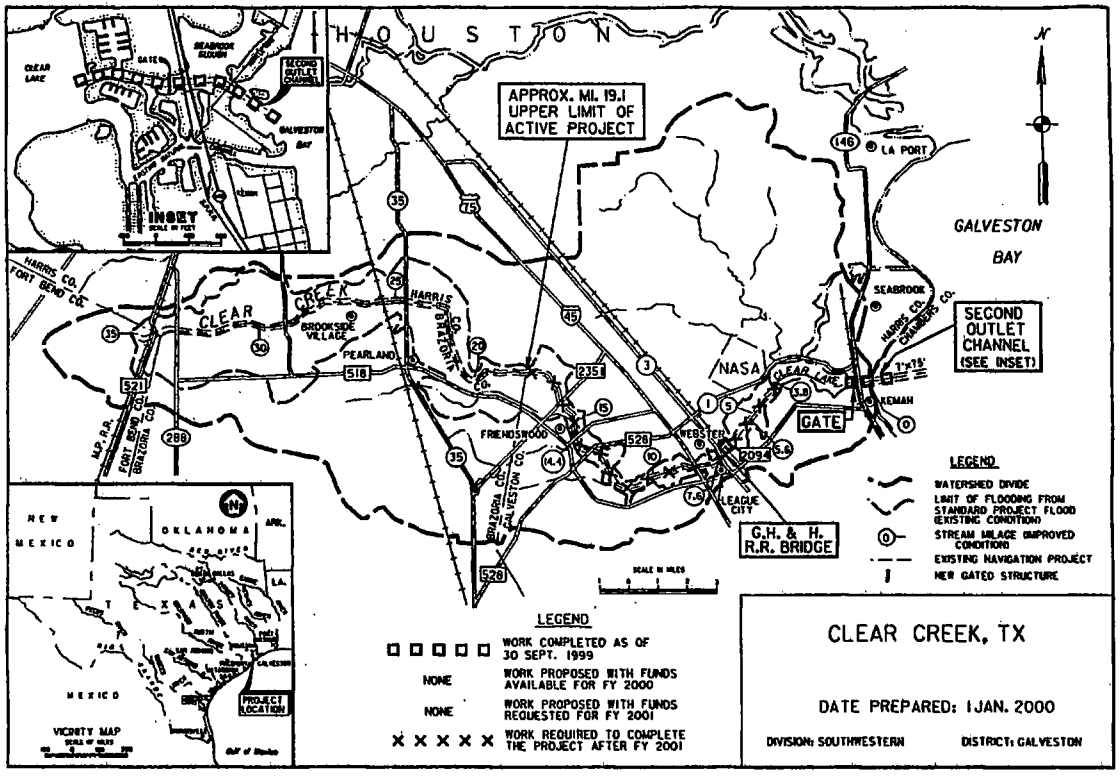
OTHER INFORMATION: Funds to initiate preconstruction planning were appropriated in Fiscal Year 1972. Funds to initiate construction were appropriated by the Fiscal Year 1985 Supplemental Appropriations Act.

By letter 20 February 1986, Brazoria County Drainage District No. 4 (BCDD #4) requested that the portion of the project lying upstream of the Brazoria-Galveston County line, river mile 19.1, be placed in the "inactive" category. Reclassification was approved 27 May 1986. By letter of June 9, 1999, BCDD #4 indicated its intent to be a project sponsor again beginning with participation in the General Reevaluation Report.

1974

The total cost of fish and wildlife mitigation is estimated to be $5,680,000 (Federal $5,396,000 and non-Federal $284,000).

Public opposition to the authorized project upstream of Clear Lake, as currently designed, prompted the local sponsors to review the public's concerns about the project in order to develop a publicly acceptable alternative within the scope of the current Federal authorization. Generally, opposition to the authorized project has focused on environmental concerns in the upper reaches and on induced flooding concerns downstream in Clear Lake. Studies were initiated in Fiscal Year 1998 to determine the Corps approval authority for the sponsor-proposed alternative and how the alternative could be documented for approval. These studies led to the recommendation that a General Reevaluation Report be prepared to consider reevaluation of the authorized project and formulation of the sponsor-proposed alternative or any other alternatives(including buyout or other non-structural alternatives), that the sponsors and the Corps deem reasonable to pursue. The General Reevaluation Report studies were initiated in June, 1999 and are estimated to take about four years to complete.



Division: Southwestern **District:** Galveston **Project:** Clear Creek, Texas

7 February 2000

1975

APPROPRIATION TITLE: Construction, General - Flood Control, Local Protection

PROJECT: San Antonio Channel Improvement, Texas

LOCATION: The project is located in the city of San Antonio, Bexar County, Texas.

DESCRIPTION: The project includes local protection features including channels, levees and two diversion tunnels.

AUTHORIZATION: Flood Control Act of 1954 and the Water Resources Development Act of 1976.

REMAINING BENEFIT-REMAINING COST RATIO: 1.2 to 1 at 6-7/8 percent.

TOTAL BENEFIT-COST RATIO: 2.6 to 1 at 2-1/2 percent.

INITIAL BENEFIT-COST RATIO: 1.3 to 1 at 2-1/2 percent (FY 1957).

BASIS OF BENEFIT-COST RATIO: Benefits are from the latest available evaluation approved in May 1987 at 1999 price levels.

SUMMARIZED FINANCIAL DATA			ACCUM. PCT. OF EST. FED. COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		$154,500,000		Entire Project	99	Being Determined
Estimated Non-Federal Cost		65,900,000				
Cash Contributions	$ 4,100,000					
Other Costs	61,800,000					
Total Estimated Project Cost		$220,400,000				

PHYSICAL DATA

Channels: 30.7 miles
Concrete drop structure: one
Relocations:
Railroad: alteration to 11 bridges ($560,000)
Tunnels:
San Pedro Creek, 6,040 feet in length
San Antonio River, 16,360 feet in length

1976

SUMMARIZED FINANCIAL DATA (Continued)

		ACCUM. PCT. OF EST. FED. COST	
Allocations to 30 September 1999	$151,886,000		
Conference Allowance for FY 2000	610,000		
Allocation for FY 2000	523,000 1/		1/ Reflects $87,000 reduction assigned as savings and slippage.
Allocations through FY 2000	152,409,000	99	
Allocation Requested for FY 2001	900,000	99	
Programmed Balance to Complete after FY 2001	1,191,000	100	
Unprogrammed Balance to Complete after FY 2001	0		

JUSTIFICATION: The improvements provide a high degree of protection to the metropolitan area of San Antonio which has been subject to disastrous floods and heavy loss of life in the past. Approximately 3,085 acres of urban lands are subject to flooding in San Antonio. Value of land and improvements to be protected from the design flood is estimated at $1,136,553,000 based on 1999 price levels. The maximum flood of record occurred in September 1921 causing $949,000 in damages and affected areas totaling 2,900 acres. A recurrence of this flood under current conditions and October 1999 price levels would result in damages estimated at $76,675,900 of which $75,050,300 would be prevented with the project in full operation. In August 1992 the completed portions of the project prevented an additional $11,300,000 in damages. Most recently, on 17 October 1998 almost 10 inches of rain fell in 17 hours at the San Antonio International Airport, breaking the city's one-day rainfall record of 6.8 inches set in 1921. Some damage was experienced within the project areas while 11 deaths and $115 million in damages occurred elsewhere in the city. The estimated average annual benefits, based on October 1999 price levels, are as follows:

Annual Benefits	Amount
Flood Control	$ 18,321,900
Land Enhancement	1,245,000
Total	$ 19,566,900

FISCAL YEAR 2001: The requested amount will be applied as follows:

Floodplain Mapping	$ 160,000
Develop Plans and Specifications Unit 8-5-2	270,000
Construction Management	170,000
Repair of Damages	300,000
Total	$ 900,000

Division: Southwestern **District:** Fort Worth **Project:** San Antonio Channel Improvement, Texas

1977

NON-FEDERAL COST: In accordance with the authorizing act, Flood Control Act of 1954, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair Rehabilitation, and Replacement Costs
Provide lands, relocation payments, and assistance to displaced persons.	$ 16,541,000	
Modify and relocate/reconstruct channel dams, bridges and utilities.	32,846,000	
Channel rectification.	12,413,000	
Pay 2.65 percent of Federal construction costs, based on land enhancement benefits, and bear all costs of operation, maintenance and replacement of flood control facilities.	4,100,000	$ 800,000
Total Non-Federal Costs	$ 65,900,000	$ 800,000

1978

The Non-Federal Sponsor has also agreed to make all required payments concurrently with project construction. The non-Federal sponsor will also bear all costs of operation, maintenance, repair, rehabilitation and replacement of project features.

STATUS OF LOCAL COOPERATION: The San Antonio River Authority, a State agency, by a resolution passed on 28 February 1956, agreed to comply with all the requirements of local cooperation. This was supplemented by an agreement dated 14 January 1972, which addressed the authorizing requirements of Public Law 91-646. Under a contract of 12 September 1955, the Authority was authorized to expend $12,000,000 on capital improvements; however, due to continuous increase in cost of construction and relocations, added channel improvement below Bergs Mill, increased land values, and local interest costs required by the Uniform Relocations Assistance and Real Property Acquisition Policies Act of 1970, the Authority estimates $65,900,000 will now be required. Cash contributions in the amount of $3,957,700 have been received from the Authority through September 1999 in compliance with requirements of the Flood Control Act of 1954. Rights-of-way have been furnished as required for construction performed to date. Relocations for Unit 8-5-2 remain to be completed prior to construction in FY 2002. Thus far, local interests have expended approximately $65,638,000 for

STATUS OF LOCAL COOPERATION: (Continued)

lands, required modifications of utilities and bridges, channel modification, relocation/reconstruction of channel dams, payments required for relocation assistance, and required cash contributions.

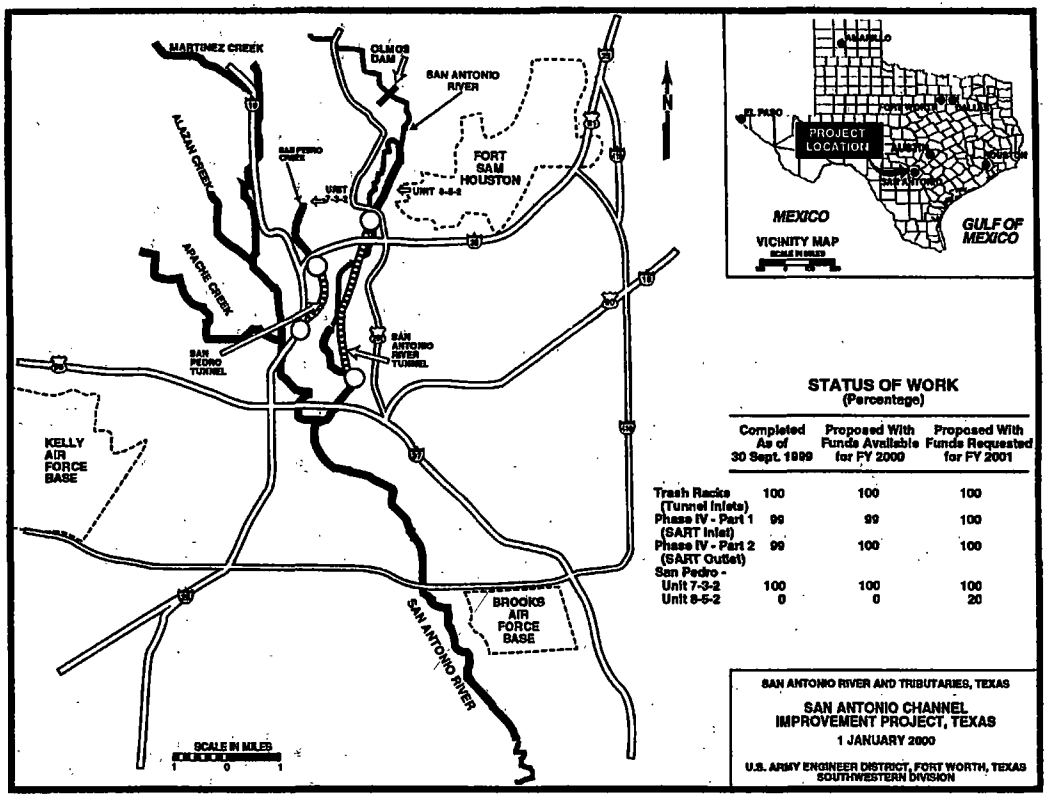
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $154,500,000 is an increase of $1,400,000 over the latest estimate ($153,100,000) submitted to Congress (FY 2000). This change includes the following items:

Item	Amount
San Antonio River Tunnel and San Pedro Creek Repairs	$ 1,032,000
Engineering and Design	$ 228,000
Construction Management	$ 140,000
Total	$ 1,400,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed with the Council on Environmental Quality on 9 November 1971. The final Supplemental Environmental Impact Statement for Unit 8-3-2 was filed with the Environmental Protection Agency on 13 February 1981. An Environmental Assessment for the tunnels on Units 8-4, 8-5-1, and 7-3-1 resulted in a Finding Of No Significant Impact which was signed by the District Engineer 20 May 1986. The Environmental Assessment was supplemented to reflect the addition of some channelization at the San Antonio River Tunnel Outlet and resulted in a Finding of No Significant Impact which was signed on 13 April 1995. Also, an Environmental Assessment for San Pedro Creek Unit 7-3-2 resulting in a Finding of No Significant Impact was signed by the District Engineer on 13 August 1993. Following plan formulation, an Environmental Assessment will be performed in FY 2000 for the proposed improvements on Unit 8-5-2.

OTHER INFORMATION: Funds to initiate preconstruction planning were appropriated in Fiscal Year 1956 and for construction in Fiscal Year 1957.

1979



STATUS OF WORK
(Percentage)

	Completed As of 30 Sept. 1999	Proposed With Funds Available for FY 2000	Proposed With Funds Requested for FY 2001
Trash Racks (Tunnel Inlets)	100	100	100
Phase IV - Part 1 (SART Inlet)	99	99	100
Phase IV - Part 2 (SART Outlet)	99	100	100
San Pedro -			
Unit 7-3-2	100	100	100
Unit 8-5-2	0	0	20

SAN ANTONIO RIVER AND TRIBUTARIES, TEXAS

SAN ANTONIO CHANNEL IMPROVEMENT PROJECT, TEXAS

1 JANUARY 2000

U.S. ARMY ENGINEER DISTRICT, FORT WORTH, TEXAS
SOUTHWESTERN DIVISION

1980

Division: Southwestern

District: Fort Worth

Project: San Antonio Channel Improvement, Texas

APPROPRIATION TITLE: Construction General - Local Protection (Flood Control)

PROJECT: Sims Bayou, Houston, TX (Continuing)

LOCATION: The project is located in Harris County, in the southern portion of Houston, Texas.

DESCRIPTION: The project provides flood damage reduction and consists of 19.3 miles of channel enlargement, rectification, and erosion control measures. Environmental quality measures, riparian habitat improvements, and recreational features are also included in the project.

AUTHORIZATION: Water Resources Development Act (WRDA) of 1986, Energy and Water Development Appropriations Act of 1990, and WRDA of 1992.

REMAINING BENEFIT-REMAINING COST RATIO: 9.5 to 1 at 8 5/8 percent.

TOTAL BENEFIT-COST RATIO: 6.8 to 1 at 8 5/8 percent.

INITIAL BENEFIT-COST RATIO: 9.3 to 1 at 8 5/8 percent (FY 1990).

BASIS OF BENEFIT-COST RATIO: Benefits are from Supplement 1 to the General Design Memorandum dated May 1993 at October 1992 price levels. Costs are based on the GDM Supplement 1 at October 1992 price levels.

1981

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PCT CMPL	PHYSICAL COMPLETION SCHEDULE
Estimated Federal Cost		220,087,000		Entire Project	28	Being Determined
Estimated Non-Federal Cost		109,103,000				
Cash Contribution	19,343,000					
Other Costs	89,760,000					
Total Estimated Project Cost		329,190,000				
Allocations to 30 September 1999		70,792,000				
Conference Allowance for FY 2000		18,300,000				
Allocation for FY 2000		15,694,000	1/			
Allocations through FY 2000		86,486,000	39%			
Allocation Requested for FY 2001		11,820,000	45%			
Programmed Balance to Complete after FY 2001		121,781,000				
Unprogrammed Balance to Complete after FY 2001		0				

PHYSICAL DATA

Channels:
Sims Bayou - 19.3 miles
Relocations:
Railroad bridges
Utilities
Roads
Recreation facilities:
Hike-and-bike trails
with picnic and other
day-use facilities

1/ Reflects $2,606,000 reduction assigned as savings and slippage.

JUSTIFICATION: The project will eliminate stream flooding from 14,800 acres of urban lands and beneficially affect nearly 78,000 persons living in 29,000 homes. The 100-year flood plain would be reduced to 2,300 acres outside the required rights-of-way. The recreational development will partially satisfy existing demand in the area. Average annual benefits, annualized at an 8-5/8% interest rate and based on October 1992 prices are as follows:

Annual Benefits	Amount
Flood Damage Prevention	219,344,700
Recreation	945,300
Total	220,290,000

1982

FISCAL YEAR 2001: The requested amount of $11,820,000 will be applied as follows:

Continue channel rectification - Swallow to Mykawa	$2,500,000
Complete channel rectification - Mouth to PTRR	3,500,000
Continue channel rectification - Mykawa to Cullen	3,500,000
Initiate construction of recreation features	300,000
Reimbursement to Project Sponsor	300,000
Planning, Engineering, and Design	920,000
Construction Management	800,000
Total	$11,820,000

NON-FEDERAL COST: In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	**Payments During Construction and Reimbursements**	**Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs**
Provide lands, easements, rights-of-way, and borrow and excavated or dredged material disposal areas.	40,090,000	
Modify or relocate, utilities, roads, bridges (except railroad bridges), and other facilities, where necessary for the construction of the project.	49,370,000	
Pay one-half of the separable costs allocated to recreation and bear all cost of operation, maintenance, repair, rehabilitation and replacement of recreation facilities.	3,205,000	139,000
Pay 5 percent of the costs allocated to flood control, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.	16,138,000	331,000
Credit for future preparation of the dredged material disposal area for the Mouth to PTRR reach and completed miscellaneous engineering and design activities.	300,000	
Total Non-Federal Costs	109,103,000	470,000

The non-Federal sponsors must also agree to make all required payments concurrently with project construction.

STATUS OF LOCAL COOPERATION: The sponsor for the flood control project is Harris County. The current non-Federal cost estimate of $109,103,000 for flood control, which includes a cash contribution of $19,343,000, is an increase of $22,503,000 from the non-Federal cost estimate of $86,600,000 noted in the Local Cooperation Agreement (LCA), which reflected a cash contribution of $13,800,000. In a letter dated 19 September 1991, the non-Federal sponsor indicated that it is financially capable and willing to contribute the increased non-Federal share. Analysis (dated 31 October 1991) of the non-Federal sponsor's financial capability to participate in the project reaffirms that the spon or has a reasonable and implementable plan for meeting their financial commitment as expressed in the LCA. In 1993, the City of Houston indicated its desire to sponsor the recreation features for the project. In April 1999 the City provided a letter indicating its renewed interest in sponsorship. Coordination has been initiated for a Limited Reevaluation Report and the Project Cooperation Agreement for the recreation features.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $220,087,000 is an increase of $5,767,000 from the latest estimate ($214,320,000) presented to Congress (FY 2000). This change includes the following items.

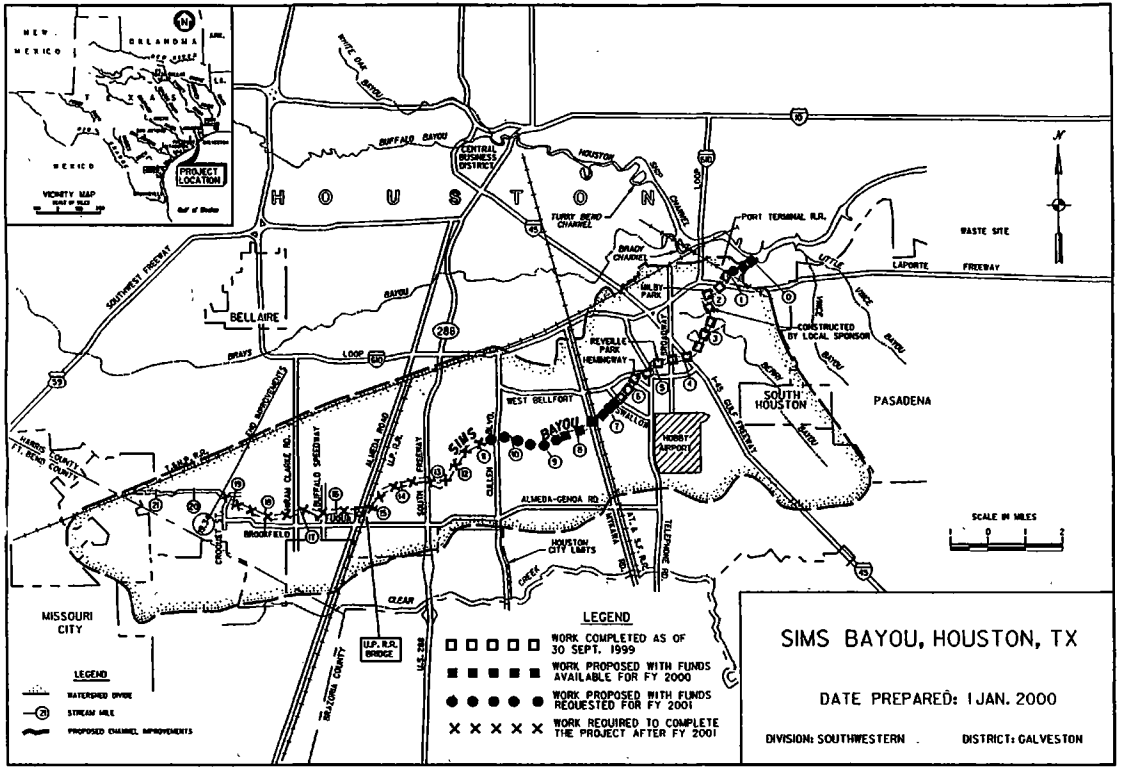
Item	Amount
Post Contract Award and Other Estimating Adjustments	(+) $7,167,000
Price Escalation on Construction Features	(-) 1,400,000
Total	(+) $5,767,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: The final Environmental Impact Statement was filed with the Environmental Protection Agency in September 1983.

OTHER INFORMATION: Funds to initiate preconstruction planning were appropriated in Fiscal Year 1986 and funds to initiate construction were appropriated in Fiscal Year 1990.

The Assistant Secretary of the Army for Civil Works has approved the sponsor's request for credit for work performed by the local sponsor. This credit is currently estimated at $20,070,000, exclusive of lands and is being reimbursed during the period of construction. The project authorization was amended by the Energy and Water Development Appropriations Act of 1990 as the project cost estimate exceeded the maximum cost growth as described in Section 902 of the Water Resources Development Act of 1986. The authorization has been further modified by WRDA '92, Section 102 (66), to include, to the extent practicable, measures to improve environmental quality and riparian habitat.

1984


NEW MEXICO
OKLAHOMA
MEXICO
PROJECT LOCATION
VICINITY MAP
HOUSTON
CENTRAL BUSINESS DISTRICT
WHITE OAK BAYOU
BUFFALO BAYOU
HOUSTON SHIP CHANNEL
TURNING BASIN CHANNEL
BRADY CHANNEL
PORT TERMINAL R.R.
WASTE SITE
LAPORTE FREEWAY
SOUTHWEST FREEWAY
BELLAIRE
BRAYS BAYOU
LOOP 610
288
59
REVELLE PARK HEIMBERGER
WEST BELLFORT
SOUTH HOUSTON
PASADENA
CONSTRUCTED BY LOCAL SPONSOR
HOBBY AIRPORT
SIMS BAYOU
ALMEDA ROAD
U.S. 90A
SOUTH FREEWAY
ALMEDA-GENOA RD.
HOUSTON CITY LIMITS
BROOKFIELD
MISSOURI CITY
CLEAR CREEK
U.P. R.R. BRIDGE
U.S. 288
OKLAHOMA COUNTY
SCALE IN MILES
LEGEND
WATERSHED DIVIDE
STREAM MILE
PROPOSED CHANNEL IMPROVEMENTS
LEGEND
WORK COMPLETED AS OF 30 SEPT. 1999
WORK PROPOSED WITH FUNDS AVAILABLE FOR FY 2000
WORK PROPOSED WITH FUNDS REQUESTED FOR FY 2001
WORK REQUIRED TO COMPLETE THE PROJECT AFTER FY 2001
SIMS BAYOU, HOUSTON, TX
DATE PREPARED: 1 JAN. 2000
DIVISION: SOUTHWESTERN
DISTRICT: GALVESTON

1985

APPROPRIATION TITLE: Construction, General - Dam Safety Assurance.

PROJECT: Skiatook Lake, Oklahoma, (Continuing).

LOCATION: The project is located on Hominy Creek about 5 miles west of Skiatook in Osage County, Oklahoma.

DESCRIPTION: The study area consists of the reservoir area above Skiatook Dam up to the maximum pool caused by Probable Maximum Flood (PMF) inflow, the spillway channel, the Hominy Creek floodplain to its confluence with Bird Creek, and the Bird Creek floodplain to its confluence with the Verdigris River at Catoosa, Oklahoma. The most pertinent parts of the study area are the towns of Sperry and Turley; however, the affected area includes portions of Skiatook, Tulsa, and Owasso. Dam construction began in May 1977 and ended in July 1985. Reservoir impoundment began 31 October 1984. The project consists of a rolled earthfill embankment; a gate tower controlling flow through an outlet tunnel, an outlet works and outlet channel; and an uncontrolled limited service spillway excavated through the narrow right abutment ridge. The existing spillway will be lined with a structural concrete slab and sloped, tie back concrete walls, and a 100-foot-wide concrete lined chute will be constructed approximately 939 feet long to prevent headcutting erosion of the spillway. The relatively high uplift pressure resulting from seepage through the joints of the sandstone of the Chanute formation will be resisted by drainage and anchor bars drilled 10 feet into the foundation rock below the floor slab. Sections of concrete gravity walls will be required where the excavation is not deep enough for the sloped, tie back walls to be founded on firm material.

AUTHORIZATION: Flood Control Act of 1962.

REMAINING BENEFIT-REMAINING COST RATIO: Not applicable.

TOTAL BENEFIT-COST RATIO: Not applicable.

INITIAL BENEFIT-COST RATIO: Not applicable.

BASIS OF BENEFIT-COST RATIO: Not applicable.

1986

SUMMARIZED FINANCIAL DATA			ACCUM PCT OF EST FED COST	STATUS (1 Jan 2000)	PHYSICAL PCT CMPL	COMPLETION SCHEDULE
				Entire Project	0	Being Determined
Original Project						
Actual Federal Cost		106,268,738				
Actual Non-Federal Cost		0				
Cash Contributions	0					
Other Costs	0					
Total Original Project Cost		106,268,738				
Remedial Work or Project Modification						
Estimated Federal Cost		9,700,000				
Estimated Non-Federal Cost		0				
Cash Contributions	0					
Other Costs	0					
Total Estimated Remedial or Modification Cost		9,700,000				
Total Estimated Project Cost		115,968,738				
Allocations to 30 September FY 1999		465,000				
Conference Allowance for FY 2000		500,000				
Allocation for FY 2000		198,000 1/				
Allocations through FY 2000		663,000	7			
Allocation Requested for FY 2001		2,400,000	32			
Programmed Balance to Complete		6,637,000				
Unprogrammed Balance to Complete after FY 2001		0				

1/ Reflects $71,000 reduction assigned as savings and slippage and $231,000 reprogrammed from the project.

1987

JUSTIFICATION: Recent hydrologic analysis revealed that the spillway would suffer extensive erosion and ultimately catastrophically breach if the PMF were to occur. Such a condition would cause major flooding, including the possibility of loss of human life in the downstream communities of Skiatook and Sperry. According to the approved Dam Safety Assurance Program Evaluation Report, the downstream effect of a PMF event with accompanying dam failure includes approximately $70,000,000 of economic loss and an adverse effect to approximately 10,600 residents.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Initiate Construction	$ 2,141,000
Planning, Engineering, and Design	34,000
Construction Management	225,000
Total	$ 2,400,000

NON-FEDERAL COST: Not applicable.

STATUS OF LOCAL COOPERATION: Not applicable.

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $9,700,000 is an decrease of $100,000 from the latest estimate ($9,800,000) presented to Congress (FY 2000). This change includes the following items:

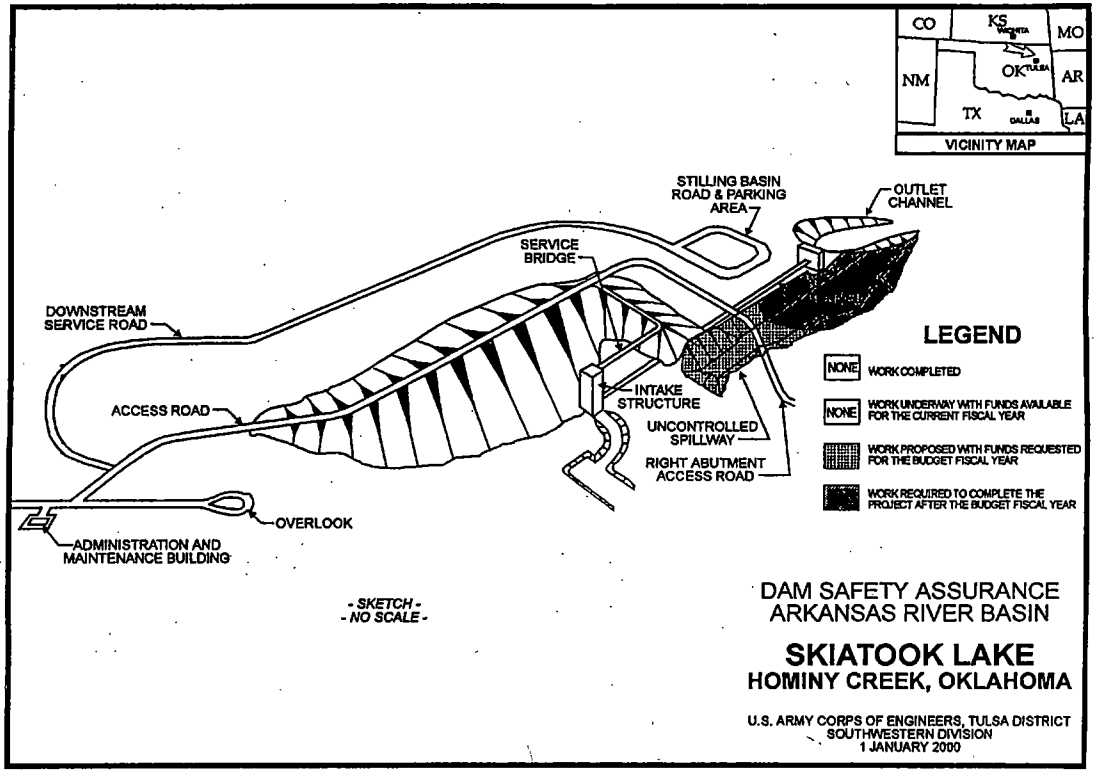
Item		Amount
Price Escalation on Construction Features	(-)	100,000
Total	$	100,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: Not required.

The provisions of Section 404 of the Clean Water Act do not apply because the project improvements do not involve the placement of fill material or the discharge of dredge material in the waters of the United States.

OTHER INFORMATION: A Dam Safety Assurance Program Evaluation Report was approved in August 1997.

1988



1989

Division: Southwestern District: Tulsa Project: Skiatook Lake, Oklahoma (Dam Safety)

APPROPRIATION TITLE: Construction, General - Dam Safety Assurance

PROJECT: Table Rock Lake, Missouri and Arkansas, (Continuing)

LOCATION: Table Rock Dam is located on the White River 528.8 miles above its mouth, in Stone and Taney Counties in southwest Missouri near the city of Branson.

DESCRIPTION: Table Rock Dam has been shown to be hydrologically deficient, with storage available to contain 65 percent of the Probable Maximum Flood (PMF). Studies indicate that this flood would overtop the dam more than five feet and would breach the earthen embankment portion of the dam, causing catastrophic flood conditions for downstream areas including Branson. The project consists of the design and construction of an auxiliary gated spillway located just downstream of the existing left embankment, which will serve as a cofferdam during construction. The project includes the construction of a bridge to cross the spillway and a slight realignment of State Highway 165/265 on top of the existing dam. Coordination is ongoing with the Missouri Highway and Transportation Department.

AUTHORIZATION: Flood Control Acts of 1938, 1941 and 1944.

REMAINING BENEFITS-REMAINING COST RATIO: Not applicable.

TOTAL BENEFIT-COST RATIO: Not Applicable.

INITIAL BENEFIT-COST RATIO: Not applicable.

BASIS OF BENEFIT-COST RATIO: Not applicable.

SUMMARIZED FINANCIAL DATA			**STATUS (1 Jan 2000)**	**PCT CMPL**	**PHYSICAL COMPLETION SCHEDULE**
Original Project			Entire Project	10	Being Determined
Actual Federal Cost		$16,233,000			
Actual Non-Federal Cost		49,867,000			
Cash Contributions	0				
Hydropower Reimbursement	49,867,000				
Total Original Project Cost		66,100,000			

Division: Southwestern **District: Little Rock**

1990

SUMMARIZED FINANCIAL DATA (CONTINUED)

			ACCUM PCT OF EST FED COST
Remedial Work or Project Modification			
Estimated Total Appropriation Requirement		$60,200,000	
Future Non-Federal Reimbursement		6,225,000	
Estimated Federal Cost (Ultimate)		53,975,000	
Estimated Non-Federal Cost		6,225,000	
Reimbursement		6,225,000	
Hydropower	$6,225,000		
Total Estimated Project Cost		$60,200,000	
Allocations to 30 September 1999		$ 5,695,000	
Conference Allowance for FY 2000		13,000,000	
Allocation for FY 2000		11,149,000 1/	
Allocations through FY 2000		16,844,000	28
Allocation Requested for FY 2001		5,920,000	38
Programmed Balance to Complete		37,436,000	
Unprogrammed Balance to Complete After FY 2001		0	

1/ Reflects $1,851,000 reduction assigned as savings and slippage.

PHYSICAL DATA: The dam, which was started in October 1952 and completed in November 1958, consists of a 1,602 foot concrete gravity section and two earth fill embankment structures with a length of 4,821 feet. Total length of the dam is 6,423 feet rising to a maximum height of 252 feet above the streambed. The structure has four 4 foot by 9 foot sluices. The gated emergency spillway consists of ten bays, each 45 feet wide, controlled by 37-foot high tainter gates. The dam contains four 50,000-kw power units, each supplied by an 18-foot diameter penstock. Storage is provided in the reservoir for water supply, flood control, and generation of hydroelectric power. The original plan of improvement was to raise the top of the existing dam by ten feet. The current plan is to provide an auxiliary gated spillway in place of part of the existing earthen embankment on the left side, looking downstream. This gated emergency spillway consists of eight bays, each 48 feet wide, controlled by 43-foot high tainter gates.

JUSTIFICATION: The Program Evaluation Report of December 1994 found that the existing spillway would not safely pass the probable maximum flood without overtopping the dam; therefore, structural modifications to increase the reservoir capacity are recommended. It has been determined that this flood would overtop the dam by more than five feet and that failure of the earthen portion of the dam would occur.

A Table Rock Dam failure would cause about $363 million of downstream damages. Damages would consist of $171 million to commercial and residential structures, $44.4 million to recreation facilities, $46 million to roads and bridges, $95 million to hydropower facilities at Table Rock and Bull Shoals projects and $6.3 million to the Shepherd of the Hills Fish Hatchery. In addition, Table Rock Lake Project is estimated to generate $106 million annually from project purposes of flood control, recreation, and hydropower. These benefits would be lost if the dam were to fail. A failure of the dam could put 12,400 people at risk to injury and death with major damages to the city of Branson, Missouri.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Construction on Auxiliary Spillway Gates	$ 5,070,000
Planning, Engineering and Design	150,000
Construction Management	700,000
Total	$ 5,920,000

NON-FEDERAL COST: The non-Federal sponsor must comply with the requirements listed below:

Requirements of Local Cooperation	Payments During Construction and Reimbursements	Annual Operation, Maintenance, Repair, Rehabilitation, and Replacement Costs
Pay all costs allocated to hydropower and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of hydropower facilities.	$6,225,000	$0
Total Non-Federal Costs	$6,225,000	$0

STATUS OF LOCAL COOPERATION: The Southwestern Power Administration has been contacted and understands the requirement for reimbursement of costs allocated to power.

Division: Southwestern **District:** Little Rock **Project:** Table Rock Lake Missouri and Arkansas (Dam Safety Assurance)

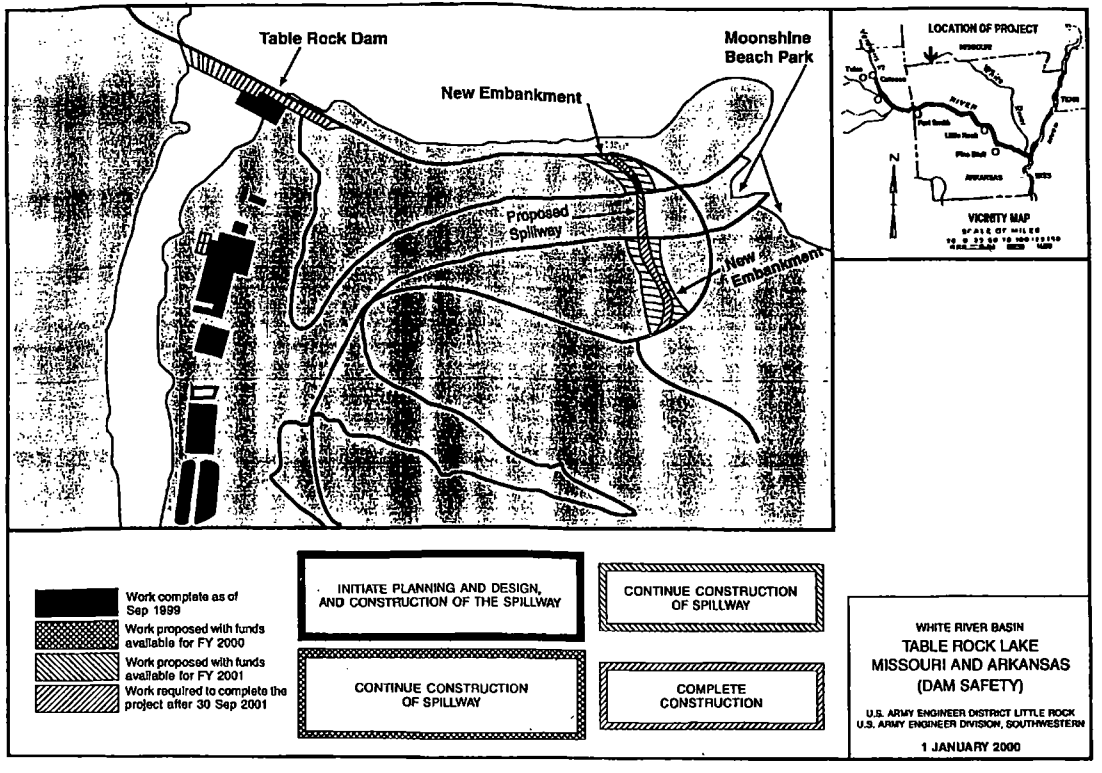
1992

COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $60,200,000 is the same as last submitted to Congress (FY 2000).

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: A Finding of No Significant Impact was signed in October 1997.

OTHER INFORMATION: The initial Planning and Engineering was accomplished using Operation and Maintenance, General funds. The first Construction, General funds were appropriated in FY 1995 to start final design of the project. Funds to initiate construction were appropriated in FY 1999.

1993



1994

Division: Southwestern

District: Little Rock

Project: Table Rock Lake
Missouri and Arkansas
(Dam Safety Assurance)

APPROPRIATION TITLE: Construction, General - Dam Safety Assurance

PROJECT: Tenkiller Ferry Lake, Oklahoma (Continuing)

LOCATION: The project is located on the Illinois River about 7 miles northeast of Gore and about 22 miles southeast of Muskogee, Oklahoma.

DESCRIPTION: The study area consists of the reservoir area above Tenkiller Ferry Dam up to the maximum pool caused by PMF inflow, the Illinois River floodplain from Tenkiller Ferry Dam to the Arkansas River, and the Arkansas River flood plain from Webbers Falls Lock and Dam to a point just below Fort Smith and Van Buren, Arkansas, including R. S. Kerr and W. D. Mayo reservoirs and navigation structures.

AUTHORIZATION: Flood Control Act of 1938.

BENEFIT-COST RATIO: Not applicable.

TOTAL BENEFIT-COST RATIO: Not applicable.

INITIAL BENEFIT-COST RATIO: Not applicable.

BASIS OF BENEFIT-COST RATIO: Not applicable.

SUMMARIZED FINANCIAL DATA			ACCUM. PCT. OF EST. FED. COST	STATUS (1 Jan 2000)	PERCENT COMPLETE	PHYSICAL COMPLETION SCHEDULE
Original Project				Entire Project	20	Being Determined
Actual Federal Cost		$ 24,057,718				
Actual Non-Federal Cost		0				
Cash Contributions	$ 0					
Other Costs	0					
Total Original Project Cost		$ 24,057,718				

1995

Division: Southwestern **District:** Tulsa **Project:** Tenkiller Ferry Lake Oklahoma (Dam Safety)

SUMMARIZED FINANCIAL DATA (Continued):

			ACCUM. PCT. OF EST. FED. COST
Project Modification			
Estimated Federal Cost		$ 39,800,000	
Estimated Non-Federal Cost		0	
Cash Contribution	$ 0		
Other Costs	0		
Total Estimated Modification Cost		$ 39,800,000	
Total Estimated Project Cost		$ 63,857,718	
Allocations to 30 September 1999		3,646,000	
Conference Allowance for FY 2000		6,400,000	
Allocation for FY 2000		5,489,000 1/	
Allocations through FY 2000		9,135,000	23
Allocation Requested for FY 2001		4,500,000	34
Programmed Balance to Complete		26,165,000	
Unprogrammed Balance to Complete after FY 2001		0	

1/ Reflects $911,000 reduction assigned as savings and slippage.

PHYSICAL DATA: Construction began in June 1947. Embankment closure was completed in May 1952. The dam consists of an earthfill embankment approximately 3,000 feet in length, an earthfill dike about 1,350 feet in length and with a gated concrete gravity spillway located on the right abutment. Ten tainter gates 50 feet wide by 24 feet high regulate lake releases through the spillway. The low flow control outlet is a 19-foot diameter conduit with two service gates. The top of dam is at elevation 677.2.

An auxiliary spillway with five 50 feet wide by 35 feet high tainter gates would be constructed near the right abutment of the embankment. This spillway structure has been designed similar to the existing spillway.

1996

JUSTIFICATION: The spillway is inadequate to pass the probable maximum flood, and if it occurred, the embankment would be overtopped for a duration of 30 hours at a peak elevation of approximately 683.5 feet. The existing spillway would pass about 85 percent of the probable maximum flood with no freeboard. If the probable maximum flood occurred and overtopping caused dam failure, severe economic damage would be incurred downstream. According to the approved Dam Safety Assurance Program Recon Report, the downstream effect of a PMF event with accompanying dam failure, would include approximately $298,000,000 of economic loss and an adverse effect on approximately 9,000 residents.

FISCAL YEAR 2001: The requested amount will be applied as follows:

Continue Construction	$ 3,988,000
Planning, Engineering & Design	224,000
Construction Management	288,000
Total	$ 4,500,000

NON-FEDERAL COST: Not applicable.

STATUS OF LOCAL COOPERATION: Not applicable.

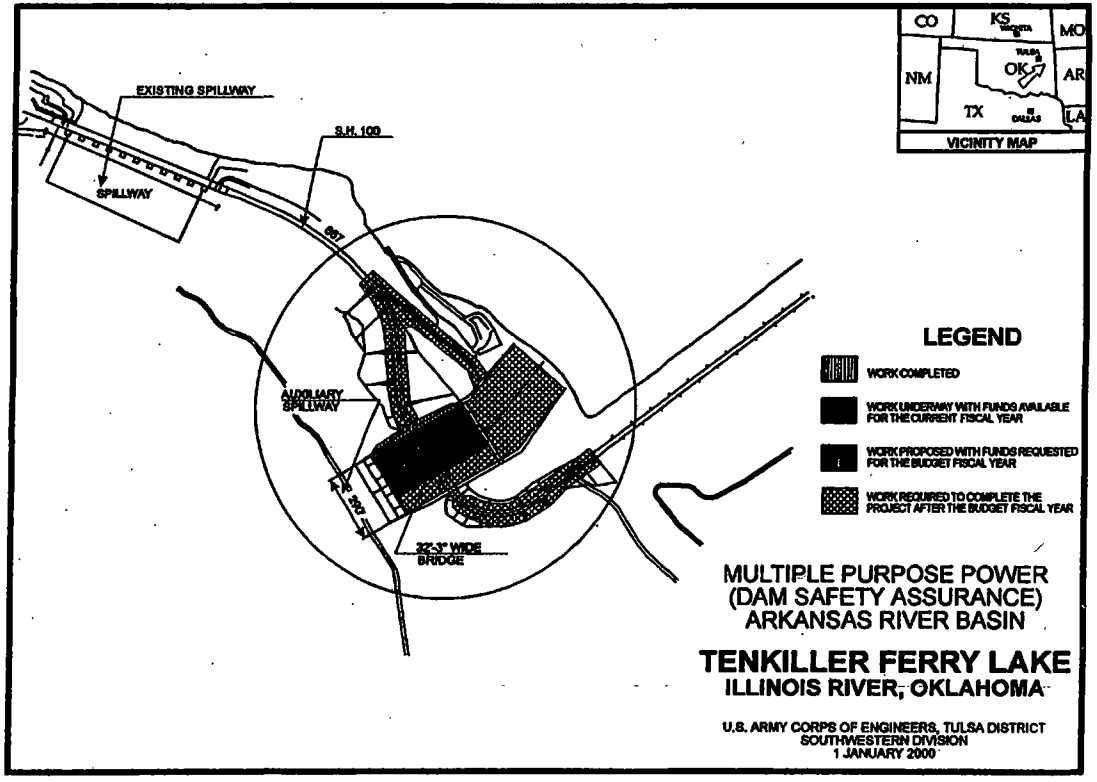
COMPARISON OF FEDERAL COST ESTIMATES: The current Federal cost estimate of $39,800,000 is an increase of $1,900,000 from the latest estimate ($37,900,000) presented to Congress (FY 2000). This change includes the following items:

Item	Amount
Price Escalation on Construction Features	(+) 1,900,000
Total	$ 1,900,000

STATUS OF ENVIRONMENTAL IMPACT STATEMENT: Not required.

The provisions of Section 404 of the Clean Water Act do not apply because the project improvements do not involve the placement of fill material or the discharge of dredge material in the waters of the United States.

OTHER INFORMATION: A feature design memorandum was completed in September 1995. Plans and specifications for Phase I were completed in December 1998. The Phase 1 contract was awarded in May 1999.


EXISTING SPILLWAY
S.H. 100
SPILLWAY
697
AUXILIARY SPILLWAY
497
22'-3" WIDE BRIDGE
CO
KS
MO
NM
OK
AR
TX
LA
VICINITY MAP
LEGEND
WORK COMPLETED
WORK UNDERWAY WITH FUNDS AVAILABLE FOR THE CURRENT FISCAL YEAR
WORK PROPOSED WITH FUNDS REQUESTED FOR THE BUDGET FISCAL YEAR
WORK REQUIRED TO COMPLETE THE PROJECT AFTER THE BUDGET FISCAL YEAR
MULTIPLE PURPOSE POWER
(DAM SAFETY ASSURANCE)
ARKANSAS RIVER BASIN
TENKILLER FERRY LAKE
ILLINOIS RIVER, OKLAHOMA
U.S. ARMY CORPS OF ENGINEERS, TULSA DISTRICT
SOUTHWESTERN DIVISION
1 JANUARY 2000

1998

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

1. Navigation

a. Channels and Harbors

The budget estimate of $68,618,000 provides for essential operation and maintenance work on the 12 channel and harbor projects named in the list which follows. The work to be accomplished under this activity consists of operating and maintaining the coastal navigation channels, harbors and anchorages by means of dredging, constructing bulkheads and spoil disposal areas, snagging, and repairing channel stabilization works, navigation structures, and harbor jetties, all as authorized in the laws pertaining to river and harbor projects.

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	 FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Texas			
Barbour Terminal Channel	1,000,000	314,000	
	(0)	(0)	1. None.
	(1,000,000)	(314,000)	2. None.
Bayport Ship Channel	1,625,000	1,810,000	
	(0)	(0)	1. None.
	(1,625,000)	(1,810,000)	2. Dredge navigation channel.
Brazos Island Harbor	1,062,000	4,802,000	
	(0)	(0)	1. None.
	(1,062,000)	(4,802,000)	2. Dredge navigation channel.
Corpus Christi Ship Channel	4,690,000	5,036,000	
	(100,000)	(0)	1. Dredged material management plan completed in FY 2000.
	(4,590,000)	(5,036,000)	2. Dredge navigation channel.

1999

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

1. Navigation (Continued)

a. Channels and Harbors (Continued)

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Texas (Continued)			
Freeport Harbor	5,100,000	4,802,000	
	(100,000)	(0)	1. Dredged material management plan completed in FY 2000.
	(5,000,000)	(4,802,000)	2. Dredge navigation channel.
Galveston Harbor and Channel	1,985,000	87,000	
	(0)	(0)	1. None.
	(1,985,000)	(87,000)	2. None.
GIWW - Channel to Victoria	315,000	752,000	
	(0)	(462,000)	1. Develop archeology report in FY 2001.
	(315,000)	(290,000)	2. None.

2000

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

1. Navigation (Continued)

a. Channels and Harbors (Continued)

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	 FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Texas (Continued)			
Gulf Intracoastal Waterway	23,072,000	21,765,000	
	(2,830,000)	(4,538,000)	1. Develop dredged material management plan for the main channel in FY 2001.
	(20,242,000)	(17,227,000)	2. Dredge various reaches of the navigation channel.
Houston Ship Channel	6,416,000	8,137,000	
	(0)	(0)	1. None.
	(6,416,000)	(8,137,000)	2. Dredge navigation channel.
Matagorda Ship Channel	3,780,000	4,315,000	
	(0)	(0)	1. None.
	(3,780,000)	(4,315,000)	2. Dredge navigation channel.
Mouth of Colorado River	2,950,000	2,953,000	
	(25,000)	(30,000)	1. Perform water control study in FY 2001.
	(2,925,000)	(2,923,000)	2. Dredge navigation channel.

2001

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

1. Navigation (Continued)

a. Channels and Harbors (Continued)

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	 FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Texas (Continued)			
Sabine-Neches Waterway	9,500,000 (130,000) (9,370,000)	10,013,000 (16,000) (9,997,000)	1. Dredged material management plan completed in FY 2000. 2. Dredge navigation channel.
Other Projects Maintained Periodically (Includes Channel to Port Mansfield, Channel to Harlingen, Double Bayou, Texas City, And Trinity River and Tributaries Projects)	2,081,000 (100,000) (1,981,000)	3,832,000 (0) (3,832,000)	1. Dredged material management plan for the Channel to Harlingen project completed in FY 2000. 2. Dredge navigation channels on the Double Bayou and Channel to Port Mansfield projects.
Total Channels and Harbors	63,576,000 (3,285,000) (60,291,000)	68,618,000 (5,046,000) (63,572,000)	

2002

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

1. Navigation (Continued)

b. Locks and Dams

The budget estimate of $24,576,000 provides for essential operation and repairs on one system containing 13 locks and dams. Included are: labor, supplies, materials and parts for day-to-day functioning; and periodic dredging, maintenance, repairs, or replacements of channels and structures. The requested amount also includes application of Special Recreation Use Fees (SRUF) for recreation areas.

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	 FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Arkansas and Oklahoma			
McClellan-Kerr Arkansas River Navigation System	25,086,000 (12,426,000) (12,660,000)	24,576,000 (13,334,000) (11,242,000)	1. None. 2. Continue dredging of various reaches of the navigation channel. Continue rehabilitation and painting of tainter gates at Joe Hardin Lock and Dam Number 3. Paint tainter gates at Chouteau Lock and Dam Number 17. Initiate installation of tow haulage equipment at W.D. Mayo Lock and Dam Number 14.
Total - Locks and Dams	25,086,000 (12,426,000) (12,660,000)	24,576,000 (13,334,000) (11,242,000)	
TOTAL - NAVIGATION	88,662,000 (15,711,000) (72,951,000)	93,194,000 (18,380,000) (74,814,000)	

2003

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

2. Flood Control

a. Reservoirs

The budget estimate of $83,157,000 provides for the operation and ordinary maintenance of the 62 projects named in the list which follows, and the scheduling of reservoir flood control operations in the Southwestern Division. Included are: labor, supplies, materials and parts for day-to-day functioning. The requested amount also includes application of Special Recreation Use Fees (SRUF) for recreation areas.

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	 FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Arkansas			
Blue Mountain Lake	1,117,000	1,200,000	
	(688,000)	(824,000)	1. Realignment of operations and maintenance funding to more realistically reflect work being accomplished.
	(429,000)	(376,000)	2. None.
DeQueen Lake	1,285,000	1,058,000	
	(673,000)	(667,000)	1. None.
	(612,000)	(391,000)	2. None.
Dierks Lake	1,054,000	988,000	
	(550,000)	(689,000)	1. Realignment of operations and maintenance funding to more realistically reflect work being accomplished.
	(504,000)	(299,000)	2. None.
Gillham Lake	1,002,000	929,000	
	(589,000)	(671,000)	1. Realignment of operations and maintenance funding to more realistically reflect work being accomplished.
	(413,000)	(258,000)	2. None.

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

2. Flood Control (Continued)

a. Reservoirs (Continued).

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	 FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Arkansas (Continued)			
Millwood Lake	1,816,000	1,602,000	
	(958,000)	(948,000)	1. None.
	(858,000)	(654,000)	2. None.
Nimrod Lake	1,367,000	1,416,000	
	(933,000)	(1,022,000)	1. None.
	(434,000)	(394,000)	2. None.
Kansas			
Council Grove Lake	1,130,000	1,197,000	
	(765,000)	(831,000)	1. None.
	(365,000)	(366,000)	2. None.
El Dorado Lake	560,000	487,000	
	(460,000)	(390,000)	1. Completed archeological studies and surveys and conducted periodic inspection in FY 2000.
	(100,000)	(97,000)	2. None.

2005

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

2. Flood Control (Continued)

a. Reservoirs (Continued).

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	 FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Kansas (Continued)			
Elk City Lake	716,000	728,000	
	(384,000)	(436,000)	1. Conduct periodic inspection in FY 2001.
	(332,000)	(292,000)	2. None.
Fall River Lake	1,184,000	1,429,000	
	(731,000)	(745,000)	1. None.
	(453,000)	(684,000)	2. None.
John Redmond Dam and Reservoir	975,000	1,186,000	
	(720,000)	(719,000)	1. None.
	(255,000)	(467,000)	2. None.
Marion Lake	1,331,000	1,354,000	
	(995,000)	(936,000)	1. None.
	(336,000)	(418,000)	2. None.

2006

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

2. Flood Control (Continued)

a. Reservoirs (Continued).

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	 FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Kansas (Continued)			
Pearson-Skubitz			
Big Hill Lake	900,000	1,074,000	
	(590,000)	(584,000)	1. None.
	(310,000)	(490,000)	2. None.
Toronto Lake	468,000	673,000	
	(361,000)	(356,000)	1. None.
	(107,000)	(317,000)	2. None.
Missouri			
Clearwater Lake	2,248,000	2,015,000	
	(1,258,000)	(1,274,000)	1. None.
	(990,000)	(741,000)	2. None.
Oklahoma			
Arcadia Lake	403,000	417,000	
	(353,000)	(345,000)	1. None.
	(50,000)	(72,000)	2. None.

2007

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

2. Flood Control (Continued)

a. Reservoirs (Continued).

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	 FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000
Oklahoma (Continued)			
Birch Lake	611,000	480,000	
	(531,000)	(398,000)	1. Conducted periodic inspection and closed lake office in FY 2000.
	(80,000)	(82,000)	2. None.
Candy Lake	30,000	18,000	
	(30,000)	(18,000)	1. Real estate activities completed in FY 2000 in preparation for disposal of project in FY 2001.
	(0)	(0)	2. None.
Canton Lake	2,497,000	2,656,000	
	(1,032,000)	(989,000)	1. None.
	(1,465,000)	(1,667,000)	2. Replace tainter gate hoist chains with cables.
Copan Lake	1,020,000	823,000	
	(482,000)	(508,000)	1. None.
	(538,000)	(315,000)	2. None.

2008

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

2. Flood Control (Continued)

a. Reservoirs (Continued).

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	 FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Oklahoma (Continued)			
Fort Supply Lake	751,000	838,000	
	(498,000)	(476,000)	1. None.
	(253,000)	(362,000)	2. None.
Great Salt Plains Lake	259,000	209,000	
	(143,000)	(131,000)	1. None.
	(116,000)	(78,000)	2. None.
Heyburn Lake	697,000	557,000	
	(489,000)	(441,000)	1. None.
	(208,000)	(116,000)	2. None.
Hugo Lake	1,404,000	1,639,000	
	(1,012,000)	(1,085,000)	1. None.
	(392,000)	(554,000)	2. None.
Hulah Lake	491,000	447,000	
	(334,000)	(313,000)	1. None.
	(157,000)	(134,000)	2. None.

2009

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

2. Flood Control (Continued)

a. Reservoirs (Continued).

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Oklahoma (Continued)			
Kaw Lake	2,740,000	1,756,000	
	(1,260,000)	(1,275,000)	1. None.
	(1,480,000)	(481,000)	2. None.
Oologah Lake	2,947,000	2,353,000	
	(1,229,000)	(1,171,000)	1. None.
	(1,718,000)	(1,182,000)	2. Repair erosion at spillway outlet channel.
Optima Lake	74,000	63,000	
	(58,000)	(42,000)	1. Real estate activities completed in FY 2000 in preparation for disposal of project in FY 2001.
	(16,000)	(21,000)	2. None.
Pensacola Reservoir - Lake O' the Cherokees	32,000	32,000	
	(32,000)	(32,000)	1. None.
	(0)	(0)	2. None.

2010

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

2. Flood Control (Continued)

a. Reservoirs (Continued).

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	 FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Oklahoma (Continued)			
Pine Creek Lake	1,414,000	1,160,000	
	(759,000)	(762,000)	1. None.
	(655,000)	(398,000)	2. None.
Sardis Lake	1,287,000	944,000	
	(582,000)	(729,000)	1. Conduct periodic inspection and increased cost of service contracts for project operations in FY 2001.
	(705,000)	(215,000)	2. None.
Skiatook Lake	1,084,000	947,000	
	(959,000)	(797,000)	1. Installed piezometers and relief wells in FY 2000.
	(125,000)	(150,000)	2. None.
Waurika Lake	1,997,000	1,441,000	
	(780,000)	(863,000)	1. Conduct periodic inspection in FY 2001.
	(1,217,000)	(578,000)	2. None.

2011

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

2. Flood Control (Continued)

a. Reservoirs (Continued).

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	 FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Oklahoma (Continued)			
Wister Lake	679,000	729,000	
	(554,000)	(620,000)	1. Increased cost of service contracts for project operations.
	(125,000)	(109,000)	2. None.
Texas			
Aquilla Lake	602,000	738,000	
	(483,000)	(592,000)	1. Realignment of operations and maintenance funding to more realistically reflect work being accomplished.
	(119,000)	(146,000)	2. None.
Arkansas-Red River Basins Chloride Control (Area VIII)	1,242,000	1,340,000	
	(592,000)	(680,000)	1. Realignment of operations and maintenance funding to more realistically reflect work being accomplished.
	(650,000)	(660,000)	2. None.
Bardwell Lake	1,436,000	1,453,000	
	(993,000)	(1,083,000)	1. None.
	(443,000)	(370,000)	2. None.

2012

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

2. Flood Control (Continued)

a. Reservoirs (Continued).

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Texas (Continued)			
Belton Lake	2,542,000	3,103,000	
	(1,835,000)	(1,934,000)	1. None.
	(707,000)	(1,169,000)	2. None.
Benbrook Lake	1,896,000	1,975,000	
	(1,334,000)	(1,396,000)	1. None.
	(562,000)	(579,000)	2. None.
Buffalo Bayou and Tributaries	2,034,000	2,029,000	
	(1,529,000)	(1,565,000)	1. None.
	(505,000)	(464,000)	2. None.
Canyon Lake	2,265,000	2,689,000	
	(1,531,000)	(1,626,000)	1. None.
	(734,000)	(1,063,000)	2. None.

2013

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

2. Flood Control (Continued)

a. Reservoirs (Continued).

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	 FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Texas (Continued)			
Estelline Springs			
Experimental Project	14,000	10,000	
	(0)	(0)	1. None.
	(14,000)	(10,000)	2. None.
Ferrell's Bridge Dam -			
Lake O' the Pines	2,288,000	2,801,000	
	(1,598,000)	(1,743,000)	1. None.
	(690,000)	(1,058,000)	2. None.
Granger Dam and Lake	1,652,000	1,573,000	
	(1,025,000)	(1,088,000)	1. None.
	(627,000)	(485,000)	2. None.
Grapevine Lake	2,267,000	2,433,000	
	(1,581,000)	(1,790,000)	1. Realignment of operations and maintenance funding to more realistically reflect work being accomplished.
	(686,000)	(643,000)	2. None.
Hords Creek Lake	1,201,000	1,203,000	
	(733,000)	(759,000)	1. None.
	(468,000)	(444,000)	2. None.

2014

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

2. Flood Control (Continued)

a. Reservoirs (Continued).

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	 FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Texas (Continued)			
Jim Chapman Lake	1,045,000	1,144,000	
	(529,000)	(593,000)	1. Realignment of operations and maintenance funding to more realistically reflect work being accomplished.
	(516,000)	(551,000)	2. None.
Joe Pool Lake	740,000	759,000	
	(606,000)	(631,000)	1. None.
	(134,000)	(128,000)	2. None.
Lake Kemp	154,000	201,000	
	(147,000)	(194,000)	1. Conduct periodic inspection in FY 2001.
	(7,000)	(7,000)	2. None.
Lavon Lake	2,390,000	2,439,000	
	(1,770,000)	(1,902,000)	1. None.
	(620,000)	(537,000)	2. None.
Lewisville Dam	3,123,000	2,959,000	
	(2,034,000)	(2,203,000)	1. None.
	(1,089,000)	(756,000)	2. None.
Navarro Mills Lake	1,456,000	1,524,000	
	(1,044,000)	(1,110,000)	1. None.
	(412,000)	(414,000)	2. None.

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2015

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

2. Flood Control (Continued)

a. Reservoirs (Continued).

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Texas (Continued)			
North San Gabriel Dam and Lake Georgetown	1,934,000	1,785,000	
	(1,139,000)	(1,200,000)	1. None.
	(795,000)	(585,000)	2. None.
O. C. Fisher Dam and Lake	1,488,000	1,005,000	
	(572,000)	(609,000)	1. None.
	(916,000)	(396,000)	2. None.
Pat Mayse Lake	1,974,000	941,000	
	(716,000)	(627,000)	1. Installed piezometers and relief wells in FY 2000.
	(1,258,000)	(314,000)	2. None.
Proctor Lake	1,490,000	1,709,000	
	(1,124,000)	(1,143,000)	1. None.
	(366,000)	(566,000)	2. None.
Ray Roberts Lake	1,093,000	1,002,000	
	(683,000)	(778,000)	1. Realignment of operations and maintenance funding to more realistically reflect work being accomplished.
	(410,000)	(224,000)	2. None.

2016

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

2. Flood Control (Continued)

a. Reservoirs (Continued).

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	 FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Texas (Continued)			
Somerville Lake	2,508,000	2,773,000	
	(1,647,000)	(1,755,000)	1. None.
	(861,000)	(1,018,000)	2. None.
Stillhouse Hollow Dam	2,006,000	1,744,000	
	(1,251,000)	(1,380,000)	1. Realignment of operations and maintenance funding to more realistically reflect work being accomplished.
	(755,000)	(364,000)	2. None.
Waco Lake	2,907,000	2,301,000	
	(1,551,000)	(1,603,000)	1. None.
	(1,356,000)	(698,000)	2. None.
Wallisville Lake	1,090,000	1,208,000	
	(1,090,000)	(1,208,000)	1. Increased requirement reflects full operational costs for this project completed in FY 2000.
	(0)	(0)	2. None.
Wright Patman Dam and Lake	2,587,000	2,643,000	
	(1,844,000)	(1,939,000)	1. None.
	(743,000)	(704,000)	2. None.

2017

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

2. Flood Control (Continued)

a. Reservoirs.

Scheduling Reservoir Operations. The budget estimate of $828,000 provides for preparation, review and updating of water control manuals, real-time data collection to monitor hydrologic conditions at 93 Corps reservoirs, locks and dams and multiple purpose projects; and for the issuance of gate regulation instructions as necessary at 14 additional non-Corps dam and reservoir projects at which the Corps is responsible for flood control or navigation.

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	 FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Scheduling Reservoir Operations (All operations accounts)			
Kansas	(184,000)	(193,000)	
Oklahoma	(370,000)	(386,000)	
Texas	(235,000)	(249,000)	
Total Operations	(789,000)	(828,000)	1. None.
Total Maintenance	(0)	(0)	2. None.
Total - Reservoirs	85,783,000	83,157,000	
	(53,475,000)	(55,976,000)	
	(32,308,000)	(27,181,000)	

2018

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

2. Flood Control (Continued)

b. Channel improvement, inspection, and miscellaneous maintenance.

Inspection of Completed Works. The budget estimate of $588,000 provides for inspections at flood control projects constructed by the Corps and operated and maintained by non-Federal interests. The inspections are conducted to determine the extent of compliance with legal standards and to advise local interests, as necessary, of corrective measures required to ensure that project structures and facilities will continue to safely provide flood protection benefits. These projects consist of features such as channels, levees, floodwalls, drainage structures and pumping plants.

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	 FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Inspection of Completed Works (All Operations Accounts)			
Arkansas	(96,000)	(103,000)	
Kansas	(46,000)	(36,000)	
Missouri	(3,000)	(3,000)	
Oklahoma	(91,000)	(72,000)	
Texas	(288,000)	(374,000)	
Total Operations	(524,000)	(588,000)	1. Increase in scope and number of project inspections in FY 2001.
Total Maintenance	(0)	(0)	2. None.

2019

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

2. Flood Control (Continued)

b. Channel improvement, inspection, and miscellaneous maintenance.

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	 FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Total Channel Improvements, Inspections, and Miscellaneous Maintenance	524,000 (524,000) (0)	588,000 (588,000) (0)	
TOTAL - FLOOD CONTROL	86,307,000 (53,999,000) (32,308,000)	83,745,000 (56,564,000) (27,181,000)	

2020

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

3. Multiple Purpose Power Projects

The budget estimate of $83,109,000 provides for the operation and maintenance of 18 multiple purpose projects, including 4 navigation locks and dams, named in the list which follows. These projects have a current operational capacity of 1,726,200 kilowatts of hydroelectric power production. Annual requirements are for the operation and ordinary maintenance of project facilities, labor, supplies, materials, and parts required for the day-to-day functioning. The requested amount also includes application of Special Recreation Use Fees (SRUF) for recreation areas.

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	 FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Arkansas			
Beaver Lake	3,702,000	4,520,000	
	(2,539,000)	(3,072,000)	1. Realignment of operations and maintenance funding to more realistically reflect work being accomplished.
	(1,163,000)	(1,448,000)	2. None.
Bull Shoals Lake	5,536,000	4,565,000	
	(2,397,000)	(3,338,000)	1. Realignment of operations and maintenance funding to more realistically reflect work being accomplished.
	(3,139,000)	(1,227,000)	2. None.
Dardanelle Lock and Dam	5,673,000	5,937,000	
	(3,066,000)	(3,085,000)	1. None.
	(2,607,000)	(2,852,000)	2. None.
Greers Ferry Lake	4,946,000	5,933,000	
	(2,464,000)	(4,196,000)	1. Realignment of operations and maintenance funding to more realistically reflect work being accomplished.
	(2,482,000)	(1,737,000)	2. Construct tainter gate bulkhead.

2021

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

3. Multiple Purpose Power Projects (Continued)

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	 FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Arkansas (Continued)			
Norfork Lake	3,803,000	3,626,000	
	(1,778,000)	(2,729,000)	1. Realignment of operations and maintenance funding to more realistically reflect work being accomplished.
	(2,025,000)	(897,000)	2. None.
Ozark-Jeta Taylor Lock and Dam	5,515,000	4,072,000	
	(2,277,000)	(2,043,000)	1. Construction, General funding will be utilized to continue major rehabilitation studies for the powerhouse in FY 2001.
	(3,238,000)	(2,029,000)	2. None.
Missouri			
Table Rock Lake	5,963,000	6,485,000	
	(3,427,000)	(4,423,000)	1. Realignment of operations and maintenance funding to more realistically reflect work being accomplished.
	(2,536,000)	(2,062,000)	2. Continue rehabilitation and paint tainter gates.
Oklahoma			
Broken Bow Lake	1,508,000	1,471,000	
	(642,000)	(718,000)	1. Realignment of operations and maintenance funding to more realistically reflect work being accomplished.
	(866,000)	(753,000)	2. None.

2022

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

3. Multiple Purpose Power Projects (Continued)

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	 FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Oklahoma (Continued)			
Eufaula Lake	7,366,000	7,240,000	
	(3,200,000)	(2,786,000)	1. Decrease use of Special Recreation Use Fees for routine operations of recreation facilities in FY 2000.
	(4,166,000)	(4,454,000)	2. Replace oil circuit breakers. Continue rehabilitation and painting of tainter gates.
Fort Gibson Lake	4,034,000	5,954,000	
	(2,408,000)	(2,395,000)	1. None.
	(1,626,000)	(3,559,000)	2. Continue repair of spillway road.
Keystone Lake	6,543,000	6,435,000	
	(2,330,000)	(2,351,000)	1. None.
	(4,213,000)	(4,084,000)	2. Replace oil circuit breakers. Continue rehabilitation and painting of tainter gates.
Robert S. Kerr Lock and Dam and Reservoir	4,501,000	4,001,000	
	(1,886,000)	(2,581,000)	1. Realignment of operations and maintenance funding to more realistically reflect work being accomplished.
	(2,615,000)	(1,420,000)	2. None.
Tenkiller Perry Lake	3,400,000	3,178,000	
	(1,693,000)	(1,761,000)	1. None.
	(1,707,000)	(1,417,000)	2. None.

2023

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

3. Multiple Purpose Power Projects (Continued)

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	 FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Oklahoma (Continued)			
Webbers Falls Lock and Dam	3,066,000	3,297,000	
	(1,505,000)	(1,858,000)	1. Realignment of operations and maintenance funding to more realistically reflect work being accomplished.
	(1,561,000)	(1,439,000)	2. None.
Texas			
Denison Dam - Lake Texoma	6,728,000	5,517,000	
	(3,342,000)	(3,456,000)	1. None.
	(3,386,000)	(2,061,000)	2. None.
Sam Rayburn Dam and Reservoir	4,572,000	4,191,000	
	(2,576,000)	(2,582,000)	1. None.
	(1,996,000)	(1,609,000)	2. None.

2024

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

3. Multiple Purpose Power Projects (Continued)

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	 FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Texas (Continued)			
Town Bluff Dam, B. A. Steinhagen Lake and Robert Douglas Willis Hydropower Project	2,062,000 (1,152,000) (910,000)	2,007,000 (1,217,000) (790,000)	 1. None. 2. None.
Whitney Lake	5,088,000 (2,989,000) (2,099,000)	4,680,000 (2,747,000) (1,933,000)	 1. None. 2. None.
TOTAL - MULTIPLE PURPOSE POWER PROJECTS	84,006,000 (41,671,000) (42,335,000)	83,109,000 (47,338,000) (35,771,000)	

2025

APPROPRIATION TITLE: Operation and Maintenance, General, Fiscal Year 2001

4. Protection of Navigation

Project Condition Surveys. The budget estimate of $75,000 provides for hydrographic surveys, inspections, and studies to determine the condition of navigation channels that do not have any other maintenance work included in the budget request and disseminate the information to users of the projects. For the projects that do not require maintenance, surveys are performed at many of them in order to determine the degree of sedimentation so that users can be advised of channel conditions and future maintenance can be scheduled.

State Project Name	ESTIMATED OBLIGATIONS ($) FY 2000 Total (Operations) (Maintenance)	 FY 2001 Total (Operations) (Maintenance)	Reason for Change and Major Maintenance Items 1. Reasons for change in Operations from FY00 to FY01(10%+/-) 2. Major Maintenance Items Budgeted in FY01(Threshold $500,000)
Project Condition Surveys			
Texas	50,000	75,000	
	(50,000)	(75,000)	1. Increase in scope and number of projects to be surveyed in FY 2001.
	(0)	(0)	2. None.
TOTAL - PROTECTION OF NAVIGATION	50,000	75,000	
	(50,000)	(75,000)	
	(0)	(0)	
GRAND TOTAL - SOUTHWESTERN DIVISION	259,025,000	260,123,000	
	(111,431,000)	(122,357,000)	
	(147,594,000)	(137,766,000)	

2026

U.S. ARMY CORPS OF ENGINEERS
CIVIL WORKS PROGRAM

CONGRESSIONAL SUBMISSION
FISCAL YEAR 2001

(2027)

REMAINING ITEMS

Budgetary information will not be released
Outside the Department of the Army until
7 February 2000

Justification of Estimates for Civil Functions Activities
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SUMMARY OF REMAINING ITEMS

GENERAL INVESTIGATIONS

	FY 2000 Allocation	FY 2001 Request	Increase (Decrease)
	$	$	$
1. Surveys	12,680,000	15,700,000	3,020,000
c. Special Studies	0	300,000	300,000
e. Coordination with Other Federal Agencies, States, and Non-Federal Interests	12,680,000	15,400,000	2,720,000
(1) Planning Assistance to States	5,800,000	6,500,000	700,000
(2) Other Coordination Programs			
(a) Special Investigations	3,565,000	4,264,000	699,000
(b) Gulf of Mexico Program	169,000	180,000	11,000
(c) Chesapeake Bay Program	172,000	250,000	78,000
(d) Pacific Northwest Forest Case Study	255,000	400,000	145,000
(e) Interagency Water Resources Development	1,019,000	1,900,000	881,000
(f) Interagency and International Support	255,000	256,000	1,000
(g) Inventory of Dams	340,000	500,000	160,000
(h) National Estuary Program	85,000	100,000	15,000
(i) North American Waterfowl Management Plan	85,000	100,000	15,000
(j) Coordination with Other Water Resources Agencies	425,000	500,000	75,000
(k) CALFED	425,000	250,000	(175,000)
(l) Lake Tahoe, NV	85,000	200,000	115,000

2087

Justification of Estimates for Civil Functions Activities
Department of the Army, Corps of Engineers
Fiscal Year 2001

SUMMARY OF REMAINING ITEMS

GENERAL INVESTIGATIONS

	FY 2000 Allocation	FY 2001 Request	Increase (Decrease)
	$	$	$
2. Collection and Study of Basic Data	12,283,000	16,450,000	4,167,000
a. Flood Plain Management Services	7,310,000	9,000,000	1,690,000
c. Other Programs			
(1) Stream Gaging (U.S. Geological Survey)	602,000	800,000	198,000
(2) Precipitation Studies (National Weather Service)	344,000	400,000	56,000
(3) International Waters Studies	475,000	500,000	25,000
(4) Hydrologic Studies	438,000	500,000	62,000
(5) Scientific and Technical Information Centers	86,000	100,000	14,000
(6) Coastal Field Data Collection	1,032,000	2,300,000	1,268,000
(7) Transportation Systems	602,000	800,000	198,000
(8) Environmental Data Studies	86,000	700,000	614,000
(9) Remote Sensing	258,000	300,000	42,000
(10) Automated Information Systems Support	650,000	650,000	0
(11) Flood Damage Data Program	400,000	400,000	0
3. Research and Development	23,974,000	23,400,000	(574,000)
4. Earthquake Engineering Research	2,226,000	2,600,000	374,000
Totals	51,163,000	58,150,000	6,987,000

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APPROPRIATION TITLE: General Investigations, FY 2001

1. Surveys

c. Special Studies

Study	Total Estimated Federal Cost	Allocation Prior to FY 2000	Allocation FY 2000	Tentative Allocation FY 2001	Additional to Complete After FY 2001
(1) National Shoreline	7,000,000	0	0	300,000	6,700,000

SCOPE:

The study is an interagency effort to determine the extent and cause of shoreline erosion on all the coasts of the United States and to assess the economic and environmental impacts of that erosion. The study will analyze the appropriate Federal and non-Federal roles and the advisability of using a systems approach to sediment management for linking the management of all (shore protection, navigation channel dredging, and environmental restoration and preservation) projects in the coastal zone so as to conserve and efficiently manage the flow of sediment within littoral systems.

ACCOMPLISHMENTS:

FY 2001 funding would initiate work on this study. The Fiscal Year 2001 efforts include:

$150,000 for the Institute for Water Resources to (1) coordinate work on the economic analysis among Corps Divisions and Districts on a regional basis, (2) coordinate with appropriate non-governmental organizations concerned with these issues, and (3) to establish the overall study framework

$100,000 for the Coastal and Hydraulics Laboratory to (1) establish technical guidelines for collecting and analyzing data on the extent and causes of shoreline erosion, (2) coordinate work within Corps Divisions and Districts on a regional basis, and (3) coordinate with the U.S. Geological Survey and the National Ocean Service as they participate in the data collection and analysis; and

$50,000 for the Environmental Laboratory to (1) establish technical guidelines for collecting and analyzing data on the environmental impacts of shoreline erosion, (2) coordinate work within Corps Divisions and Districts on a regional basis, and (3) coordinate with the other Federal agencies in the collection and analysis of environmental impacts.

Section 215 of the Water Resources Development Act of 1999 provides the authority for conducting this study.

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e. Coordination with Other Federal Agencies, States, and Non-Federal Interests

(1) Planning Assistance to States

SCOPE:

This Corps of Engineers program stems from Section 22 of the Water Resources Development Act of 1974, as amended, which authorizes the Secretary of the Army to assist States, local governments, Indian tribes, and other non-Federal entities in the preparation of comprehensive plans for the development, utilization, and conservation of water and related land resources. This assistance is in the form of reconnaissance-level studies which provide information and guidance to help the non-Federal sponsors become more active and effective working partners with the Federal government in resolving water resources problems. The studies are cost-shared on a 50% Federal, 50% non-Federal basis. The program can encompass many types of studies dealing with water resources issues, including environmental conservation/restoration, wetlands evaluation, water supply and demand, water quality, flood damage reduction, coastal zone management, and dam safety.

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2001-2005) Program Cost	$40,000,000
Tentative Allocation for FY 2001	6,500,000
Balance to Complete Five-Year Program after FY 2001	$33,500,000
Allocation for FY 2000	5,800,000
Increase of FY 2001 from FY 2000	700,000
Average Annual Allocation or FY 1996-2000	4,105,000

JUSTIFICATION:

Significant flood events over the last several years have raised public awareness and increased the demand for assistance in resolving water resource problems. Interest from states, regional and local governments, Indian tribes, and other non-Federal public agencies in this highly efficient and effective Program continues to grow. The FY 2001 amount will enable the Corps to provide much needed planning and technical assistance to aid them in a wide variety of water resource efforts, including environmental restoration studies, watershed planning, and flood plain management planning. Currently, there are ongoing studies which require additional funds to complete, as well as a backlog of unfunded studies which have been identified by states, communities, and Indian Tribes as high priority studies. The FY 2001 request will allow the Corps to continue and complete ongoing studies, and initiate additional high priority studies.

ACCOMPLISHMENTS:

The Corps of Engineers provided technical and planning assistance for a full range of water resources issues, including watershed management, wetlands identification, environmental restoration, water supply, water quality, and flood damage reduction. In fiscal year 1999, 128 studies were performed for 40 states, as well as nine studies for Federally-recognized Indian tribes.

1. Surveys

e. Coordination with Other Federal Agencies, States, and Non-Federal Interests (Continued)

(2) Other Coordination Programs

Allocation For FY 2000 $6,880,000 Tentative Allocation FY 2001 $8,900,000

(a.) The Special Investigations request is $4,264,000. This amount provides $500,000 for the Corps to respond to Presidential Initiatives of Fiscal Year 2000. The amount of $200,000 provides for; the review of preliminary permit and licenses applications for non-Federal hydroelectric power development either at or affecting Corps water resource projects. The amount of $3,564,000 provides for (1) special investigations and reports of nominal scope prepared pursuant to Congressional and other requests from outside the Corps of Engineers for information relative to projects or activities which have no funds; (2) similar work of detailed scope, as specifically authorized by the Chief of Engineers; and (3) review of reports and environmental impact statements of other agencies. Among the investigations paid for from these funds are reconnaissance investigations of flooding potential and flood damages, drainage, harbor improvements, anchorages, and development of navigation channels.

(b.) The Gulf of Mexico Program (GMP) request is $180,000. The GMP is formulating and implementing creative solutions to economic and environmental issues with Gulf-wide and national implications. Hypoxia/nutrient enrichment, Habitat, Public Health (Shellfish) and Nonindigenous Species are the focus issue areas, which are linked to authorized Corps missions in the five-state GMP area. The Hypoxia and Habitat focus areas are now getting more emphasis...through the Clean Water Action Plan and links to a multitude of Corps programs. U.S. Environmental Protection Agency-initiated, the GMP is partnership-driven, blending the programs and resources of Federal, state and local governments, with the resources and commitments of business, industry, citizens groups and academia. The Corps has a full time staff member serving as liaison to the GMP Office (GMPO). That individual's primary duty is to provide the linkage between the Southwestern, Mississippi Valley and South Atlantic Major Subordinate Commands and their districts and the current and evolving activities of the GMP/GMPO. Personnel from several districts and divisions serve on various committees and focus area groups. Secondary duties of the Corps liaison include: 1) coordinating with and supporting the Corps representative on the GMP's Management Committee as well as the DOD representative serving on the GMP's Policy Review Board; 2) functioning as the Corps' alternate Management Committee representative; 3) functioning as a GMPO Interagency Management Team Member; 4) mentoring the GMPO Habitat Focus Team; and, 5) serving as a member of the GMPO Hypoxia Focus Team. The Corps liaison also serves as the Corps' functional and program link to the Coastal America-Gulf of Mexico Regional Implementation Team (RIT). The requested funds will ensure the full participation of the Corps in implementation of GMP-formulated initiatives.

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1. Surveys

e. Coordination with Other Federal Agencies, States, and Non-Federal Interests

(2) Other Coordination Programs (Continued)

(c.) Chesapeake Bay Program. The amount of $250,000 is requested to continue activities initiated under Special Investigations. The Chesapeake Bay Program (CBP) is an interagency program, initiated by the US Environmental Protection Agency (EPA), for the protection and restoration of the bay's natural resources. These natural resources have tremendous environmental and economic significance to the northeast region and to the Nation. Following extensive Corps of Engineers investigations and EPA studies in the 1970's and early 1980's, it became increasingly clear that the Chesapeake Bay as a system was under intense pressure from development and overuse and was undergoing degradation in water quality, living resources and other ecological indicators. With the funds requested, the Baltimore District will continue participation in the CBP Implementation Committee; the Federal Agencies Subcommittee; the Living Resources, Monitoring, Modeling and Toxics Subcommittee; and numerous workgroups addressing various subjects such as wetlands, submerged aquatic vegetation, and land stewardship. The Baltimore District will continue with the lead on two initiatives (Anacostia Biennial Workplan and Chesapeake Bay Habitat Restoration) from the Agreement of Federal Agencies on Ecosystem Management in the Chesapeake Bay signed in July 1994 and its successor, the Federal Agencies Chesapeake Ecosystem Unified Plan (FACEUP) signed by the ASA(CW) in 1998, as well as participating in workgroups on other aspects of the agreements. ASA(CW) was a signatory on a Special Tributary Strategy for Federal Lands in the District of Columbia agreement that commits the Corps to develop stormwater pollution prevention and nutrient management plans. Many of these actions affect Corps authorized missions in the Chesapeake Bay. It is very important for the Corps representatives to be active members of the CBP Implementation Committee, the Federal Agencies Subcommittee and other working groups.

(d.) The Pacific Northwest Forest Case Study request is $400,000 to continue activities initiated under Special Investigations. The Northwest Forest Plan (NFP) is an interagency program, initiated by the White House's Council of Environmental Quality, for ecosystem management of the public lands in the Pacific Northwest within the range of the Northern Spotted Owl. In FY 1999, the Corps of Engineers became an official signatory agency to the NFP Memorandum of Understanding. The NFP institutes an interagency approach for restoring and protecting animal and plant species on public lands and provides for economic assistance to impacted communities. With the funds requested, Portland and Seattle Districts, under the Northwestern Division, will be able to continue limited participation in the implementation of the NFP by participating on the Interagency Advisory Committee and Regional Ecosystem Office, and providing limited technical advice and assistance to the other eight Federal Agencies, local Watershed Councils, and other state and tribal forums. NFP funding will enable the Corps to continue to work cooperatively with its other Federal NFP partners (USDA Forest Service, Bureau of Land Management, US Fish and Wildlife Service, National Marine Fisheries Service, National Park Service, Environmental Protection Agency, Bureau of Indian Affairs, and Natural Resource Conservation Service) and the States of Washington, Oregon, and California. NFP participants are presently concentrating on the development of coordinated Implementation Monitoring and Effectiveness Monitoring Programs while continuing to refine and implement its watershed ecosystem management strategies. Many of these strategies and programs involve and will be benefited by the Corps authorized missions in the western states. The NFP presents the best opportunity for the Corps to expand its involvement with the other agencies of the Federal and State communities to use all of our engineering and environmental capabilities to address many of government's missions.

2042

1. Surveys

e. Coordination with Other Federal Agencies, States, and Non-Federal Interests

(2) Other Coordination Programs (Continued)

(e.) The Interagency Water Resources Development request is $1,900,000. This amount provides $1,300,000 for Corps of Engineers district activities, not otherwise funded, that require coordination effort with non-Federal interests. These activities include items such as meeting with City, County and State officials to help them solve water resources problems when they have sought advice or to determine whether Corps programs are available and may be used to address the problems. This will also cover costs of meeting with potential study sponsors before studies are budgeted to insure they understand study cost sharing and to obtain an indication of their interest in participating in a future study. It also provides $600,000 for two American Heritage River Navigators who are supported by the US Army Corps of Engineers, based upon Executive Order 13061, dated 11 September 1997. These River Navigators provide direct support to the Community Partners for the New River, which flows through NC, VA and WV; and for the Upper Mississippi River above St. Louis, MO. The navigators assist the individual communities and community partners in accessing a variety of Federal programs to achieve the goals in the river workplans. These workplans are a product of river community partners' locally-driven, watershed management approaches. Goals include economic revitalization, environmental restoration, and historic and cultural preservation. Immediate targets in the communities' river workplans include improvements such as land cleanup, alternative agriculture and aquaculture projects, community reutilization, educational outreach, stormwater runoff, downtown and riverfront improvements and preservation of historic features in river communities. The River Navigators provide a conduit and coordination link between the community partners and the various Federal programs which might apply to, and provide funding sources for the individual projects.

(f.) The request is $256,000 for Interagency and International Support to allow the Corps of Engineers to participate with other Federal agencies and international organizations to address problems of national significance to the United States. The Corps of Engineers has widely recognized expertise and experience in water resources, infrastructure planning and development, and environmental protection and restoration. Frequently, other Federal agencies, particularly the State Department and the Environmental Protection Agency, and international organizations request use of the Corps talents in addressing domestic or international problems of utmost importance to the United States. Often the requesting entity is not able to reimburse all Corps costs, including salaries, but yet the success of the program can be greatly enhanced by employing the talents of the Corps. In many cases the Corps abilities to perform its civil works mission or promote opportunities in the U.S. private sector are also enhanced. In FY 2000, the program funds are being used to support the State Department on Middle East and other global water issues, the World Water Council, the World Commission on Dams, the Environmental Protection Agency on Brownfields, and other initiatives of national importance. The requested funds will be used to cover Corps salary and travel costs not otherwise available. International activities will be undertaken only after consultation with the State Department.

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APPROPRIATION TITLE: General Investigations, FY 2000

1. Surveys

e. Coordination with Other Federal Agencies, States, and Non-Federal Interests

(2) Other Coordination Programs (Continued)

(g.) The amount of $500,000 is requested for continued maintenance and publication of the National Dam Inventory. Section 215 of the Water Resources Development Act of 1996 (Public Law 104-303) authorized $500,000 to be appropriated each fiscal year for the maintenance and publication of the National Dam Inventory. The Inventory was initially compiled in 1975 has been periodically updated to reflect construction of new dams, ownership changes, modifications to existing dams, and improvements in the accuracy and completeness of the data. The 1999 update included 76,750 dams, and focused on the use of current technology, integrating computer software into the inventory package to improve the ease of use and accessibility of the data. These funds will be used to meet the continuously emerging needs of the public and using agencies for more accurate, complete, and user friendly data. The inventory will continue to be improved utilizing rapidly evolving technology including enhanced World Wide Web access and a Geographic Information System (GIS) interface, in accordance with the intent of the Vice President's National Public Review. The importance of continued maintenance and publication of the National Dam Inventory has increased, since the inventory is now required for use by the Director of FEMA and the National Dam Safety Review Board in the allocation of dam safety program assistance funds to the various States in proportion to the number of dams in the state. Inventory data is also included in the biennial report to Congress on the National Dam Safety Program. The ongoing maintenance and publishing of the Inventory is a coordinated effort involving data from the Federal and non-Federal Dam Safety community in cooperation with the Interagency Committee on Dam Safety (ICODS).

(h.) The amount of $100,000 is requested to participate with Federal and State agencies in the National Estuary Program (NEP) administered by the Environmental Protection Agency under the Water Quality Act of 1987 (Section 320 of PL 100-4). The NEP is an interagency planning program to develop management plans for nationally significant estuaries designated by the EPA. To date, the following 26 estuaries have been designated under the program: Puget Sound, WA; Delaware Bay, DE: and Delaware Inland Bays, DE; New York/New Jersey Harbor, NY-NJ; Sarasota Bay, FL; Santa Monica Bay, CA; San Francisco Bay, CA; Galveston Bay, TX; Albermarle/Pamlico Sound, NC; Buzzards Bay, MA; Narrangansett Bay, RI; and Long Island Sound, CT-NY, NY; Massachusetts Bay, MA; Barataria/Terrebonne Bays, LA; Indian River Lagoon, FL; Casco Bay, ME; Tampa Bay, FI; San Juan Bay, PR; Corpus Christi Bay, TX; Tillamook Bay, OR; and Peconic Bay, NY. Because of extensive Corps involvement with Federal water resources projects in the nation's estuaries and other responsibilities in waters of the U.S., the Corps has been asked to participate on the management and technical advisory committees of those NEP estuaries being studied. The requested funds would be used to cover costs of Corps field office meeting attendance, field reconnaissance, and data transfer. Because of similar objectives, these funds could be used for similar coordination activities conducted under the Coastal America initiative.

2044

1. Surveys

e. Coordination with Other Federal Agencies, States, and Non-Federal Interests

(2) Other Coordination Programs (Continued)

(i.) The amount of $100,000 is requested to continue cooperation with Federal and State agencies, and non-Federal interests in support of the North American Waterfowl Management Plan (NAWMP) administered by the Department of the Interior, Fish and Wildlife Service. The NAWMP is an international program designed to reverse downward trends in North America's waterfowl populations by protecting and improving waterfowl habitats nationwide, particularly in 34 areas within the United States identified as being critical to meeting NAWMP goals and objectives. Department of the Army support to the NAWMP is set forth in an agreement signed with the Department of the Interior on January 23, 1989. The Corps of Engineers has broad water resources development responsibilities and authorities and has stewardship responsibilities for over seven million acres of water and land. Many Corps of Engineers projects contribute directly or indirectly to the habitat base for the nations waterfowl, and other wetland species. Current and future Corps of Engineer projects are expected to play an even greater role, particularly during years of low rainfall. Also, the Corps of Engineers has recognized extensive environmental engineering and technical expertise and experience that can contribute greatly toward meeting the NAWMP waterfowl habitat improvement goals and objectives. The requested funds would be used to cover costs of Corps of Engineers field office participation in the field trips, interagency coordination meetings, and information transfer in response to conditions set forth in the agreement between the Department of the Interior and the Department of the Army. Because of similar objectives, these funds could also be used for similar coordination activities conducted under the Coastal America initiative.

(j.) The Cooperation With Other Water Resources Agencies request is $500,000. Cooperation with the Department of Agriculture (USDA) is under the Watershed Protection and Flood Prevention Act of 1954 (Section 5 of PL 566-83), as amended; the Flood Control Act of December 22, 1944 (Section 1 of PL 534-78), as amended; and the National Environmental Policy Act of 1969 (PL 91-190). Executive Order No. 10913, dated 18 January 1961, requires that cognizance be taken of constructed and contemplated upstream and downstream USDA works, and that plans be submitted to the Secretary of the Army for review and comment prior to their transmission to the Congress through the President. As the agency responsible for the flood control features of basin program, the Corps of Engineers must provide the Department of Agriculture with information on proposed Corps projects, including their effect on contemplated watershed programs. The Corps is also required by Section 102 (2)(c) of the National Environmental Policy Act of 1969 to review the environmental impacts which would result from installation of USDA project features. Cooperation with the Bureau of Reclamation of the Department of the Interior includes preparation of estimates of flood control requirements, and benefits, and reservoir operating criteria for storage reservoirs to be constructed with Federal funds, in accordance with Sections 1 and 7 of PL 534-78 and Section 7 of PL 984-84, as amended. Studies made by the Bureau of Reclamation of the flood control features of proposed reclamation projects are submitted to the Corps of Engineers for review and determination of the flood control benefits. The Corps of Engineers uses the data collected by the Bureau but makes an independent evaluation of the project. The report of the Chief of Engineers is used by the Secretary of the Interior in making allocation of project cost to flood control. Corps representation is required for cooperation with Federal and state agencies such as River Basin Compact Commissions; Interstate River Basin Compacts; and Regional Planning Commissions in authorized, but unfunded investigations.

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APPROPRIATION TITLE: General Investigations, FY 2001

1. Surveys

e. Coordination with Other Federal Agencies, States, and Non-Federal Interests

(2) Other Coordination Programs (Continued)

(k.) The CALFED request is $250,000 to allow the Corps to continue to play a key role in the CALFED Bay Delta process in Fiscal Year 2001. The CALFED Bay-Delta Program is a three-phased solution process for the development of a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta system. Phase I, the identification of the range of alternatives, was completed in fall 1996. In Fiscal Year 1999, the Corps continued to play a key role in Phase II, the development of a preferred alternative plan. The Corps also provided technical assistance in the preparation of the Programmatic Environmental Impact Report (PEIS/R). After a preferred alternative is identified, the Corps will continue to provide technical assistance for site specific project analysis and implementation. The Record of Decision is scheduled for completion in June 2000. Phase III is implementation, a 7 to 30 year process. A Phase III program element, Levee System Integrity, has been identified for specific technical and implementation support by the Corps and DWR. Concurrently, Corps personnel will work in the Ecosystem Restoration Program Plan (ERPP) and a Restoration Coordination Program (RCP). The ERPP is the long-term management strategy to rehabilitate the Bay-Delta system. The Restoration Coordination Program will identify and prioritize restoration projects suitable for early implementation. The ERPP's implementation will be a joint effort between local land management agencies and the State and Federal government.

(l.) The Lake Tahoe Federal Interagency Partnership request is $200,000 to allow the Corps to continue work effort in Fiscal Year 2001 associated with Presidential Executive Order 13057, "Federal Actions in the Lake Tahoe Region." The executive order directs Federal department and agencies having principle management or jurisdictional authorities in the Lake Tahoe Region to establish an Interagency Partnership to insure cooperation, support and synergy. The Corps acts in union with other Federal agencies to insure that Federal actions are coordinated and operate to protect the natural, recreational, and ecological resources in the Lake Tahoe Region and the economies that depend on them. This includes working with local and state agencies and public advisory committees. In Fiscal Year 2000 the Corps continued participation in various executive meetings, cooperation with the Lake Tahoe Basin Federal Advisory committee, proper notification to public for meetings with the Lake Tahoe Basin Executive Committee and execution of several projects for flood control and environmental restoration.

2046

62-630 00 - 65

a. Flood Plain Management Services

SCOPE:

This Corps of Engineers program stems from Section 206 of the 1960 Flood Control Act (PL 86-645), as amended, which authorizes the Secretary of the Army to compile and disseminate data on floods and flood damage potential and to provide guidance in their use in flood-related planning to State and local agencies. This information and guidance supports planning and implementing actions which reduce the flood hazard through wise use of flood plains. The Flood Plain Management Services Program provides flood hazard information, interpretation, and guidance for sites or short reaches of stream or coast and technical and planning assistance to states, communities and Indian Tribes; develops and disseminates guides and pamphlets to convey the nature of flood hazards and to foster public understanding of the options for dealing with flood hazards; and participates with the Federal Emergency Management Agency and local governments in the conduct of pre-disaster hurricane evacuation and preparedness studies for mobilizing local community responsiveness to natural disasters in high-hazard coastal areas.

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2001-05) Program Cost	$50,400,000
Tentative Allocation for FY 2001	9,000,000
Balance to Complete Five-Year Program after FY 2001	$41,400,000
Allocation For FY 2000	7,310,000
Increase of FY 2001 from FY 2000	1,690,000
Average Annual Allocation for FY 1996-00	7,937,000

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JUSTIFICATION:

The funds requested for FY 2001 are to address the growing number of requests from states, regional and local governments, Indian Tribes, and other non-Federal public agencies. An increase in funds allocation will enable states and local communities to become more involved in the application of flood plain management measures. It will provide them site-specific flood and flood plain data and assistance; assist with efforts to identify flood hazards in smaller communities under growth pressures; facilitate special studies that concentrate on the prevention of future flood damages, giving increased emphasis to the application of non-structural measures; and enable critical pre-disaster hurricane evacuation and preparedness studies for states and counties along the Atlantic and Pacific Oceans, the Gulf of Mexico, and US islands in the Caribbean and Pacific.

APPROPRIATION TITLE: General Investigations, FY 2001

2. Collection and Study of Basic Data

a. Flood Plain Management Services (Continued)

ACCOMPLISHMENTS:

Responses to requests from Federal and non-Federal agencies, communities, Indian Tribes and individuals for flood-related information, interpretation, and guidance numbered 49,304 during 1999 and involved property valued at $5.7 billion. The Corps participated in pre-disaster hurricane evacuation and preparedness studies for high-hazard areas in Louisiana, Massachusetts, Florida, Connecticut, North Carolina, South Carolina, New York, Puerto Rico, New Hampshire, Delaware, Maryland, Virginia, Georgia, Alabama, Mississippi, Hawaii, Guam, Samoa, and the Commonwealth of the Northern Mariana Islands; provided support for updating and improving mathematical models of flood plain hydrology and hydraulics; developed training programs in flood plain hydrology and hydraulics; and prepared flood-proofing studies.

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APPROPRIATION TITLE: General Investigations, FY 2001

2. Collection and Study of Basic Data

c. Other Programs

(1) Stream Gaging (U.S. Geological Survey)

SCOPE:

The Corps of Engineers cooperates with the U.S. Geological Survey in this effort, and contributes funds for all or part of the cost of the operation and maintenance of about 2,450 stations that are of special importance to the Corps mission. The Corps established this continuing, cooperative program in March 1928, so that streamflow data would be available to meet special needs concerning the Corps water resources responsibilities.

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2001-2005) Program Cost	$4,500,000
Tentative Allocation for FY 2001	800,000
Balance to Complete Five-Year Program after FY 2001	$3,700,000
Allocation for FY 2000	602,000
Increase of FY 2000 from FY 2000	100,000
Average Annual Allocation for FY 1996-2000	689,000

JUSTIFICATION:

The Corps of Engineers makes extensive use of streamflow records in the planning, design, construction, and operation of water resources projects. The Basic network of stream gaging stations operated by the Geological Survey under its normal functions without support from the Corps is inadequate to meet all the special needs of the Corps water resource development responsibilities. Accordingly, a cooperative program was established under which funds are transferred to the Survey to cover, partially, the cost of operating specific stations. In the optimum development and management of water resources, it is essential that continuous records of streamflow be maintained at specific sites over a long period of years to provide a reliable measure of water resources available for various uses. This budget item covers only the non-project portion of the cooperative program. To continue the operation of stations of special interest to the Corps, an estimated total of $17,730,000 will be required by the U.S. Geological Survey during FY 2001, exclusive of funds received from other cooperative sources. The operation and maintenance cost of these stations will be financed from three sources, as follows: (1) $530,000 appropriated directly to the U.S. Geological Survey for special Corps stations; (2) $800,000 from this budget item for stations not directly attributed to the Corps projects; and (3) $16,400,000 from Corps funds budgeted elsewhere for authorized projects and studies. The basic program will remain at essentially the same level as in previous years.

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2. Collection and Study of Basic Data

c. Other Programs

(1) Stream Gaging (U.S. Geological Survey) (Continued)

ACCOMPLISHMENTS: Records for the streamflow stations supported by transfer of funds are not only used by the Corps, but the data are used by the National Weather Service as the basis for many public flood forecasts. In addition, the data are published on the Internet and in a regular series of reports by the Geological Survey and provide valuable information for other Federal and state agencies and the public.

COORDINATION: This program is fully coordinated with the U.S. Geological Survey. Costs for conducting the work are compiled by representatives of the Survey to identify a basis for the transfer of funds to that agency.

APPROPRIATION TITLE: General Investigations, FY 2001

2. Collection and Study of Basic Data

c. Other Programs

(2) Precipitation Studies (National Weather Service)

SCOPE:

This is the Hydrometeorological Studies Program conducted for the Corps of Engineers by the National Weather Service (NWS). The NWS performs analyses of storm rainfall and other meteorological data required to develop hydrologic criteria for use by the Corps in planning, design and water control management of flood control and water resources development projects, and in floodplain management studies. The Corps transfers funds to the NWS to pay for the work.

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2001-2005) Program Cost	$ 2,100,000
Tentative Allocation Requested for FY 2001	400,000
Balance to Complete Five-Year Program after FY 2001	$ 1,700,000
Allocation for FY 2000	344,000
Change in FY 2001 over FY 2000	56,000
Average Annual Allocation for FY 1996-2000	332,000

JUSTIFICATION:

The scientific services provided by the National Weather Service under this program consist of: (1) review of the meteorological aspects of storm data compiled under the Hydrologic Studies Program conducted by the Corps; (2) development of probable maximum precipitation (PMP) estimates and occurrence probability of storms for large regions and for specific river basins; (3) precipitation depth-duration-frequency estimates for regions and the nation; (4) development of meteorological parameters pertaining to hurricanes, northeasters and other wind phenomena; and (5) other studies necessary to accomplish the Corps mission. Funds in the amount of $400,000 will be required in FY 2001 to continue the program at a level consistent with Corps needs. The entire cost of the Corps hydrometeorological studies program is funded under this budget item.

APPROPRIATION TITLE: General Investigations, FY 2001

2. Collection and Study of Basic Data

c. Other Programs

(2) Precipitation Studies (National Weather Service) (Continued)

ACCOMPLISHMENTS:

A study of precipitation frequency for the semi-arid southwestern U.S., which began in FY 1991, was completed and published as the first volume of NOAA Atlas 14. This is a major accomplishment and sets the standard for similar studies of the rest of the U.S. that will commence in time. Work on the precip-freq study for the Hawaiian Islands resumed after several years of postponement and delay. Work on the precip-freq study of Ohio River basin states continued to make major progress during FY 2000. Like the precip-freq study of the semi-arid U.S., this study will be published in NOAA Atlas 14. Work commenced on a precip/freq study of the New England states and New York and on a review of the PMP for the Cumberland River basin.

FISCAL YEAR 2001:

The major efforts in FY 2001 will be to continue work on revision of the Precipitation-Frequency Atlas for the United States (NOAA Atlas 14), with emphasis given to: a) completing the Ohio River basin states region study; b) continuing the study of the Hawaiian Islands; and c) continuing the New England/N.Y. region study. NWS will maintain capability to do site specific work for PMP analyses for Corps projects throughout the United States. The Corps will continue to support NWS' effort to build computer capability for automated processing of storm data, in order to shorten the time of analysis and reduce cost.

COORDINATION:

This program is fully coordinated with the National Weather Service, Office of Hydrology. For the precipitation-frequency study of the Ohio River basin region, the Corps assisted the NWS obtain significant cost-sharing from the states in the region and will attempt to do the same for the New England states region.

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APPROPRIATION TITLE: General Investigations, FY 2001

2. Collection and Study of Basic Data

c. Other Programs

(3) International Waters Studies

SCOPE:

The Boundary Waters Treaty of 1909, the Niagara River Treaty of 1950, the Columbia River Treaty of 1961, and other less formal agreements between the Governments of the United States and Canada are concerned with the regulation, control, and use of boundary waters. Under the Boundary Waters Treaty of 1909, the International Joint Commission (IJC) was established and empowered to establish local boards, which conduct investigations and assure adherence to orders of approval pertaining to use of boundary waters issued by the Commission. Corps of Engineers representatives serve on and chair the U.S. Sections of the following IJC Boards: Saint Croix River, Champlain-Richelieu, Lake Champlain, St. Lawrence River, Niagara, Lake Superior, Lake of the Woods, Rainy Lake, Souris-Red Rivers Engineering, Souris River Control, Kootenay Lake, and Osoyoos Lake. Under separate treaties, Corps representatives serve on and chair the U.S. Sections of the Columbia River Treaty Permanent Engineering Board, the Columbia River Treaty Entities, the International Niagara Committee, and the International Lake Memphremagog Board. These Boards and Committees hold joint meetings, review report drafts and correspondence, make field inspections, obtain, collect, and analyze hydrologic and hydraulic data, and report their findings to the establishing parties. The degree of study activity varies depending upon the requirements of the Commission or Treaty under which they were established. These efforts assure better control, use, and orderly development of the jointly controlled water resources, and are of importance in attempting to meet water demands resulting from an expanding economy along the United States-Canadian border. Studies are closely related to the Corps of Engineers' Civil Works program and are summarized in the Assistant Secretary of the Army for Civil Works Annual Report.

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2001-05) Program Cost	$2,750,000
Tentative Allocation for FY 2001	500,000
Balance to Complete Five-Year Program after FY 2001	$2,250,000
Allocation for FY 2000	475,000
Change in FY 2001 from FY 2000	25,000
Average Annual allocations for FY 1996-2000	478,000

JUSTIFICATION:

The amount requested for FY 2001 will fund Corps of Engineers participation in assisting the U.S. Government meet its obligations under provisions of boundary water treaties and other international agreements between the United States and Canada. CELRD provides support for implementation of the Niagara Treaty of 1950 that governs the split of Niagara River Waters between the U. S. and Canada, and between the uses of the waters.

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2. Collection and Study of Basic Data

c. Other Programs

(3) International Waters Studies (Continued)

Northwestern Division engages in activities associated with implementation of the Columbia River Treaty and the Kootenay lake and Osoyoos Lake Boards of Control. CENWD, together with Bonneville Power Administration and British Columbia Hydro annually develop the Assured Operating Plan and the Detailed Operating Plan for the treaty storage projects. Funds also are used to support the work of the Columbia River Treaty Permanent Engineering Board, including publication of its annual report to the Governments. North Atlantic Division is engaged in support of the Saint Croix River Board of Control and the Gulf of Maine Council on the Marine Environment. Work in the Saint Croix R. Basin involves retrieval and analysis of water data to assure compliance with IJC rules and annual inspection of dams and fish passage facilities.

ACCOMPLISHMENTS:

The Corps Division and District commanders and their staffs met all of their many and diverse responsibilities in representing the United States on the afore-listed IJC Boards of Control and Treaty entities, boards and committees. The IJC-sponsored special flood damage reduction study of the Red River Basin was closed without completing the full scope of the planned work because of lack of funds from the United States. CENWD completed the special study of the Flood Control Operating Plan for the Columbia River Basin Treaty storage projects.

FISCAL YEAR 2001:

The Corps will continue to carry out its multiple responsibilities to the various IJC Boards of Control and to the several Treaty entities, boards and committees. During FY2001, investigations will continue into the construction impacts on water levels of the new Peace Bridge in the Niagara River. Additional flow data will be obtained and used to update the rating curve used to verify compliance with Niagara Treaty requirements. In addition, investigations outlined in the October 1999 Plan of Study for Lake Ontario regulation improvements will continue as the second year of a 5-year effort. A new plan for regulating Lake Superior outflows will be developed and a water supply process model will be evaluated for application in regulation decisions. A basin-wide hydrologic and regulation model will be implemented. Special studies related to international impacts of evaluation of endangered species compliance related to Columbia River Treaty projects will be conducted by CENWD. CENAD will continue normal work in support of the Saint Croix Board of Control and the Gulf of Maine Council on the Marine Environment. Discussions are ongoing with the IJC on expansion of the IJC's mission to include environmental objectives, as described in the report entitled "The IJC and the 21st Century". The Corps will be supporting the IJC as it executes the reference from the governments regarding investigating the feasibility of establishing a demonstration watershed board and its implementation of the reference on diversion, consumption and transfer of international waters.

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2. Collection and Study of Basic Data

c. Other Programs

(4) Hydrologic Studies

SCOPE:

The scope of activities under this item is determined annually based on the requests from USACE Commands and Laboratories to meet high-priority needs. These items are not covered under regular Civil Works GI and O&M funding programs. Major activities to be undertaken in the program generally include the collection of basic hydrologic data and the studies of these data for major storm events or certain special hydrologic processes. The information to be derived from this program will improve hydrologic engineering techniques for the planning, design, construction, and operation of water resources projects. The program consists of four sub-items: Storm Studies, General Hydrologic Studies, Sedimentation Studies, and Streamflow and Rainfall Data.

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2001-2005) Program Cost	$ 4,000,000
Tentative Allocation Requested for FY 2001	500,000
Balance to Complete Five-Year Program after FY 2001	$ 3,500,000
Allocation for FY 2000	438,000
Increase of FY 2001 from FY 2000	62,000
Average Annual Allocation for FY 1996-2000	511,200

JUSTIFICATION:

1. Storm Studies: The Storm Studies Program is a continuing investigation of major storms for the purpose of accumulating comprehensive rainfall data. These data are used to refine the regional hydrometeorological information throughout the nation. The up-to-date hydrometeorological information is essential for design of new projects as well as for safety assessment of existing projects. We have substantial need for hydrologic data for initiation and completion of water resources studies. These data are required in the evaluation of flood-producing potentials of river basins, and constitute the major portion of the basic data used in probable maximum precipitation determinations. Funds in the amount of $180,000 will be required in FY 2001 to work on several storm studies. Studies of storms occurred on July 1991 west of St. Louis County, River des Teres, MO; July 1990 at eastern NE and western IA; June 1991 at Elkhorn River Basin, NE and storm study of the Jan 1982 event in San Francisco Bay area will be continued. During 1997, wide-spread floodings occurred across the nation. Therefore storm studies are also planned for the 1997 events occurred over the San Joaquin, CA and the Red River of the North (SD & ND) basins

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2. Collection and Study of Basic Data

c. Other Programs

(4) Hydrologic Studies (Continued)

2. General Hydrologic Studies: Studies under this sub-item include needed improvement in the analysis of rainfall-runoff relationships, flood frequency, snowmelt studies, hydrograph development and routing at selected watersheds, model calibrations in urban areas, analyses of past floods, methods for the hydraulic analysis of non-gaged streams, and other studies of related hydrologic nature. Studies of new techniques to improve the accuracy of hydrologic modeling require additional resources. New radar applications in rainfall-runoff forecast is an immediate concern. Funds in the amount of $175,000 in FY 2001 will be required to continue this sub-item at a level to insure proper and orderly progress. In New England region, a continuing comprehensive hydrologic analysis of 1987 flood event will provide resource data for future potential planning and design studies, as well as reservoir operation. An effort which began in FY 1985 on re-examination of water yield and potential reallocation of storage space in Corps reservoirs is continuing. A study on rainfall induced by Hurricane Floyd during September 1999 over the Neuse and Tar basins in North Carolina will begin in Fy 2001.

3. Sedimentation Studies: The program is a continuing effort in which funds are used for conducting non-project sedimentation studies, and for the Corps share of an interagency sediment investigation program. The sedimentation studies include: promoting and supporting the standardization and development of equipment, criteria and methodology for the collection, analysis of suspended and bedload sediment characteristics of natural streams; and laboratory studies. The Hydraulics Laboratory, Waterways Experiment Station is sponsored by the Federal Interagency Sedimentation Committee (members from 18 agencies) and constitutes the major work effort under this sub-item. Funds in the amount of $80,000 in FY 2001 will be required to support the Federal Interagency Sedimentation Project (FSIP) located at the Waterways Experiment Station.

4. Streamflow and Rainfall Data: This is a continuing program in which funds are used for installation and operation of hydrometeorology gages of non-project nature that are needed by the Corps in addition to the stations in the cooperative programs conducted by the U.S. Geological Survey and the National Weather Service for the Corps. Funds are needed to continue support for the basic data collection in the Sleepers River Watershed in Vermont. Additionally, gages are needed to observe historical high water marks for validation of hydrologic models. An amount of $65,000 in FY 2001 is required to continue the establishment and operation of these special-purpose gages, and to determine historical flooding in urban sites.

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2. Collection and Study of Basic Data

c. Other Programs

(4) Hydrologic Studies (Continued)

ACCOMPLISHMENTS:

1. Storm Studies: This continuing program was organized in 1939 for the purpose of investigating rainfall from major storms of record throughout the entire United States. The selected storms are analyzed for frequency, associated runoff and precipitation data. These efforts are coordinated with the National Weather Services (NWS) Hydrometeorological Branch and the resulting data from these studies are used in design of water resources project throughout the country. During the period, Corps offices have gathered data on other major storms, reviewed the scope and interim results of ongoing studies by NWS on development of standard project and probable maximum storms at various basins throughout the United States and territories. Storm studies are being utilized in probable maximum precipitation studies in coordination with NWS for northwest, California and southwest United States.

2. General Hydrologic Studies: Examples of some of the more important studies accomplished under this program are: determination of rainfall-runoff relationship in urban areas; general hydraulic model calibration; snow cover surveys; and adaptation of hydrologic programs to CADD equipment. Work continued on the regional frequency studies for three major river basins in the North Central States. The long-term foothill streams of Colorado flash flooding project progressed as scheduled. Particularly encouraging to date are the data developed for rainfall-runoff on small watersheds and evaluation of flood potential in connection with design of structure located in the flood basin. Works continue on the water yield study.

3. Sedimentation Studies: All of the funds allotted to this sub-item is to assist in financing the Corps share of the cooperative Interagency Sedimentation Project at the Hydraulics Laboratory, Waterways Experiment Station.

4. Streamflow and Rainfall Data: Stations funded under this sub-item are generally established and operated several years prior to anticipated authorization for project-type activities, in order to provide a background of observed data on which to base the planning and design of projects. Progress continues at these gage sites to collect hydrometeorological data in flood prone areas to document historical flood and calibration of hydrologic models.

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APPROPRIATION TITLE: General Investigations, FY 2001

2. Collection and Study of Basic Data

c. Other Programs

(4) Hydrologic Studies (Continued)

FISCAL YEAR 2001:

The appropriation requested for FY 2001 is required to continue the Hydrologic Studies Program at the level required to meet high-priority needs.

ITEMS	FY 2000	FY 2001
1. Storm Studies	$ 200,000	$ 180,000
2. General Hydrologic Studies	155,000	175,000
3. Sedimentation Studies	80,000	80,000
4. Streamflow and Rainfall Data	65,000	65,000
TOTAL	$ 500,000	$ 500,000

COORDINATION:

The storm studies are prepared by USACE commands and are reviewed by the National Weather Services in the preparation of probable maximum precipitation estimates for the Corps. The Interagency Sedimentation Project is conducted cooperatively, and jointly funded, by eight Federal agencies. Information concerning streamflow and rainfall data collection by the Corps under this activity is made available to the U.S. Geological Survey and the National Weather Service.

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APPROPRIATION TITLE: General Investigations, FY 2001

2. Collection and Study of Basic Data

c. Other Programs

(5) Scientific and Technical Information Centers

SCOPE:

Five information analysis centers (soil mechanics, concrete technology, coastal engineering, hydraulic engineering, and cold regions engineering) located at the Geotechnical Laboratory, Structures Laboratory, Coastal and Hydraulics Laboratory, and Cold Regions Research and Engineering Laboratory, respectively, provide the major interface between the Corps of Engineers and the public and private sectors to gather and disseminate information as required by PL 99-802, Federal Technology Transfer Act of 1986. The function of each center is to acquire, examine, evaluate, summarize, and disseminate newly published scientific and technical information generated within the Corp of Engineers and other activities in the U.S. and abroad.

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2001-2005) Program Cost	$ 600,000
Allocation Requested for FY 2001	100,000
Balance to Complete Five-Year Program After FY 2001	$ 500,000
Allocation for FY 2000	86,000
Increase of FY 2001 from FY 2000	14,000

JUSTIFICATION:

Public Law 99-802, Federal Technology Transfer Act of 1986, requires technology transfer from Federal agencies to the private sector. In addition, both the Department of Defense and the Department of the Army have objectives of supporting the information needs of engineers and scientists and eliminating unnecessary duplication of R&D. The specified information centers, supported by their host laboratories, critically evaluate and summarize the technical validity and merits of published and unpublished research and technical publications on design, construction, or other technology utilization. User communities have been well established and distribution lists for technology transfer are continuously updated. Electronic media including the World Wide Web are used where appropriate. The effectiveness of activities and services is evaluated on a continuing basis, and technology transfer products and methodology are revised when appropriate.

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2. Collection and Study of Basic Data

c. Other Programs

(5) Scientific and Technical Information Center (Continued)

ACCOMPLISHMENTS IN FY 2000:

The Corps of Engineers has moved onto the information highway and is making major use of the World Wide Web (WWW) for technology transfer. The WWW is widely accessible by both the public and private sectors and provides rapid transfer, at significant cost savings, of technical data, bulletins, general information on ongoing studies, technical notes, and ultimately technical reports. The information centers and their host laboratories are now maintaining WWW homepages with links to other related homepages. Recent establishment of internal networks, as well as a Corps-wide network, along with connection to the Internet, have provided a major leap forward in communications at a significant reduction in transmittal costs. Several thousand technical inquiries are received annually, with the Internet playing an increasingly major role. Inquiries are received from Federal, state, and local government activities, universities, private sector engineers and scientists, and concerned citizens.

Technical Field	Subjects
Coastal Engineering	Wave data and predictions, shore processes, inlet dynamics, navigation channels and structures, harbors, and coastal construction
Cold Regions Engineering	Ice engineering, meteorology, climatology, geophysics, geology, remote sensing, environmental engineering
Concrete Technology	Cements, concrete, aggregates, concrete construction, concrete repair and rehabilitation technology
Hydraulic Engineering	Hydraulic, hydrologic, water resources, and sedimentation of streams, rivers, waterways, reservoirs and natural impoundments; estuaries, inland and coastal groundwater; fishery systems; and hydraulic structures of all types
Soil Mechanics	Embankment and foundation engineering, earthquake engineering, engineering geology and rock mechanics

c. Other Programs

2. Collection and Study of Basic Data

(5) Scientific and Technical Information Centers (Continued)

Information Analysis Centers	FY 2001
Coastal Engineering	$ 20,000
Cold Regions Engineering	20,000
Concrete Technology	20,000
Hydraulic Engineering	20,000
Soil Mechanics	20,000
TOTAL	$100,000

COORDINATION:

The Information Analysis Centers and their host Laboratories distribute reports, technical notes, computer programs, GIS data, abstracts, information bulletins, and other scientific and technical information to the Defense Technical Information Center (DTIC), Corps libraries, depository libraries, and identified user communities to ensure wide circulation and availability. WWW homepages are maintained on the Internet for public accessibility. Reports are also available for searching through the Corps Library Program's computer system LS/2000. DTIC publicizes reports through its own DOD database and forwards the reports to the National Technical Information Service (NTIS), Department of Commerce. NTIS places reports into a compendia of Selected Water Resources Abstracts and an annual cumulative edition, with conveniently indexed and cross referenced identification of what is being or has been done in water resources research and related scientific and engineering fields by whom, where, and when.

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APPROPRIATION TITLE: General Investigations, FY 2001

2. Collection and Study of Basic Data

c. Other Programs

(6) Coastal Field Data Collection

SCOPE:

The nationwide program is designed to systematically measure, analyze and assemble information required to accomplish the Corps mission in coastal navigation, storm damage reduction, and evaluation of harbor entrance impacts on adjacent shores. The data directly support project comprehensive regional and local planning, research, design, construction, operation, and maintenance. Cost-effective mission accomplishment requires long-term and systems/regional data that encompasses winds, waves, currents, water levels, and bottom configuration, sediment characteristics, and geomorphologic data. In particular, wave data are the key design parameter for coastal projects. For example, a 20% error in wave height leads to over a 70% difference in stone size for navigation structures. If the error in wave height leads to over specifying stone size, the construction costs are much higher than necessary. If stone size is too small, structures fail or have unnecessary life-cycle repair costs. With 800 navigation projects to maintain and repair (25% are more than 50-years old), cost attributable to having no data or poor data would be significant. These data are either unavailable in existing archives, are of uncertain or poor quality, or are too sparsely distributed temporally and/or spatially to have statistical value. The required data are regional in nature and not properly chargeable to authorized projects. Sufficient time is not available prior to or during project preauthorization planning studies to accumulate the years of base-line data necessary for adequate assessment of technical, economic, and environmental feasibility. Acquisition of the information will be accomplished through the concurrent accumulation of complementary items, each of which is unique and contributes certain critically needed data. The program is organized into five sub-items: (1) Wave Information Studies; (2) Wave Gauging; (3) Topographic and Bathymetric Nearshore Data; (4) Field Research Facility Measurements; and (5) Information and Program Management.

SUMMARIZED FINANCIAL DATA:

Estimated Five Year (FY 2001-2005) Program Cost	$13,000,000
Allocation Requested for FY 2001	2,300,000
Balance to Complete Five-Year Program after FY 2001	$10,700,000
Allocation for FY 2000	1,032,000
Increase (Decrease) of FY 2001 from FY 2000	1,268,000
Average Annual Allocation for FY 1996-2000	1,512,400

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2. Collection and Study of Basic Data

c. Other Programs

(6) Coastal Field Data Collection (Continued)

JUSTIFICATION:

1. Wave Information Studies. Numerical simulation techniques are used to estimate wave environments, including direction, from weather information in areas where adequate data are not available. Most wave gage data are non-directional; hindcast data provides 30-40 years directional wave statistics. This information is paramount to the functional/structural design and economic evaluation of coastal navigation projects. Additionally, detailed wind information is produced. These data are made available to Corps of Engineers Districts (in addition to reports) through a computerized coastal engineering data retrieval system, from which most statistical representations desired of waves and water levels can be obtained. Funding required is $350,000.

2. Wave Gauging. High-quality wave data are needed to predict harbor shoaling, harbor oscillation, jetty stabilization, etc. These data are imperative for operational guidance of dredging, navigation, maintenance, etc. Upon acquisition, these data are analyzed and made available to Corps engineers, planners, and managers via the Internet. These efforts are coordinated with the National Oceanic and Atmospheric Administration (NOAA), the Federal Emergency Management Administration (FEMA), and the data are made available to NOAA and the public. Cooperative agreements for the collection of wave data have been executed with the states of California, Alaska, Florida, Hawaii, Washington, Texas, and Virginia. These agreements provide a mechanism for other Federal, state, and local agencies to cooperate in the collection of coastal data. Funds in the amount of $800,000 will be needed to continue cooperative wave gauging with States and to operate and maintain wave gauging networks on a limited portion of the U.S. coasts.

3. Topographic and Bathymetric Nearshore Data. An historical record of past episodic events provides the necessary basis for predicting the results of future occurrences. The objective of this effort is to provide the quantity and quality of timely data required to more accurately document characteristics and effects of episodic coastal events such as extratropical storms, hurricanes, tsunamis, etc. Measurements of storm-induced beach, dune, and nearshore bottom changes are necessary to quantify erosion and storm effects on navigation projects. Storm shoaled channels will limit vessel access and changed bathymetry will change the wave climate at the entrance channel affecting the extent of pitch, roll, and heave a ship will experience. Nearshore berm disposal areas are also significantly affected by large episodic storm events. Funds in the amount of $50,000 are needed to support data collection in this area.

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2. Collection and Study of Basic Data

c. Other Programs

(6) Coastal Field Data Collection (Continued)

4. Field Research Facility Measurements. Critical to measuring, analyzing and providing useful coastal data products for the CE Districts is the collection of intensive, long-term, high-resolution data for improving project design and reducing costs. The Field Research Facility at Duck, North Carolina is a unique real-world experimental facility that incorporates high-resolution instruments with comprehensive suites of environmental sensors to provide wave, current, meteorological, bathymetric, and topographic data. The facility is used to evaluate wave measurement techniques and equipment, test experimental oceanographic instrumentation and sensors, collect high-resolution continual data throughout major storms, conduct large interagency field experiments, such as SandyDuck and Duck94, and collect spatially and temporally intensive long-term base measurements required to understand complex coastal processes. These data are made available via an interactive website to engineers and scientists in the Corps, DOD Laboratories, other agencies, universities, and the private sector for researching coastal processes and for developing and verifying numerical models and coastal engineering tools that predict wave environments and sediment movement affecting coastal projects, navigation safety, dredging quantities and project impacts. They also are crucial for evaluating the characteristic of data products produced by sub-items (1) - (3) and improving their quality and completeness. Funds in the amount of $1,000,000 are required for the base measurement program at the Field Research Facility.

5. Information and Program Management. This task objective is to make coastal data readily available to Corps Districts and Divisions. A standardized database has been developed so that coastal data formats and analysis procedures are compatible throughout the Corps of Engineers. The value of program data and project-related data is maximized through the use of Corps-wide standards, routine updating of available data, utilization of a centralized data library on the World Wide Web and dissemination over the Internet. Principal forms of output are information reports, data resource reports, and computer-based data files. The standardized procedures will help avoid intra-agency duplication, minimize data collection efforts, and identify data deficiencies. Minimum maintenance effort will require $100,000.

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2. Collection and Study of Basic Data

c. Other Programs

(6) Coastal Field Data Collection (Continued)

ACCOMPLISHMENTS:

The wave information study has resulted in about 40 years of simulated directional wave data for the Atlantic and Pacific coasts and 30 years for the Gulf coast and the U.S. shores of the Great Lakes. Thirty years of wind data for the three coasts have also been produced. Computer models are used each year to add the current year of wind and wave information for all coastlines. Automated wave hindcasts/prediction systems have been developed for Lake Michigan, Atlantic and Pacific Coasts. This information provides the Corps with near real-time data for project use and increases the statistical validity of the database. Nearshore bathymetric data for the U.S. coastlines have been incorporated in the database. A data assimilation technique was developed to improve computer model calculations through statistical incorporation of measured data. The database of measured water levels along the Atlantic and Gulf of Mexico coastlines due to storms was updated through 1995. Joint efforts have been established with the States of California, Texas, Alaska, Florida, Washington, Oregon and Virginia for collection of wave data. Wave data have been acquired from program gages, numerous specific project stations, and from other agencies. Data standards have been implemented for data collection, analysis and quality assurance. Simulated and measured wave, water level and bathymetric data are available through an interactive website on the Internet.

PROGRAM ITEM	FY 2000	FY 2001
1. Wave Information	260,000	350,000
2. Wave Gauging	702,000	800,000
3. Topographic and Bathymetric Nearshore Data	0	50,000
4. Field Research Facility	*	1,000,000
5. Information Management	70,000	100,000
	$1,032,000	$2,300,000

*Funded in FY 2000 via the R&D Program for the amount of $1,000.000

2065

APPROPRIATION TITLE: General Investigations, FY 2001

2. Collection and Study of Basic Data

c. Other Programs

(7) Transportation Systems

SCOPE:

The Transportation Systems Program provides support to Corps Districts and headquarters in the accomplishment of navigation project planning and evaluation. The planning of waterway and harbor navigation projects considers the needs, opportunities, benefits, and costs within the context of not only the waterway system, but also the total national transportation system. This program is a continuing effort to support the development of improved analytical techniques, tools, and methods, specifically addressing: nationally consistent vessel operating and replacement cost data; timely updates of world fleet, commodity and traffic forecasts; current reports documenting the results of transportation systems analysis; and technical services and support to District offices and headquarters. The major purpose of the program is to improve the technical quality, consistency and accuracy of navigation planning studies; to improve the strategic planning of navigation system improvements; and to reduce costs of both the planning and operation of the navigation system. These goals are met by providing analysts with information and tools that are useful and consistent.

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2001-05) Program Cost	$4,800,000
Tentative Allocation for FY 2001	800,000
Balance to Complete Five-Year Program after FY 2001	$4,000,000
Allocation for FY 2000	602,000
Increase in FY 2001 from FY 2000	198,000
Average Annual Allocation for FY 1996-2000	776,000

2066

JUSTIFICATION:

The $800,000 requested in FY 2001 for Transportation Systems would be used to update models and analysis used for the planning and evaluation of ports, harbors and inland waterways, and the modernization of planning methods and associated computer models to support District navigation studies nationwide. Specifically, $75,000 would be used to develop and provide inland and ocean vessel operating costs used to estimate transportation cost reduction benefits for Corps navigation studies; $300,000 would be used to develop and provide commodity and fleet forecasts of waterborne traffic for deep and shallow draft navigation projects from industry forecasting experts, and to update deep draft vessel characteristics for use by Corps field planners. In-house experts will develop Corps-specific analysis and forecast summaries; $50,000 would be used to provide rail, barge and truck models for use in estimating origin-destination transportation cost savings by Corps Districts;

2. Collection and Study of Basic Data

c. Other Programs

(7) Transportation Systems (Continued)

$75,000 to update the Grain Transportation Cost Model to apply to evaluation of trade- policy changes to the flow of U.S. agricultural products world-wide; $100,000 would be used to review inland waterway systems analysis; $100,000 will be used to coordinate the navigation research priorities with the Transportation Research Board and to provide consulting technical support services to Corps District offices.

ACCOMPLISHMENTS:

1. Developed, field-tested, and systematically updated systems analysis models and supporting databases, to improve project-planning efficiency.

2. Prepared national scope forecasts of deep-draft and shallow-draft fleet and traffic projections that have been provided for use by District offices.

3. Completed most recent cycle of updates of ocean and inland vessel operating and replacement costs and distributed the data to Corps Districts.

4. Formulated a customized prototype model for updating the operating costs of deep draft vessels for use by Districts in computing transportation savings benefits. Held a workshop for field economists on the design and operation of the program.

5. Developed a comprehensive electronic compilation of deep draft vessel characteristics for the world-fleet that integrated ship data from Lloyds, Clarkson's and Fairplay sources for use by Corps District planners.

6. Updated the PC-compatible barge, rail and truck transportation cost models and have initiated a process by which future annual updates of the models are automatically available to Corps District offices.

7. Continued to update the regional commodity excess demand and supply relationships of the Grain Transportation Systems Cost Model in cooperation with Corps District offices and the Department of Agriculture.

8. Published updated issue of the Inland Waterways Review (1997 edition), which provides an overall summary of waterway traffic trends, lock and segment performance indicators and the status of the planning, design, construction, operations, and rehabilitation programs. Also developed an Inland Waterways Review Supplement for 1999.

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2. Collection and Study of Basic Data

c. Other Programs

(7) Transportation Systems (Continued)

9. Published report and supported development of planning guidance on the methodology for estimating commercial benefits from Cruise Ships for navigation improvements, in response to Water Resources Development Act of 1996.

10. Completed literature reviews and surveys of current practices in District offices for evaluating risk and uncertainty for deep and shallow draft navigation projects. Completed development of a conceptual systems framework for evaluating risk and uncertainty which incorporates the key variables used in deep draft navigation analysis.

2068

2. Collection and Study of Basic Data

c. Other Programs

(8) Environmental Data Studies

SCOPE:

The Environmental Data Studies program supports many activities designed to help the Corps better manage a rapidly expanding and diverse environmental program by collecting and organizing environmental data on Corps projects and making better use of environmental information to assess program performance (GPRA) and to enhance analysis of trends and survey of changing needs and conditions. The development of an Environmental Database System is the nucleus of this effort. The Environmental Data Studies program includes general, national or regional environmental data collection; statistical environmental data summaries of regional or national scope; support of field offices in the use of innovative information system technology, including geographic information systems and remote sensing technology to demonstrate the relationship between project funded environmental activities with national or regional environmental issues; support for attendance at environmental meetings and symposia, where COE presence is required; and the synthesis and dissemination of key emerging environmental issues such as global change and sustainable development within the Corps; the development of analytical models to structure and adapt programmatic or specific environmental data files to the conceptual needs of engineering and/or planning objectives for economies of cost and time, including regional environmental assessment activities related to floods, droughts, or climate variability and the development of information on the overall environmental program performance of the Corps of Engineers. A significant part of the program will be devoted to assessment of wetlands, values, benefits and costs of regulation and wetlands mitigation banking efforts. Environmental data includes biological, physical and/or cultural resources components, several of which have requirements for periodic reporting on a national basis, some of which are responsive to the needs of international treaties, and/or obligations, and some of which are important to understanding the accomplishments of the Corps emerging environmental programs. The exchange of data is both intra- and interagency, involving all concerned Federal agencies. Coordination with State offices and with independent offices such as the Advisory Council for Historic Preservation, OSTP, NSF, NIST, and NRC will also be undertaken for issues of concern to the Corps.

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2001-2005) Program Cost	$3,500,000
Tentative Allocation for FY 2001	700,000
Balance to Complete Five Year Program after FY 2001	$2,800,000
Allocation for FY 2000	86,000
Increase in FY 2001 above FY 2000	614,000

2069

APPROPRIATION TITLE: General Investigations, FY 2001

2. Collection and Study of Basic Data

c. Other Programs

(8) Environmental Data Studies (Continued)

JUSTIFICATION:

Funds in the amount of $700,000 are requested to harvest information on the Corps environmental outputs and investments by reviewing the last few years of the Corps environmental program reports, including feasibility and design documents in the Corps planning program, EIS's in the Corps regulatory program, permits decisions affecting wetlands resources and values and design and decision documents used to support the operation of existing Corps projects to produce environmental benefits. This is the first time this has been done systematically, so the FY 2001 effort , and beyond, will require several person-years of effort to create a rational framework and to read and interpret more than a decade of Corps reports. This work will continue in subsequent years, but the framework will be in place and only current year reports will be interpreted. This information will be fed into the Environmental Database System which has two primary purposes: to allow faster and more consistent analysis of the Corps environmental program performance, and to provide fast access to the most reliable and pertinent environmental data for ongoing Corps environmental studies for projects and regulatory decisions. The funding will also continue the Environmental Data Studies Program and to improve environmental program performance, Funds will be used to support collection and sharing of environmental information for national and regional inventories and assessments and train field personnel in its access and use. The aim is to reduce costs, avoid duplication, improve procedures for complying with environmental statues, and focus on environmental issues of national and/or regional significance.

ACCOMPLISHMENT FOR FISCAL YEAR 2000:

Phase 1 of the Environmental Database System (EDS) will be completed in FY 2000. EDS is a website that provides information on the cost and outputs of Corps environmental programs, and provides ready access to a wide array of information on people, flora and fauna, cultural resources, the economy, policy analysis and research that can be used in ongoing environmental studies.. Phase 1 EDS program performance information is limited to the Corps environmental continuing authorities (Section 1135, 204 and 206) and the Upper Mississippi River Restoration Study.

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APPROPRIATION TITLE: General Investigations, FY 2001

2. Collection and Study of Basic Data

c. Other Programs

(9) Remote Sensing Systems Support

SCOPE:

This item supports the overall technology transfer requirement of the Corps Civil Works Program for Remote Sensing systems, which is the responsibility of the Cold Regions Research and Engineering Laboratory (CRREL) through its Remote Sensing/Geographic Information Systems (GIS) Center of Expertise.

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY2001-2005) Program Cost	$1,500,000
Appropriation Requested for FY 2001	300,000
Balance to Complete Five Year Program after FY2001	$1,200,000
Appropriation for FY 2000	258,000
Increase of FY 2001 from FY 2000	42,000

JUSTIFICATION:

The Remote Sensing/GIS Center is the Corps' Center of Expertise for Civil Works Remote Sensing and GIS technologies. Through centralized management of this function, the Center provides cost-effective technology transfer and applications development in support of Corps mission responsibilities in all business practice areas: navigation, flood and coastal storm damage reduction, hydropower, regulatory, environment, emergency management, recreation, water supply, and work for others. Continuing interaction with other researchers and practitioners throughout the Corps, government, the private sector, and academia assures knowledge of evolving trends that are important for the Corps and that duplication of effort is avoided.

Declines in manpower require working smarter, better, and faster. Contributing to this effort, the Center develops approaches for the integration of data from the disparate sources necessary for water control, land and water resource management, and compliance with the attendant environmental regulations and related policies. The Center maintains cognizance of state-of-the-art sensors, data collection, analysis, and storage systems, commercial software, and bridging software that integrates these and operational technologies into the Corps divisions, districts, and other agencies' activities. Technology is transferred through telephone calls and short technical assistance visits to field offices at no cost to the field. The existence of the Center ensures that the necessary support can be rapidly directed toward solving operational problems that require specialized expertise. Training also is conducted in the field, through workshops and conferences. White papers, Corps and other publications, including Engineering Letters, Circulars, and Manuals, and the Internet, also are used to transfer procedures and lessons learned to end users.

2071

APPROPRIATION TITLE: General Investigations, FY 2001

2. Collection and Study of Basic Data

c. Other Programs

(9) Remote Sensing Systems Support (Continued)

FY 2001 ACTIVITY:

1. Act as one of the remote sensing and GIS technology points in the Corps of Engineers, focusing on Civil Works water control and emergency management geospatial activities.

2. Continue technology transfer through training courses, briefings, technical papers and technical demonstrations.

3. Provide technical support to Corps District Offices for the development of GD&S Implementation Plans.

4. Member of the CADD/GIS Technology Center's Corporate Staff

5. Support technology transfer through telephone calls and short technical assistance visits to field offices at no cost to the field.

6. Participate in national remote sensing and GIS conferences.

7. Work with other members of Corps research laboratories and update the Corps' Remote Sensing Manual.

ACCOMPLISHMENTS IN FY 2000:

1. Acted as technology point of contact for the Corps of Engineers for Civil Works remote sensing and GIS.

2. Continued technology transfer through training courses, briefings, technical papers, and technical demonstrations.

3. Provided technical support to Corps District offices for the development of implementation plans for Geospatial data management.

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2. Collection and Study of Basic Data

c. Other Programs

(9) Remote Sensing Systems Support (Continued)

4. Supported one stop service requests from Corps districts and divisions.

5. Served as the member of the Tri-Services Computer Aided Design and Drafting/GIS Technical Center's Executive Work Group.

6. Worked with other federal agencies and the Federal Geographic Data Committee (FGDC) in the New England region for the implementation of the FGDC standards.

7. Sponsored and participated in program development of national and international remote sensing and GIS conferences.

8. Developed and transferred improved techniques for inclusion of snowmelt in water control.

APPROPRIATION TITLE: General Investigations, FY 2001

2. Collection and Study of Basic Data

c. Other Programs

(10) Automated Information Systems Support - Tri-Service CADD/GIS Technology Center

SCOPE:

This effort provides technical support to engineers and scientists utilizing CADD and GIS technology in the planning, design, construction, operation and maintenance of Corps projects. However, as there is no way of calculating the benefits which individual projects receive from the CADD/GIS Center, the Corps does not propose to charge projects and programs for the Civil Works share of its maintenance costs.

In 1992, the former Army Corps of Engineers' Computer Aided Design and Drafting (CADD) Center, located in the Army Engineer Waterways Experiment Station (WES), was expanded to an Army, Navy, Air Force (Tri-Service) center, including the addition of Geographic Information Systems (GIS) technology, by a joint agreement between the Corps, the Naval Facilities Engineering Command, and the Air Force Civil Engineer. Its purpose was to reduce duplication of effort between the three services in the management of CADD/GIS technology for facilities and environmental engineering. Since that time the Defense Logistics Agency (DLA), the General Services Administration (GSA), State Department, U.S. Marine Corps, U.S. Coast Guard, National Institute of Building Sciences, NASA, and FAA have joined this effort. As a result, this Center is a multi-agency vehicle to set standards, coordinate CADD/GIS systems uses, promote system integration, support centralized acquisition, and provide assistance for the installation, training, operation, and maintenance of CADD/GIS systems within the DoD facilities and environmental communities, including the Corps districts. The success of the Center has earned them the Vice President's Hammer Award for reinventing government and reducing costs. All Corps districts use CADD, GIS and computer mapping systems in all phases of Corps projects, including planning, real estate, design, construction, operations, maintenance and readiness which benefit from these efforts. For FY 2000, the consolidated Army/Navy/Air Force funding portion was $2,411,000, the Civil Works portion was $650,000, the DLA portion was $50,000 and the Naval Facilities Engineering Command portion was $150,000 for a total of $3,261,000. The $650,000 requested for FY 2001 for the Civil Works portion will support approximately 1,000 workstations and 2,000 users of CADD/GIS technologies for Civil Works Projects.

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SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2001-2005) Program Cost	$3,250,000
Tentative Allocation for FY 2001	650,000
Balance to Complete Five-Year Program after FY 2001	$2,600,000
Allocation for FY 2000	650,000
Increase in FY 2001 above FY 2000	0
Average Annual Allocation for FY 1996-2000	636,000

2. Collection and Study of Basic Data

c. Other Programs

(10) Automated Information Systems Support - Tri-Service CADD/GIS Technology Center (Continued)

JUSTIFICATION:

All Corps districts use CADD, GIS and computer mapping systems. Practically all engineering drafting tables have been replaced with CADD platforms or computer mapping systems and many environmental and natural resource analysis are being performed on GIS platforms. The geospatial data standard efforts of the Center are being coordinated with the Federal Geographic Data Committee to develop a National GIS Standard and to have civil works features accepted into the Defense Data Dictionary System (DDDS). Standards which are developed by the Center are used for both in-house and contractor produced drawings, maps and analyses which assures that all Corps offices have the ability to exchange their work among themselves and with others, including the private sector. The Center is actively coordinating its CADD standards with the National Institute of Building Sciences to create a National CADD Standard, thus reducing the redundancy with the private sector and reducing cost for both government and the private sector. The Center ensures that the Corps obtains the maximum return on its investment in CADD and GIS by coordinating development efforts and distributing end products to Corps offices. The CADD and GIS systems at field offices can achieve maximum productivity when they take advantage of the economies of scale offered by sharing the development and use of common data standards, procedures, and applications. This sharing is accelerated through a concerted effort by the Center, working with various field working groups, to draw from field expertise and dissemination of this knowledge in the form of lessons learned and standards to benefit all Corps users. Comprehensive data standards supported by the Center permit government and industry users to produce equivalent designs, maps and analysis on a variety of computer systems using leading off-the-shelf CADD and GIS software.

ACCOMPLISHMENTS IN FY 2000:

1. The A/E/C CADD Standard Release 1.9 was released. This release incorporated the latest updates from the National CAD Standard, as well as implementation comments and feedback from field personnel on Release 1.8. The MicroStation workspace for Release 1.8 was completed and distributed to the field for implementation. An AutoCAD version of the workspace was Beta tested and finalized. Both applications were made available to the field via the Internet. The development of attributes for A/E/C objects was finalized and released to the field in Release 1.9. Release 3.0 of the CADD Details Library was distributed. This release included inch-pound and metric versions of all details from Release 2.0.

2. Continued development and support of the standard Electronic Bid Solicitation (EBS) Web Pages. Provided telephone and onsite support to several districts on the installation of a standard EBS Web site. Taught two EBS PROSPECT courses. As a result of our continued development and support of the EBS process several agencies (Corps, Navy, and Air Force) have realized significant savings as compared to issuing paper solicitations. We partnered with the Army Materiel Command (AMC) and Cold Regions Research Lab (CRREL) to develop a process to receive bids on the Internet and to create a central listing of all solicitations.

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2. Collection and Study of Basic Data

c. Other Programs

(10) Automated Information Systems Support - Tri-Service CADD/GIS Technology Center (Continued)

3. Continued development of the GIS data standards for Civil Works activities, which provide a common format for the development of GIS on civil works projects, thereby cutting costs and allowing sharing of data sets among government agencies and the private sector. Developed and taught training courses on implementation and use of the Tri-Service CADD and GIS standards.

4. Developed tools and instructions for converting U.S. Geological Survey (USGS) digital mapping data (Digital Line Graphs) into a database structure created by the implementation of the Tri-Service Spatial Data Standards (SDS). This consisted of user guides for step-by-step conversion of USGS digital mapping data into SDS compliant formats. The guides included data conversion templates, predefined parameter files, and sample input/output data files in usable digital form. Developed new software for easy access to USGS Digital Raster Graphics and Digital Elevation Models.

5. Developed a Web based Civil/Site Virtual Center of Expertise (CSVCX) to provide Civil/Site Engineering Solutions and Resources for Civil Works related design problems and to provide links to experts from USACE District offices for additional help to designers. The web site was created at the Center, which provided Civil/Site Design Solutions and Resources for about 30 design problems.

6. Continued development of Library of CADD Designs and added projects to the library. The library grew to over 150 projects and was visited by over 2,000 different visitors. The library provides design information on past designs. Designers can take advantage of this information in the design of new projects.

7. Developed a Web based software to distribute Civil Works related Survey Control data from USACE District offices. This site contained both graphic and text only query capabilities. A test web site was established at the Center.

2076

2. Collection and Study of Basic Data

c. Other Programs

(11) Flood Damage Data Program

SCOPE:

The Flood Damage Data Program is required to facilitate the collection and maintenance of basic flood damage data to support Corps field offices in accomplishment of flood damage reduction studies. Planning and evaluation of flood damage reduction projects requires knowledge of actual damages caused to various types of properties. The relationships between flood depth, water velocities, debris content, value and type of property, and the amount of damage are essential to making good estimates of the value of projects. The distributions of damages resulting from the various factors involved are needed for a risk analysis framework adopted for water resource studies. Damage data are obtained in rare instances when a damaging event occurs and funded studies are underway. However, in most instances when flooding occurs there are no current studies in the area or other funding mechanism to collect the requisite data to be used in future analysis or to report and accurately record the damages incurred and account for the effect of the environmental factors which caused the damages. Previously no centralized flood damage data source existed which retrieved basic data for research efforts and for specific project studies. The major purpose of the program is to improve the technical quality and accuracy of flood damage data, to improve the understanding of the interrelationships of the characteristics of flooding on property damage, to improve the formulation of flood damage reduction projects, and reduce the costs of feasibility studies. The activities of the program are to: (1) conduct actual flood damage surveys immediately following flood events; (2) develop, maintain, and improve the economic database for flood reduction projects, and calculate flood functions; and (3) develop and maintain a floodplain inventory application that would be used to apply flood damage estimation models to feasibility, reconnaissance, and continuing authority studies.

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2001-05) Program Costs	$2,800,000
Tentative allocation for FY 2001	400,000
Balance to Complete Five-Year Program after FY 2001	$2,400,000
Allocation for FY 2001	400,000
Increase of FY 2000 from FY 1999	0
Average Annual Allocation for FY 1995 - 99	270,000

2077

APPROPRIATION TITLE: General Investigations, FY 2001

2. Collection and Study of Basic Data

c. Other Programs

(11) Flood Damage Data Program (Continued)

JUSTIFICATION:

The $400,000 requested in FY 2001 for Flood Damage Data would be used to develop and maintain data collection survey forms and data collection techniques, to collect post-flood damage data, to employ the flood damage database to estimate a National model where regional or local flood characteristics can be specified to estimate flood damage relationships, to update and maintain a computer application for applying flood damage models to floodplain inventory data, and to work on develop generic business flood damage relationships. Specifically, $55,000 would be used to monitor data collection and for data analysis and model development to compute damage functions, $205,000 would be used to collect damage data for approximately four flood events, $40,000 would used to update and maintain a computer application for estimating residential structure and content value and damage, and $100,000 would be used for development of generic business flood damage relationships and for the further development of a floodplain inventory application to use these relationships.

ACCOMPLISHMENTS:

1. Flood damage surveys, using material from OMB-approved questionnaires have been developed, reviewed, and pre-tested.

2. Data collection techniques and data tabulation procedures have been developed.

3. Approximately 1,800 residential surveys and nearly 300 business surveys have been completed for properties in 13 flood-damaged areas. A database has been created from these surveys and analysis is continuing. A report has been issued with depth-damage functions computed from the initial case studies.

4. Generic residential depth-damage functions based on actual flood losses have been released to allow for less expensive, shorter, and more accurate analysis for feasibility studies.

5. A residential inventory application has been developed for Corps-wide use. The application will be used to determine residential and structure values, residential and structure depth-damage relationships and to feed basic residential inventory data directly into the HEC-Flood Damage Analysis Package for evaluation of flood damage reduction benefits.

6. A research design report on expanding application of the floodplain inventory model to commercial property has been completed.

7. A primer has been issued to help Corps personnel better consider subjective factors, such as effective age, quality, and condition when assessing the value of flood-prone resident property. The Corps must pursue an aggressive R&D effort to take advantage of rapidly developing technologies and techniques that offer the possibility of significant monetary savings and greater reliability, safety, and enhanced efficiency in planning, design, construction, operations and maintenance of civil works activities.

2078

3. Research and Development

The Civil Works R&D program is formulated to directly support the established business programs and strategic directions of the Civil Works Program including: flood and coastal storm damage reduction, inland and coastal navigation, environment (including natural resources, compliance, mitigation, and restoration), water supply, hydropower, recreation, emergency management, and regulatory. The Civil Works R&D requirements are primarily user driven and the effort is essentially a problem-solving process by which the Corps systematically examines new ideas, approaches, and techniques, with a view toward improving the efficiency of its planning, design, construction, operations and maintenance activities. The request for $23,400,000 of General Investigations funds for the FY 2001 program would accomplish only the very highest priority R&D needs.

Results of this R&D effort are directly incorporated into practice within the Civil Works Program through the Civil Works Guidance Maintenance Program involving revisions or additions to Engineer Regulations, Engineer Manuals, Technical Guidance Manuals, Engineer Technical Letters, or Guide Specifications. Numerous other means of technology transfer are also used such as the training courses, workshops, and other professional contacts. The Corps Civil Works R&D Program continues to provide practical end products and a high return on investment for the Corps and the Nation.

COORDINATION:

The Corps manages and conducts Civil Works R&D through the U. S. Army Engineer Research and Development Center (USAERDC). The USAERDC consists of eight research laboratories:

Coastal and Hydraulics Laboratory, Vicksburg, MS
Cold Regions Research and Engineering Laboratory, Hanover, NH
Construction Engineering Research Laboratories, Champaign, IL
Environmental Laboratory, Vicksburg, MS
Geotechnical Laboratory, Vicksburg, MS
Information Technology Laboratory, Vicksburg, MS
Structures Laboratory, Vicksburg, MS
Topographic Engineering Center, Alexandria VA.

Some elements of Civil Works R&D are also assigned to the Corps Institute for Water Resources (IWR) at Fort Belvoir, VA and to the Hydrologic Engineering Center (HEC) at Davis, CA.

In order to most effectively use the limited R&D resources and to avoid unnecessary duplication of research effort, the Civil Works R&D Program maintains aggressive external technical exchange and technology transfer programs with other Federal agencies including the TVA, Bureau of Reclamation, Bonneville Power Administration, Western Power Administration, the Soil Conservation Service, EPA, and the Fish and Wildlife Service. In addition, Corps researchers are in continuous close contact with NOAA, USGS, USCG, NASA, DOT, NIST, FHWA, NRC, the Navy, and state and local governments concerning Civil Works R&D activities.

3. *Research and Development (Continued)*

Corps researchers also maintain continuing contact with the research activities of universities and industry through regular membership in such organizations as the American Society of Civil Engineers, the Civil Engineering Research Foundation, the American Concrete Institute, the American Society of Testing and Materials, the International Conference on Coastal Engineering, the American Association of Port Authorities, the Coastal Society, the Offshore Technology Conference, International Society of Soil Mechanics and Foundation Engineering, U.S. and International Committees on Large Dams, and the Permanent International Association of Navigation Congresses. The Corps also participates extensively with the Transportation Research Board, the Water Science and Technology Board, and the National Research Council in coordinating and leveraging research activities.

SUMMARIZED FINANCIAL DATA:

Estimated Five Year (FY 2001 - FY 2005) Program Cost	$180,000,000
Allocation Requested for FY 2001	23,400,000
Balance to Complete Five Year Program after FY 2001	$156,600,000
Allocation for FY 2000	23,974,000
Decrease of FY 2001 over FY 2000	(574,000)
Average Annual Allocation for FY 1996-FY 2000	20,360,000

CURRENT RESEARCH EFFORT:

The proposed FY 2001 R&D Program is structured to directly support the Civil Works business programs and the anticipated technological emphasis and requirements of the Civil Works Program. Strategic emphases of the R&D program include:

Ecosystem Management and Restoration
Innovative Design and Construction of Navigation Projects
Regional Sediment Management
High-Performance Construction Materials & Systems
Risk Analysis for Civil Works Projects
Innovative Flood Protection Technologies

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3. Research and Development (Continued)

The Ecosystem Management and Restoration Research Program addresses the Corps environmental needs at the ecosystem/watershed level. The objective of this research effort is to design state-of-the-science, user-oriented methods and procedures to restore and manage natural resources with application toward the total ecosystem/watershed. Research is also focused on environmental restoration technologies for a wide range of water resources management needs. The focus of this research enables the Corps to meet the legal requirements of the National Environmental Policy Act (NEPA), the Water Resources Development Act, and the Endangered Species Act (ESA) and to accomplish high priority Administration's initiatives such as the Riverine Ecosystem Restoration and Flood Hazard Mitigation efforts and national wetlands restoration goals.

The innovative design and construction of navigation projects research will include studies to develop innovative construction methods such as float-in, lift-in, and underwater construction techniques for navigation projects. The results of these studies will provide the needed guidance for the implementation of innovative concepts that will result in rapid construction and modernization of navigation projects at a much reduced cost and with little or no impact to navigation during construction. Development of cost-reducing design and construction techniques will permit the construction and rehabilitation of more navigation projects with limited funds in the Inland Navigation Trust Fund and will reduce the potential for major disruptions in inland navigation and decrease operating costs to the inland navigation industry.

Improved sediment management at navigation and flood damage reduction projects offers tremendous potential for future project cost reduction. Research in this area is focused on sedimentation prediction and control techniques, optimizing channel depths and dimensions including more cost-effective deep-draft channel design criteria to safely and efficiently accommodate future international shipping requirements, reduced dredging costs, increased navigation channel safety and reliability, and increased options and opportunities for beneficial uses of dredged sediment.

The research on the high-performance construction materials and systems will evaluate and develop high-performance construction materials that will enable the Corps to construct more durable structures with significant reductions in project delivery times and construction costs. High-performance materials and systems will also be developed to reduce costs associated with operation, maintenance, and rehabilitation of existing structures. The results of this research will furnish the Corps with improved materials and technologies to ensure a continued high level of safety and reliability of Civil Works facilities and more economically design and construct Corps' civil works projects.

Risk Analysis for Civil Works projects addresses critically needed dam safety and water resources investment issues. The benefits of this research initiative include increased confidence in prioritizing dam safety needs and maximizing the infrastructure investments.

The innovative flood protection technologies research focuses on monitoring, evaluation, and flood fighting technologies for levees and related elements of the inland flood protection infrastructure. This research is directed toward identifying, developing, and fielding innovative flood protection technologies to cover larger areas of infrastructure more quickly and efficiently than existing conventional techniques.

2081

3. Research and Development (Continued)

The Corps R&D Program includes eight major research areas, as listed below:

Materials/Structural Engineering: Includes specific R&D programs on Geotechnical Engineering, Concrete/Structural Engineering, and High-Performance Materials and Systems.

Coastal Navigation and Storm Damage Reduction: Includes specific deep-draft (including Great Lakes) focused R&D programs on Harbor Entrances and Coastal Channels, Coastal Sedimentation and Dredging, Coastal Structure Evaluation and Design, and Innovative Coastal Storm Protection technologies.

Inland Navigation and Flood Damage Reduction: Includes specific R&D programs on Inland Navigation Hydraulics, Flood Damage Reduction and Stream Restoration, Hydrologic Engineering, Cold Regions Engineering, and Innovative Flood Protection technologies.

Environmental Quality: Includes specific research on Ecosystem Management and Restoration, Long-Term Effects of Dredging Operations, and Water Quality Assessment and Management.

Water Resources Management Research: Includes specific research on Decision Support Technologies for the Civil Works program. Geospatial Technology: Includes specific research on Surveying and Mapping, Remote Sensing, Geographic Information Systems (GIS), and geospatial data management and analysis technologies supporting all Civil Works business programs.

Innovative Design & Construction: Includes specific research on Innovations for Navigation Projects. This multi-disciplinary research includes studies to develop new filling and emptying systems for locks, the use of alternative construction methods such as float-in, lift-in, and underwater construction techniques for navigation projects.

Risk Analysis for Civil Works Projects: Includes specific R&D programs on Risk Analysis for Dam Safety and Risk Analysis for Water Resources Investments.

RESEARCH AREA	FY 2000 ALLOCATION	FY 2001 TENTATIVE ALLOCATION
a. Materials/Structural Engineering	$ 2,345,000	$ 2,600,000
b. Coastal Navigation and Storm Damage Reduction	5,080,000	3,100,000
c. Inland Navigation & Flood Damage Reduction	3,356,000	4,200,000
d. Environmental Quality	4,011,000	4,800,000
e. Water Resources Management	692,000	750,000
f. Geospatial Technology	2,971,000	2,950,000
g. Innovative Design and Construction	3,313,000	2,500,000
h. Risk Analysis for Civil Works Projects	2,206,000	2,500,000
	$23,974,000	$ 23,400,000

2082

APPROPRIATION TITLE: General Investigation, FY 2001

3. Research and Development

a. Materials/Structural Engineering

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2001-2005) Program Cost	$20,000,000
Allocation Requested for FY 2001	2,600,000
Balance to Complete Five-Year Program after FY 2001	$17,400,000
Allocation for FY 2000	2,345,000
Increase of FY 2001 over FY 2000	255,000
Average Annual Allocation for FY 1996-2000	2,640,000

JUSTIFICATION:

The Corps is responsible for 879 flood control projects and 442 lakes and reservoirs. The Corps provides navigation on 25,000 miles of inland and coastal waterways, operates 235 navigation locks and 73 hydropower projects, and maintains 400 miles of coastal structures and 114 major ports. These are unique facilities whose failure would result in severe loss of life and/or have a significant economic impact. More than 34% of the over 1,200 facilities that the Corps operates have reached or exceeded their design life of 50 years. The operation and maintenance needs of these assets have grown from $0.2 billion in 1970 to $1.9 billion in 1999 and are increasing at a rate of over $50 million per year. All of these Corps facilities are built from rock, soil, concrete, steel, or some combination of the materials investigated under this research area.

The focus of the Materials and Structural Engineering research area is to provide new or enhanced technologies to extend the life and reduce future operational costs of Corps' Civil Works facilities. These technologies will be produced by aggressively developing high-performance materials and systems, with major emphasis in reducing rehabilitation and maintenance costs; refining material characterization; and improving analytical procedures to assess the adequacy of aging facilities and for the design/analysis of rehabilitation measures. The research will furnish the Corps with improved analysis technologies to ensure a continued high level of safety and reliability, and technologies to more economically design and construct required remedial and rehabilitation improvements. Research on the nonlinear incremental structural analysis of mass concrete has significantly changed construction practices with considerable savings on a number of projects on the Mississippi, Ohio, and Red Rivers.

FY 2001 ACTIVITY:

In FY 2001, the research will be structured in three major thrusts:

1. The Concrete and Structural Engineering Research program will emphasize development of efficient concrete and structural engineering technology to significantly reduce construction and rehabilitation costs and to improve the durability, service life, and safety of Corps hydraulic structures. New technologies will be developed in the areas of connections for steel hydraulic structures and development of computer-aided design tools using the Corps' new design guidance procedures. Also, new technologies will be developed for testing and evaluation of concrete, field exposure durability studies, and soil-structure interaction techniques. Research on welded connections will provide designers with guidance necessary to eliminate maintenance welds, which have resulted in fatigue and

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3. Research and Development

a. Materials/Structural Engineering (Continued)

fracture of existing hydraulic steel structures. Cost-effective advancements in concrete technology are being developed to correct existing costly shortcomings. Actual field exposure studies are conducted to assess the durability of concrete when exposed to natural extreme weathering. Specifically, the Concrete and Structural Engineering program will: (a) Develop improved connection details for tainter gate girder to end frame connection, (b) Complete work on the load-resistant factor design (LRFD) program for tainter gates, (c) Complete a PC-version of the program, SOILSTRUCT, used for nonlinear incremental soil-structure interaction analyses, (d) Enhance the computer-aided structural engineering (CASE) web site with respect to the dissemination of program information, (e) Develop test standards for screening Class-C fly ash, and (g) Publish report on the effects of seawater on the toughness of fiber reinforced concrete beams.

2. The Geotechnical Engineering Research program (GTERP) will develop and validate predictive tools to improve geotechnical investigation, design, construction, and retrofitting of foundations and earth-material structures. A predictive model for erosion of spillways and outlet works on rock will be refined to improve the predictive and analytical tools for erosion of spillways associated with embankment dams. Research on stability of embankment dams founded on clay shales will address longevity and potential need for retrofitting of embankment dams throughout the Mississippi/Missouri River basin and the central United States. This research will incorporate new PC-based computational tools, also developed under GTERP, for geotechnical analyses. Guidelines for several trenchless technologies will be completed. Trenchless technology research will evolve to minimum-impact technologies, addressing the increased need for minimum disruption of the infrastructure, while upgrading engineering works in urban areas, and to accommodate changes in function of Corps structures and urbanization of surrounding lands during the decades since the structures were designed. Research on innovative methods of flood protection will lead directly to the new research program on Innovative Flood Protection.

3. The High-Performance Materials and Systems program will continue to develop the high-performance construction materials and systems that will enable the Corps to produce more durable structures with significant reductions in project delivery times and construction costs. Materials and systems will also be developed to reduce costs associated with operation, maintenance, and rehabilitation of existing structures. Laboratory tests will be initiated to develop high-performance concrete mixtures that are more resistant to the severe erosion conditions present in many of the Corps' hydraulic structures. An evaluation of coating materials will be completed, and overall guidance for overcoating lead-based paint on steel structures will be developed. New technology in admixtures (shrinkage-reducing, water-reducing, and anti-washout) will be evaluated to identify optimum applications in new construction and repair of existing concrete substrates. Self-lubricating materials will be evaluated in the laboratory and demonstrated in the field with applications on lock gates. Laboratory evaluation of test methods to determine restrained drying shrinkage will be completed. An analytical model to predict the field performance of repair materials based on the results of laboratory material property tests will be evaluated. The quality control/quality assurance protocols for composite repair techniques will be reviewed, and a Corps project will be selected for a demonstration of specific fiber reinforced polymer (FRP) composite repair systems. The potential for application of grout-enriched roller-compacted concrete as an innovative facing method in repair and replacement of Corps locks, dams, and other hydraulic structures will be demonstrated. Development of expert systems for evaluation and repair of concrete structures and civil works advanced materials will be initiated.

2084

3. Research and Development

a. Materials/Structural Engineering (Continued)

FY 2000 ACCOMPLISHMENTS:

1. New computer-aided analysis tools were developed to support evaluation of hydraulic steel structures for fatigue and fracture, design of structures requiring inclusion of soil-structure interaction effects, analysis of flexible base pile layouts, and reduction of pile load test data. Newly-developed procedures from this program have been used on all recently-designed hydraulic structures. The total number of validated analyses and design tools to assist the field offices in designing cost-effective hydraulic structures is now 126. The field offices have identified savings of $50 million over the past 10 years through the reduction of man hours by using these practical computer tools.

2. Research to develop a series of high-strength concrete mixtures (in the range of 100-MPa compressive strength at 28 days) was completed. These mixtures exhibit high durability and are lower in cost than conventional high-strength concrete mixtures. Results of this investigation were documented in a final report that makes recommendations on the use of supplementary cementitious materials to improve the durability and lower the cost of high-strength concrete.

3. The predictive tool for rock spillway erosion has been validated from field data and case histories. Modifications based on these real examples have allowed the predictive applicability to be improved by matching expected rock-spillway performance to rock type and geologic bedding structure.

4. The novel geotechnical analysis program, PC-STUBBS, has been evaluated and prepared for widespread distribution to Corps users. The entire STUBBS code has been rewritten to incorporate breakthroughs in geotechnical research made during the past decade, making two-dimensional geotechnical analyses possible on a fast PC rather than only on mainframes.

5. Guidance was developed for application of coatings on damp metal surfaces. Surface preparation methods for lead-painted steel surfaces to receive overcoating systems were evaluated. Tests to evaluate coating systems were initiated. Application of a fusion bond epoxy coating was demonstrated.

6. Screening tests on shrinkage-reducing admixtures and "third-generation" water-reducing admixtures were completed. Results indicate that these materials have significant potential for improving new construction practices and providing repair materials that are dimensionally compatible with existing concrete substrates.

7. Laboratory testing of environmentally acceptable lubricants was completed. The update to the advanced materials selection guide for lock, dam, and hydroelectric components was completed.

8. Laboratory tests to identify dimensionally stable repair materials were continued, with emphasis on alkali-activated fly-ash materials. Test methods to determine restrained drying shrinkage were identified, and preliminary evaluations were conducted. An analytical model to evaluate the relative importance of those interrelated material properties that affect the dimensional compatibility of concrete repairs was developed.

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3. Research and Development

a. Materials/Structural Engineering (Continued)

9. A field user workshop on the use of FRP composites for the repair of concrete hydraulic structures was conducted. A draft interim guidance on the use of FRP composite materials to repair reinforced concrete in hydraulic structures was completed.

10. Available information on grout-enriched roller-compacted concrete was compiled and evaluated. Results indicate that this innovative facing method achieves considerable savings in cost and placement effort, has minimal influence on the overall placement schedule, and results in an extremely durable, high-quality, and visually uniform and impervious facing which is monolithic with the interior roller-compacted concrete.

11. Guidance for selection of remote monitoring equipment for cathodic protection systems was developed.

12. Developed a generic set of bounding material property curves that may be used to perform nonlinear, incremental structural analyses of massive concrete structures during the feasibility phase of the design.

13. Completed development of a new interface model that will allow accurate modeling of excavations and post-construction submergence of retaining structures for select backfill soils.

14. Verified and refined a finite-element model for analyzing the effects of attachment geometries for members connected to downstream girder flanges.

15. Wrote guidelines for pipe ramming and other no-dig pipe-replacement techniques, and incorporated survey results of private companies in the trenchless technology field.

16. A workshop on applications of trenchless technologies to Corps civil works projects was held. This was a cooperative effort among ERDC, USAE Jacksonville District, and the Trenchless Technology Center at Louisiana Tech University.

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APPROPRIATION TITLE: General Investigation, FY 2001

3. Research and Development

b. Coastal Navigation and Storm Damage Reduction

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2001-2005) Program Cost	$ 29,000,000
Allocation Requested for FY 2001	3,100,000
Balance to Complete Five-Year Program After FY 2001	26,900,000
Allocation for FY 2000	5,080,000
Increase(Decrease)of FY 2001 Over FY 2000	(1,980,000)
Average Annual Allocation for FY 1996-2000	4,331,000

JUSTIFICATION:

The Corps of Engineer's navigation mission encompasses a capital stock value of approximately $31.5 billion with an annual budget exceeding $1.4 billion for planning, engineering, construction, and operations and maintenance. The 299 deep-draft harbor projects maintained by the Corps handle 95 percent of the U.S. overseas trade by weight. This directly contributes to local and regional economies (over $600 billion in foreign trade) and substantially contributes to the national economy ($150 billion in federal taxes generated by foreign trade in 1994). Existing Federal coastal infrastructure includes 800 coastal (including Great Lakes) navigation projects with more than 400 miles of navigation structures (i.e., breakwaters and jetties) and approximately 100 storm-damage reduction and other related coastal projects. Projected planning, design, and construction cost average about $500 million per year for these projects. In addition, about 85% of the Corps' dredging costs of almost $500 million annually are incurred dredging deep-draft channels in the coastal zone. The Federal commitment for existing Congressionally authorized coastal storm-damage-reduction projects over the next 50 years will exceed $2.7 billion. Navigation projects also must be designed so that Federal liability is not incurred due to adverse effects on adjacent shorelines.

The objective of this research thrust area is to develop engineering technology that reduces the costs of planning, designing, constructing, maintaining, and operating harbor and channel projects that support both large ocean-going and shallow-draft vessels involved in US and international commerce, that reduces the costs of coastal structures built for navigation, and that reduces costs of flood-damage reduction works. In addition, the Program develops technology that improves project performance. Engineering tools, computer models, and design guidance are developed for predicting sediment movement and determining how to modify the movement of sediment that deposits in coastal and Great Lakes navigation channels and harbors. This material must be dredged at considerable cost. Engineering tools, computer models, and design guidance are also developed for predicting currents that affect navigation and sedimentation, waves that impact coastal structures and drive sedimentation processes, and water levels that affect navigation, flooding, and storm damage.

MAJOR FEATURES OF THE FY 2001 PROGRAM:

Major thrusts in the Program include coastal navigation, navigation structures, and sediment management.

1. Coastal Navigation. The role of the Corps in navigation is to provide a safe, reliable, and efficient waterborne transportation system (channels, harbors, and waterways) for the movement of commerce, national security, and recreation. The Corps has constructed over 800 such projects and maintains them at an

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annual cost of about $500 million. The cost of capital improvements to these projects (to provide for increased vessel size) averages about $125 million annually. Waves, currents, and elevated water levels are the principle factors moving sediment that shoals channels and harbors. They also are the major forces that damage coastal navigation structures (i.e., breakwaters and jetties), and are the main causes of coastal flooding and storm damage. Research is underway to reliably and accurately describe and predict coastal hydrodynamics. Wave, current, and water-level data are being used to develop and validate models of coastal phenomena for effective navigation-project design based on accurate estimates of forces and design conditions. Methods are being developed to estimate coastal-wave conditions through laser-ranging technology for planning, design, construction, maintenance, and operation of coastal structures as well as the mitigation of the impacts of navigation structures on adjacent shorelines. Research is underway to optimize navigation channel dimensions and depths based upon hydrodynamic forces, ship motions, and the future vessel fleet. Improved navigation channel depth and width guidance is being developed to maximize the safe use of existing channels and minimize dredging requirements while maintaining navigation safety. Definitive information resulting in reductions in channel depth and width will generate large cost savings in the Corps' Operation and Maintenance budget.

2. Coastal Structures. Developing, improving, and protecting coastal navigation projects frequently requires the construction of structures such as breakwaters, jetties, groins, seawalls, and/or revetments. These structures must be able to function cost-effectively while withstanding wave and current forces. Technologies are being developed to predict the performance of coastal navigation structures. The prediction and prevention of breakwater deterioration will facilitate risk assessments and future performance estimates in the design of new or rehabilitated structures. Methods also are being developed to inspect, evaluate, and repair or rehabilitate aging coastal structures. Coastal project design requires the ability to assess the complete life cycle of a project (i.e., the planning, design, construction, operation, and maintenance processes; viable alternatives and optimization; functional performance; and project impacts). The Coastal Engineering Manual (CEM), a state-of-the-art and comprehensive manual that incorporates all the tools and procedures used in planning, design, construction, maintenance, and mitigation of coastal navigation projects, will be distributed to the field.

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3. Sediment Processes and Regional Sediment Management. A major activity of the Corps' navigation mission is to maintain navigable waterways through dredging. Periodic maintenance dredging and future deepening and widening of navigation channels is essential for maintaining US competitiveness and economic growth. The total volume dredged each year by the Corps was about 250 million cubic yards at a cost of $500 million, with maintenance dredging accounting for about 85 percent of the total dredging quantity. More effective sediment management could reduce dredging costs for the Corps by millions of dollars. An understanding of sediment processes is critical for producing cost-effective plans and designs for effective navigation projects, estimating channel shoaling, locating optimum nearshore dredged-material placement, determining movement of dredged material deposited in the nearshore, assessing the impact of navigation projects and structures on adjacent shorelines, and reducing costs and improving performance of existing coastal and storm-damage reduction projects using sediment nourishment. Technologies are being developed to measure sediment transport, provide the fundamental knowledge required to evaluate alternative strategies for dredged-material disposal, and minimize or mitigate navigation-project impacts. Sediment transport rates will be measured during storms, by specialized instruments, to provide input for numerical and laboratory model investigations and to aid in development of a physics-based sediment transport model. Experiments will be conducted in a large-scale laboratory model to develop long-shore sediment transport relationships for coastal-navigation project design. A method will be developed for identifying the depth of maximum sediment motion for improved determination of sediment movement at project sites as well as on regional scales. Technologies also will be developed to identify the causes of *hot spots* in navigation channels and alleviate shoaling where repetitive maintenance dredging is especially costly.

3. Research and Development

b. Coastal Navigation and Storm Damage Reduction (Continued)

ACCOMPLISHMENTS IN FY 2000:

1. Provided improved validation of major wave models that calculate wave transformation over highly irregular bathymetry common at Corps projects. Validated models are required to accurately predict wave height for design of safe, reliable, and cost-effective coastal navigation projects. Improved accuracy of wave height prediction can result in cost savings that exceed $10 million for new structures while reducing rehabilitation and maintenance costs by $1 million each per year. Developed statistical-based data assimilation and automated wave hindcast methodology.

2. Evaluated specialized instruments for measuring sediment transport in coastal regions. Sediment transport data are critical for determining optimum dredging requirements for maintenance of coastal navigation channels. Completed physics-based model framework.

3. Completed a comprehensive Coastal Engineering Manual (CEM). The CEM is an updated state-of-the-art replacement for the manual, which has been the standard for coastal engineers worldwide but is over 15 years old. Interim guidance was provided to the field as developed, and user workshops were held to facilitate integration of various parts of the CEM into a unified, comprehensive manual.

4. Developed criteria to improve channel depth and width design guidance based on response of deep-draft navigation vessels at channel entrances. Procured physical model of deep-draft ship from prototype studies. Completed evaluation of several numerical models to accurately calculate horizontal and vertical vessel excursions.

5. Studied evolutionary processes in directional wave spectra needed to improve state-of-the-art numerical models. This led to a better understanding of the physics in shallow-water spectral processes and will provide improvements to wave estimates that drive design, construction, planning, and operation of Corps navigation projects. Developed manual and conducted workshop on shallow-water spectral wave modeling.

6. Applied Diagnostic Modeling System (DMS) to a fourth coastal site. DMS consists of two models (a hydrodynamic model and a channel infilling model) and is intended to provide a rapid, cost-effective assessment of causes of frequent shoaling in navigation channels. Channel infilling model 2 and a technical reference manual for DMS were developed.

7. Completed development of the Large-Scale Sediment Transport Facility, including the sediment handling system. This facility has features to maintain longshore current uniformity and introduce/measure longshore sediment transport. From laboratory and existing field data, comprehensive local and total sediment transport relationships will be developed.

8. Deterioration rates of stone armor layers on breakwaters and jetties are being quantified. Design guidance under development will include effects of currents and movable beds. This guidance will save millions of dollars through improved designs and reduced maintenance requirements of structures, and through more accurate estimates of future maintenance needs.

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3. Research and Development

b. Coastal Navigation and Storm Damage Reduction (Continued)

9. Research is underway to determine the feasibility of producing an accurate cost-effective wave measurement system for navigation areas by adapting existing laser rangefinding technology such as the scanning hydrographic operational airborne lidar system (SHOALS). A prototype wave gage has been constructed with 4 co-located laser rangefinders for measuring instantaneous water surface elevations.

10. Incorporating steep slopes and improved structure representation in the presence of currents provide improved channel wave predictions. The Beta-version of the phase-averaged wave model was distributed to districts. This new technology is the first component in developing new capabilities to manage O&M in inlet and harbor entrance systems by providing more realistic ship-wave-channel interactions.

11. Impacts are being determined from changes occurring in the international shipping industry on Corps channel design, and how navigation trends on channel usage contribute to safe piloting and maintenance problems. Future trends have been identified that will have potential channel design impacts. Recommendations for amelioration of such impacts were developed.

12. Periodic maintenance of navigation channels is usually conducted with traditional dredging methods whereby shoaled material is placed in designated disposal areas. This research has determined actual sand bypassing costs (construction, operation, and maintenance), system performance, and associated benefits so districts can evaluate the feasibility of using sand bypassing on other channel maintenance methods.

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APPROPRIATION TITLE: General Investigation, FY 2001

3. Research and Development

c. Inland Navigation and Flood Damage Reduction

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2001-2005) Program Cost	$30,000,000
Allocation Requested for FY 2001	4,200,000
Balance to Complete Five-Year Program after 2001	25,800,000
Allocation for FY 2000	3,356,000
Increase (Decrease) of FY 2001 over FY 2000	844,000
Average Annual Allocation for FY 1996-2000	3,750,000

JUSTIFICATION:

This program conducts research and development in support of the primary Civil Works business areas of Navigation and Flood Damage Reduction. The Corps of Engineers operates and maintains approximately 12,000 miles of shallow draft navigation channels for commercial interstate transportation. These channels contain 275 lock chambers to service the commercial tows and other vessels that transit the waterways; 26 of these locks are over 100 years old. The gateways to the inland waterway system are the 299 deep-draft harbors maintained by the Corps that handle 95 percent of the U.S. overseas trade by weight. Those deep-draft harbors directly shape local and regional economies with $600 billion in foreign trade value and make substantial contributions to the national economy with $150 billion in federal taxes generated by foreign trade. In addition to these facilities, the Corps maintains 627 shallow-draft harbors, both coastal and inland, that can be critical to the local economies of relatively isolated communities. In order to maintain and improve these navigation investments, an average of about 250 million cubic yards of material is dredged each year at a cost of about $500 million.

There is continued growth of waterborne transportation and continued growth of larger vessels to improve transport efficiency. This increased demand has produced needed improvements to existing waterways. Difficulties in performing dredging operations and disposal of dredged materials, increasing costs and reduced budgets, and aging structures demand improved efficiencies in maintaining navigation channels and facilities. Therefore, a focus of this research and development program is on improved navigation channel design to reduce the cost of construction, improve functional performance, preserve and enhance environmental quality, reduce maintenance costs, and improve safety.

In carrying out the Flood Damage Reduction mission, the Corps of Engineers operates 383 major lakes and reservoirs and maintains 8,500 miles of levees. The average annual flood damages prevented by Corps projects from 1985 to 1994 is $14.6 billion. Return on investment from 1928 to 1993 has been 8.41:1. There has been a shifting focus for new projects from large flood damage reduction projects towards watershed management and smaller flood damage reduction systems. This has required an emphasis on the development of appropriate design guidance and planning and engineering technology to accelerate the process of restoring channels in a more cost-effective and environmentally sound manner. The sedimentation response of flood-control channels; improved conditions for navigating in deep-draft and shallow-draft channels; bank protection methods for flood-control and navigation channels; and ice impacts on flood-control and navigation channels and structures will be addressed.

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3. Research and Development

c. Inland Navigation and Flood Damage Reduction (Continued)

Ice accumulations and ice jams are directly or indirectly responsible for structural damages to Corps projects such as locks and dams, river training structures, and bank-stabilizing riprap. The cost of these damages is estimated to be $50 million a year. Ice jams can also increase erosion of river beds and banks. Ice in waterways slows down traffic, requires smaller tows, and interferes with the operation of Corps locks increasing risk to lock personnel and more than doubling lockage times, thereby increasing operational costs to both the Corps and the navigation industry. Furthermore, ice jams induce flooding, increase erosion of river beds and banks, and scour around riverine structures, at an average annual cost of about $100 million to the Nation. The Cold Regions Engineering Program that was formulated as a part of this research area is intended to provide guidance that will reduce risks and uncertainties as well as reduce the costs of river ice problems.

While the emphasis for types of new projects is shifting, concurrently, existing projects must be optimally consistent with authorized purposes. Improved analysis methods for decision support for reservoir operations are needed. Also, watershed and riverine analysis methods need improvement to take advantage of new real-time data sources, such as precipitation radar, to accurately forecast real-time flow and stages. In addition, advanced statistical methods are needed to better understand project inflows and performance.

During the 1990's, vast areas within the Mississippi River basin and in Central Valley of California on the Sacramento and San Juan River systems experienced recurrent severe flooding. Recently, severe inland flooding occurred as a result of several hurricanes that struck the Carolinas as well as other parts of the East Coast. Loss of life and property destruction were made worse by failure of levees and other elements of flood protection systems in these regions. There is a definite need for developing improved monitoring, evaluation, and flood fighting technologies for levees and other flood protection infrastructure. Efforts are being made to identify, develop, and field validate innovative technologies for monitoring, evaluation, and flood fighting for flood protection infrastructure. Emphasis will be on ways to improve reliability, safety, and performance of Corps flood protection systems while reducing costs.

MAJOR FEATURES OF THE FY 2001 PROGRAM:

1. Recent research has resulted in the development of bendway weir design guidance. This product alone has resulted in millions of dollars of savings from reduction in dredging requirements, improved navigation efficiencies, improvement in navigation safety, reductions in traffic delays, and numerous environmental benefits. Some 145 bendway weirs have already been constructed on the Mississippi River. Research to address the effect of bendway weirs on navigation will continue with emphasis on experiments to evaluate various bendway weir parameters, such as spacing, height, length, and angle, on towboat navigation.

2. Accurately predicting vessel depth and width requirements in navigation channels and entrances is critical to economically and safely designing navigation channels and optimizing channel maintenance. With increasing vessel drafts and continued improvements in bulk carrier and intermodal transportation efficiencies, there is a need to squeeze more capacity out of the existing navigation channels. Recent estimates indicate that each additional foot of draft that a coal collier can be loaded results in a $200,000 cost savings to the shipper. Guidance for design of navigation channels used by mixed fleets of shallow- and deep-draft vessels will be presented.

3. Improvements to lock approaches has a high potential for reducing traffic delays on the inland waterway system and increasing the capacity of existing locks. This experimental study will develop generalized design guidance on the layout of approach conditions to locks that will reduce delays and increase

3. Research and Development

c. Inland Navigation and Flood Damage Reduction (Continued)

capacity. All physical model experiments, data analysis, and preliminary guidance will be completed.

4. Vegetation in flood-control channels provides valuable habitat, especially in urbanized areas, and removal is subject to regulatory authorities. To remove vegetation, a determination of acceptable levels of vegetation must be made. Guidelines will be finalized and documented in various technical reports and engineering manuals for monitoring, maintenance, and management of vegetated flood control channels.

5. Channel restoration is a significant objective of many current and proposed Corps local flood protection projects. Guidance is being developed for Hydraulic Design of Channel Restoration Projects. Guidelines will be documented in technical reports and engineering manuals.

6. Numerical Modeling is frequently used in flood management and habitat enhancement engineering studies. A variety of multi-dimensional approaches exist. Guidance is being developed to explain the applicability, data requirements, and ease of use for the various modeling techniques.

7. Accretion of ice on lock walls, lock gates, dam gates, strut arms, and other machinery still causes machinery to become inoperable. Optimization of existing and development of new deicing/anti-icing methods and materials will be pursued for application to new and rehabilitated navigation and water control structures.

8. A spatially distributed snowmelt model has been developed that includes forest canopy effects. Improved snowmelt algorithms under field testing will be integrated in the Corps' next generation Hydrologic Modeling System (HEC-HMS).

9. Ice modules have been incorporated in Corps hydraulic numerical models HEC-RAS and UNET. Development of discrete particle computer simulation programs of ice transport in rivers and in lock approaches has been initiated and will be continued to assist in the design of river ice management and control methods.

10. An ice jam data base has been created that is available on line for use in ice jam control studies. Initial ice formation and ice jam predictive methods have been developed and are being pursued for use in risk and uncertainty analysis and other hydraulic projects.

11. Accurate and timely prediction of flood water elevations and flood damage during floods is critical to the successful protection of lives and property along river systems and for the design of flood management plans and protection projects. Enhanced computer models will be released for analysis of flood wave passage through rivers, locks and dams, tunnels, complex hydraulic channels, structures, and for flood damage reduction.

12. Determining reservoir releases during flood events requires consideration of increasingly complex data and circumstances, such as forecasted inflow, reservoir system status, flood plain occupancy vulnerability, and reservoir/flood plain wildlife environment, to name a few. New reservoir operation algorithms are being developed that will facilitate real-time operation of existing river-reservoir systems as well as evaluate tradeoffs in operational purposes and planning of new or modified systems.

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3. *Research and Development*

c. Inland Navigation and Flood Damage Reduction (Continued)

13. An apparent increase in extreme climate events, including El Nino effects, are resulting in more attention to the potential for future flooding. Recent floods include the 1993 flooding in the upper Mississippi Basin and 1996 and 1997 flooding in the Sacramento Valley. The role of wetlands in natural flood attenuation is also of much interest. Improved flood runoff evaluation and forecasting techniques, companion computer models, and reporting/display methods are under development that will significantly improve such analysis.

14. Innovative technologies for monitoring and evaluation techniques for the flood protection infrastructure will be evaluated and field tested. The promising new flood fighting techniques will be evaluated. These research efforts will be coordinated with other federal and state agencies including FEMA.

ACCOMPLISHMENTS IN FY 2000:

1. Computer models were evaluated for optimizing the design of bendway weirs and other channel training structures to reduce dredging requirements and improve environmental conditions.

2. Experiments were undertaken to evaluate the impact of bendway weir spacing, height, length, and angle on towboat navigation.

3. Experiments on various lock approach conditions and methods of improving towboat navigation in those lock approaches were continued.

4. Results of experiments to determine the impact of habitat enhancement measures that can slow flow on flood stages were analyzed.

5. A procedure for determining roughness losses and water surface elevations in compound, meandering channels was developed.

6. Guidelines were developed for evaluating channel stability and sedimentation relative to the design and maintenance of vegetated flood control channels.

7. The Ice Jam Database, which contains over 11,000 entries, is now fully accessible and searchable on the WEB for use in response to emergency situations and for background information for ice jam flood control studies.

8. A report on the impact of project operations on upstream and downstream ice conditions has been prepared.

9. Laboratory tests have been performed to enhance the effectiveness of high flow bubbler systems for ice and debris control at locks and dams.

10. A particle dynamic computer simulation model of ice transport and accumulation in lock approaches has been developed for use in the evaluation of proposed ice management methods.

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3. Research and Development

c. Inland Navigation and Flood Damage Reduction (Continued)

11. Design guidance (stone size, slope, and substrate) to mitigate ice damages to riprap installation has been finalized from the results of laboratory tests.

12. The river ice forecast model in larger rivers has been refined, a third and final winter test completed, and the final report completed.

13. New methods and associated software that greatly improve the efficiency and accuracy of planning, design, and operation of flood damage reduction projects and support field office flood damage reduction studies and reservoir operations were released as follows:

14. A major new release of the Corps' River Analysis System (HEC-RAS) expands its applicability to simulation of dynamic flood waves through a variety of hydraulic structures and floodplain developments.

15. A major new release of the Corps' Hydrologic Modeling System (HEC-HMS) expands its capability to continuous simulation of soil moisture wetting and drying; this capability is especially important to reservoir inflow forecasting and water supply analysis.

16. A major new release of the Corps' Flood Damage Analysis Package (HEC-FDA) includes improved user interface and incorporation of GIS-based flood damage computations and displays.

17. The initial version of the Corps' new Reservoir System Simulation (HEC-RES) software was released.

18. A new software system using digital terrain and geographic information systems for the Corps' hydrologic and hydraulic modeling packages was released. This greatly enhances the preparation of input data and visualization of results.

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APPROPRIATION TITLE: General Investigation, FY 2001

3. Research and Development

d. Environmental Quality (Continued)

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2001-2005) Program Cost	$30,000,000
Allocation Requested for FY 2001	4,800,000
Balance to Complete Five-Year Program after FY 2001	25,200,000
Allocation for FY 2000	4,011,000
Increase of FY 2001 over FY 2000	789,000
Average Annual Allocation for FY 1996-2000	3,539,000

JUSTIFICATION:

The Corps operates and maintains 25,000 miles of inland and coastal waterways, 235 navigation locks, 114 major ports, 442 lakes and reservoirs, 73 hydropower projects, 879 flood control projects and annually manages the dredging and disposal of 350,000 cubic yards of dredged material as part of its water resource mission. Wide-ranging environmental stewardship is an integral part of Corps water resource management. Moreover, recent U.S. figures have estimated $16 billion per year in damages caused by nonpoint-source pollution and up to 1 billion tons per year of eroded soils that are deposited in the Nation's waterways severely impacting multiple project uses and impeding navigation. A critical part of this mission is to ensure that project planning, construction, operation, and maintenance, while economically viable, incorporates environmental stewardship and restoration. The Environmental Quality Research Area addresses the highest priority technical problems with state of science, cost-effective technologies for managing natural resources at Corps projects including identifying, assessing, and managing contaminated dredged material; ecosystem management and restoration; wetlands restoration; managing the Nation's threatened and endangered environmental resources; and assessing and managing project-related water quality and quantity problems. This program will provide demonstrated economical solutions to the Corps' highest priority environmental problems, will reduce unnecessary regulatory burdens, and provide a very high return on taxpayer investment.

2096

MAJOR FEATURES OF THE FY 2001 PROGRAM:

1. Completion of habitat management guidelines for sensitive species at COE reservoir and other water resource development projects.

2. Development of an ecosystem model to evaluate dynamics of aquatic/terrestrial ecosystems.

3. Development of national guidebook for HGM evaluation of coastal and lake wetland functions for use in impact assessment.

4. Development of contract specifications for seedling establishment on bottomland hardwood sites.

3. Research and Development

d. Environmental Quality (Continued)

5. For direct input into the CE/EPA Inland Disposal Testing Manual a population effects model for a freshwater organism will be completed.

6. Initiate development of a screening method for assessing bio-availability of chemicals from contaminated dredged material (sediments).

7. Initiate development of Geosensors to screen the effects of contaminated dredged material (sediments) on benthic invertebrates.

8. Initiate the identification and assessment of dredged material (sediments) contaminated with endocrine disrupting compounds.

9. Develop water quality management strategies based on relationships between reservoir design and operation and water quality; improving water quality management at CE water resource development projects.

10. Develop a state-of-the-art water-basin model providing the CE with the capability to accurately manage river-basin hydrology and water quality.

11. Continue improving the watershed modeling system with important process-oriented information on relationships between land use and loading of ecologically important nutrients.

12. Continue the development of capabilities to simulate wetlands and riparian buffer zones within the watershed modeling system.

2097

MAJOR ACCOMPLISHMENTS OF THE FY 2000 PROGRAM:

1. Developed handbook of stream and riparian ecosystem restoration, enhancement and management.

2. Developed guidance on short and long-term aquatic benefits to restoration techniques used by the Corps.

3. Development of handbook of low-cost coastal restoration projects.

4. Evaluation of wetlands functional assessment techniques at restoration and creation sites meeting section 404 CWA performance standards.

5. For direct input into the CE/EPA Ocean Dumping Manual a population effects model for a marine benthic organism (polychaete worm) is complete.

6. Implementation report on the interpretation of contaminated sediment genotoxicity results for use in an ecological risk assessment.

7. Interpretive report describing the consequences of the bioaccumulation of organic contaminants in marine worms.

3. Research and Development

d. Environmental Quality (Continued)

8. For direct input into the CE Upland Testing Manual for contaminated sediments a procedure was completed for the prediction of volatile organic contaminant losses from exposed contaminated sediment.

9. Provided field user guide on a dredged sediment contaminant transport/fate model that provides a powerful tool to help CE projects meet responsibilities under the Clean Water Act.

10. Developed a bottom sediment sub-model in a longitudinal/vertical hydrodynamic and water quality model.

11. Developed an expanded CE watershed modeling system that enables selective assessment of land use effects on water quality in CE projects on a larger, more real-world scale than before.

12. Developed field user guidance on improved methods for water quality monitoring data collection and techniques for collecting water information for incorporation in geographical assessments or as model input.

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3. Research and Development

e. Water Resources Management (Continued)

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2001-2005) Program Cost	$5,000,000
Allocation for FY 2001	750,000
Balance to Complete after FY 2001	4,250,000
Allocation for FY 2000	692,000
Increase of FY 2001 over FY 2000	58,000
Average Annual Allocation for FY 1996-2000	1,288,000

JUSTIFICATION:

The Water Resources Management Research Area comprises research and development activities leading to improvements in decision making and evaluation methods for Civil Works planning and operational investigations. Decision Support R&D provides Corps personnel with the appropriate framework and analytical tools that are key to assessing current and future water resources problems, evaluating alternative competing solutions, and making the most informed decisions. The Decision Support Technologies research program is aimed at developing improvements to Civil Works water resources investments project formulation capabilities and to fulfill the need for analytical support tools for project delivery teams. Research is developing improved decision techniques for investments in new water resources projects and for management and recapitalization of existing water resources infrastructure. Civil Works program areas supported by this research include inland and coastal navigation projects, flood and storm damage reduction, and environmental restoration and protection. Research conducted within this research area is directed toward reducing study time and costs and increasing the effectiveness and acceptability of water resources projects. Tools include models, software, and technical guidance for economic and cost-effectiveness analysis, collaborative problem solving techniques, tradeoff, and multi-objective analysis to balance dissimilar values and valuing non-monetary outputs. Research outputs range from methods for facilitating local sponsor and stakeholder involvement in water resources planning to mathematical models and evaluation frameworks for formulating flood damage reduction projects and environmental restoration projects. The basic objectives of the program are to increase the knowledge and understanding of the physical, economic, social, and environmental relationships inherent in planning for the development of the Nation's water resources and to develop procedures for incorporating this knowledge into the planning process in a way that provides better professional public and governmental decisions.

MAJOR FEATURES OF THE FY 2001 PROGRAM:

Activity in FY 2001 will focus on improving and modernizing the project delivery and planning process along with development and update of plan formulation and economic evaluation procedures. Development of plan formulation software and evaluation techniques for multi-agency watershed planning studies will continue. Methods for streamlining flood damage reduction studies will be completed. In order to insure that projects are responsive to local sponsor need, work on improved public involvement and collaboration on water projects will be initiated. Integration of new planning and environmental models and economic cost effectiveness models for river basin studies with improved procedures for linking environmental outputs to human services will continue. This will provide information, tools, and procedures to enable Corps planners to more effectively and systematically implement watershed studies and undertake more effective and efficient planning studies incorporating more collaborative and successful planning efforts.Completion of planning tools for the evaluation of trade off between

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3. Research and Development

e. Water Resources Management (Continued)

monetized and non-market measures of water resources outputs will be accomplished which will improve partnerships, reduce conflict, and provide information to better evaluate effects of alternative plans: economic, environmental, and social

ACCOMPLISHMENTS IN FY 2000:

Provided methods, data, and analytical tools to improve water resources investment decisions to include the following: 1) procedures to reduce bottlenecks to efficient evaluation of flood damage reduction projects and tools for efficient and accurate data gathering and analysis, 2) windows based cost-effectiveness evaluation software tool used by Corps and other agencies, 3) assessment of significant process and policy changes affecting National Economic Development analysis, and 4) review of stakeholder/collaborative planning techniques and a review tradeoff analysis.

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3. Research and Development

f. Geospatial Technology (Continued)

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2001-2005) Program Cost	$15,000,000
Appropriation Requested for FY 2001	2,950,000
Balance to Complete Five-Year Program after FY 2001	$12,050,000
Allocation for FY 2000	2,971,000
Decrease of FY 2001 over FY 2000	(21,000)
Average Annual Allocation for FY 1996-2000	2,179,000

JUSTIFICATION:

The Geospatial Technology Area comprises Survey and Mapping, Remote Sensing, and Geographic Information Systems (GIS). Activities within this area focus on collection, management, analysis, and exploitation techniques for information tied to the earth's surface and subsurface (geospatial data). Typical data types include bathymetric and topographic survey, digital elevation models, dredge cuts, placement sites, sub-bottom compositions, soil types, wetlands, land cover, endangered species and their habitat, stream and tide gages, cross sections, training structures, levees, dam deformation, HTRW sites, permits, piezometers, archeological sites, Corps projects, relief wells, etc. Data may be collected for and analyzed for projects at specific sites as part of systems: from subbasins to large river systems, from individual beaches to large coastal segments. These data support decision makers in all Corps business program areas: navigation, flood and coastal storm damage reduction, hydropower, regulatory, environment, emergency management, recreation, water supply, and work for others. Accurate and reliable geospatial data are required by each business program for the effective planning, design, construction, operation, maintenance, and rehabilitation of projects.

Annual expenditures for these data average $175M, thus significant savings from more effective and efficient management of civil works projects and developments will be realized through the use of new data collection and management technologies, data analysis, and data exploitation. Improved understanding of the behavior of large systems has the potential to significantly lower the cost of dredging, beach nourishment, and dredged material placement. The program area balances tactical (short term/specific) and strategic (longer term research needs not being addressed elsewhere) approaches to providing solutions to meet Corps needs. Examples of cost savings already realized include: (1) savings of $10M annually with Corps-developed differential GPS, enabling integration of differential techniques and differential networks throughout the Corps, (2) disaster recovery savings of over $3.6M through the innovative use of spatial data analysis in planning for cleanup after Hurricanes Andrew and George, and (3) savings of over $66K when GIS was used to manage the Beaver Lake Shoreline (Little Rock District. Other savings noted include more rapid data retrieval and analysis with production improvement approaching 2:1; more accurate (up-to-date) maps; ability to conduct systemic analysis as for the Channel Improvement Project (1300 miles of the Mississippi River); automated river chart production with improved cartographic appearance, accuracy, completeness, and currency; automated presentation capability and improved QA/QC in annual program reviews, improved data retention and longer data life with reduced re-collection costs; increased data sharing with lower collection costs, and improved, more defensible decision making.

2101

APPROPRIATION TITLE: General Investigation, FY 2001

3. Research and Development

f. Geospatial Technology (Continued)

MAJOR FEATURES OF THE FY 2001 PROGRAM:

1. Complete development of commercial low-cost GPS and inertial hybrid system that will enable positioning capability in obstructed areas.

2. Development and distribution of a new, high-precision method for the automated classification of remotely sensed data.

3. Release of HEC-Flood Damage Analysis Version 5.0 with Integrated GIS capabilities.

4. Publish procedures and algorithms to use airborne laser and radar systems to accurately map flood plains and water control structures for better failure prediction and emergency management.

5. Develop and apply methods for the distribution of high-resolution satellite imagery for natural resource inventory.

6. Develop documented procedures and guidelines for the specification of accuracy of geospatial data and analysis products.

7. Assess capability of acoustic and ground-penetrating radar to detect objects, such as buried cables and wing dams, in navigable waterways.

8 Begin development of new methods using radar to measure snow extent, snow water equivalent and liquid water content, and ground freeze-thaw and moisture state for improved water control.

9. Develop and document methods for integration of Corps real estate data into GIS.

10. Develop new procedures and algorithms for evaluation of acoustic data to determine the location of the bottom and the location and depth of suspended sediments.

11. Initiate development of new techniques using satellite and airborne systems to remotely measure reservoir water quality.

12. Develop Arc IMS emergency management applications to improve interactive map production for flooding.

13. Complete development of small craft platform for surveys in surf and very shallow or obstacle-laden waterways.

14. Demonstrate linkages of Laboratory Information Management Systems for hazardous waste with commercial GIS.

21102

3. Research and Development

f. Geospatial Technology (Continued)

15. Adopt standards for seamless integration of simulation models and commercial GIS software.

16. Begin development of methods to use multi-beam acoustic systems for detection of rock and other navigation hazards.

17. Demonstrate interoperable web-based geospatial technology incorporating industry specifications for flood simulation.

18. Develop uniform and efficient procedures to compile and disseminate electronic navigation chart data to waterway users.

ACCOMPLISHMENTS IN FY 2000:

1. Completed and documented new snow forecasting methodology.

2. Developed and prototyped interoperable web-based geospatial technology in conjunction with the development of industry specifications for future commercial products.

3. Began development of commercial low-cost GPS and inertial hybrid system that will enable positioning capability in obstructed areas.

4. Initiated development of alternative methods for structure inventories, elevation data, census, land-use, real estate values, and flood damage.

5. Developed and tested procedures for the rapid distribution of commercial satellite data using Eagle Vision II.

6. Began analysis of acoustic and ground-penetrating radar to detect objects in navigable waterways and of new procedures and algorithms to determine the location of the bottom and the location and depth of suspended sediments.

7. Linkage of existing Corps information systems (e.g., Regulatory Assistance Management System [RAMS] and Natural Resources Management System [NMRS]) to commercial GIS.

8. Adoption of draft protocols to enable seamless data flow between concurrently running models and GIS/GIS tools.

9. Began development of small craft platform for surveys in surf and very shallow or obstacle-laden waterways.

10. Completed an operational data model catalog with advisor functions to guide users to best models for water resource applications.

3. Research and Development

f. Geospatial Technology (Continued)

11. Completed evaluation of high-resolution commercial imagery for emergency management.

12. Began analysis of airborne laser and radar systems to accurately map flood plains and water control structures for better failure prediction and emergency management.

13. Developed a database design for Corps real estate data.

14. Development of tools and strategies to improve interoperability of maps and engineering drawings, achieve enterprise data integration, and ease dissemination of CADD, GIS, and other databases.

15. Developed calibration procedures for digital cameras used in mapping applications.

16. Developed procedures and evaluation criteria to intelligently thin very large data sets with minimal loss of model accuracy.

17. Developed software and procedures to produce 3-D levee design elements plus plans and profiles automatically from survey data.

2104

3. Research and Development

f. Geospatial Technology (Continued)

SUMMARIZED FINANCIAL DATA:

Estimated Total (FY 1998-2003) Program Cost	$16,700,000
Allocation Requested for FY 2001	2,500,000
Balance to Complete after 2001	6,258,000
Allocation for FY 2000	3,313,000
Decrease of FY 2001 over FY 2000	(813,000)

JUSTIFICATION:

Eleven navigation projects at an estimated construction cost of $9 billion are currently proposed for construction or replacement on the nation's inland waterways. In September 1992, a Corps Task Force was formed to identify new technology and methods for constructing navigation projects in a more efficient, cost-effective, and environmentally sound manner. This team identified numerous concepts with potential for more efficient and cost-effective construction with the potential of saving between $1.4 and $1.8 billion for the 11 proposed projects. In 1994, a Regional Navigation Design Team (RNDT) consisting of members from North Central Division, Ohio River Division, and Lower Mississippi Valley Division was formed to implement recommendations from the Task Force. This 5-year research and development (R&D) program resulted from the need identified by the USACE Task Force (EP 1110-1-14) and the RNDT and will develop design and construction guidance to realize potential savings which have been identified. Senior Executives from the divisions comprising the team concluded that this research program, "*...will impact our ability to upgrade and rehabilitate our navigation structures on the major inland river systems over the next 15 or 20 years. The combination of criticality and potential for major disruptions requires that this area of concern be given strong emphasis and support.*" Failure to develop cost-reducing design and construction technologies will result in delayed construction of some of the proposed navigation projects (due to limited funds in the Inland Navigation Trust Fund). This delay will increase the potential for major disruptions in transiting locks and increase operating costs to the inland navigation industry.

Navigation projects that will benefit from the technology developed under this program include: (1) McAlpine Locks, (2) IHNC Lock Replacement, (3) Locks 2, 3, and 4, Monongahela River Project, (4) Replacement Lock at Soo Locks, (5) Marmet Lock Replacement, (6) Upper Mississippi River and Illinois Waterways System, (7) McClellan-Kerr Arkansas River Navigation System, (8) Olmsted Locks, (9) Ohio River Main Stem System, (10) Green and Barren River, and (11) Kentucky Lock.

MAJOR FEATURES OF THE FY 2001 PROGRAM:

Final guidance for the design and use of precast, thin-wall panel components will be prepared. Soil-structure interaction studies will be performed on flexible retaining walls with multiple rows of anchors using SOILSTRUCT-ALPHA. Individual components of the in-chamber longitudinal culvert design for lock filling and emptying systems will be evaluated through experiments and analyses to determine if the efficiency of the system can be improved through modification of these components.

2105

3. Research and Development

g. Innovations for Navigation Projects (Continued)

Interim guidance will be developed for the design and construction of connections and seals for large precast concrete modules. Development of interim guidance will also occur for selection of methods and techniques to position and stabilize equipment/modules to allow positioning and placement of large float-in and lift-in precast sections within allowable tolerances. Selected underwater concrete mixtures will be evaluated using water quality rating procedures, and a report will document performance requirements, materials selection, proportioning, and water quality.

Field evaluation activities will occur in conjunction with the installation of two float-in units for construction of the Braddock Dam on the Monongahela River. Investigations will be completed that are needed for updating design criteria for use on the construction of lock floor slabs and culverts underwater. Enhancements to the integrated design and analysis of innovative navigation structures approach will be developed and an initial library of models will be created that will reduce model development during design.

ACCOMPLISHMENTS IN FY 2000:

Documented an underwater pile load test and a caisson test. A report was published documenting design parameters needing investigation for underwater construction of lock floor slabs and culverts as well as construction methods to accomplish this type of construction. An approach for performing integrated design and analysis of innovative navigation structures was selected.

A published report contained information on materials selection, proportions, placing techniques, and performance requirements for underwater concrete. Research was performed that evaluated the effect of underwater concrete on the water ecosystem. Work was completed in the form of a draft report on controlled low-strength materials (CLSM) documenting the proportioning and evaluation of numerous soil-based CLSM mixtures.

Review and evaluation of current practices for the design and construction of connections and seals for large precast concrete modules placed underwater were completed in the form of a draft report. Identification and evaluation were performed on current methods and techniques to be used for stabilizing equipment/modules that will allow underwater positioning and placement of large precast sections within allowable tolerances.

Initial laboratory experiments to evaluate the in-chamber longitudinal culvert design for filling and emptying systems for varying lifts and submergence conditions have been completed and have shown that this type of system is almost as efficient as the Corps' standard design side-port filling and emptying system.

A literature review was completed which looked at the state-of-the-practice for the analysis of flexible walls with multiple rows of anchors, and a set of flexible retaining walls with multiple rows of anchors were selected for future study using the soil-structure interaction program, SOILSTRUCT-ALPHA. A review of current technology for thin- wall panels was completed. Draft guidance on pre-stressed and post-tensioned concrete hydraulic structures was reviewed by engineers in the field and recommendations were received to finalize this guidance. A report was published documenting available technologies for measuring the position of underwater structures.

2106

4. Earthquake Engineering (Continued)

SUMMARIZED FINANCIAL DATA:

Estimated Nine-Year (FY 1994-2002) Program Cost	$21,000,000
Allocation for FY 2001	2,600,000
Balance to Complete Nine-Year Program After FY 2001	6,067,000
Allocation for FY 2000	2,226,000
Increase of FY 2001 over FY 2000	374,000

JUSTIFICATION:

Most Corps dams were built at a time when earthquake engineering was in its infancy; seismic hazards were not recognized or were poorly understood, and understanding of them is still changing. The Corps has more than 200 dams and 73 intake towers located in seismic zone 2 or greater (80 percent of the United States), most of which would expose downstream populations to mortal hazard in the event of failure to contain their reservoirs. Many of these dams and all of the 73 intake towers would be judged seismically inadequate using traditional methods of evaluation. Remediation of all of these structures would cost more than a prohibitive $20 billion. Expensive remediation can be avoided in many cases by reevaluating the structures using improved methods of engineering analysis that clearly discriminate between safe and unsafe structures. The cost of remediation of the unsafe structures can be substantially reduced by improved, more cost-effective remediation techniques. A focused, aggressive, coordinated effort of theoretical development, physical modeling, and experiment is required to develop and validate the needed engineering tools.

The program is developing well-verified, practical engineering tools to assess the safety of dams and reservoir control structures (such as intake towers, spillways and gated outlet works), and to remediate dams and control structures found to be unsafe. These tools include advanced field-investigation techniques, physical modeling of the failure processes of the dam-reservoir-foundation system during earthquakes, cost-effective remediation techniques for dams with deficient seismic stability, and verification of behavior of roller-compacted concrete during earthquakes so that we can use this cost-effective construction process for remediation of seismically susceptible dams and for new construction.

Products of the EQEN Research Program will include a comprehensive ground motion analysis system that incorporates the latest developments in seismology and geology. Well validated, practical analysis procedures will clearly distinguish safe from unsafe dams. These procedures will be directly applicable to the dams at risk in over 80 percent of the United States. New, practical seismic analysis procedures for intake towers and outlet works will overcome the inadequacies of current analytical methods. It is estimated that these new methods will reduce the number of intake towers needing remediation by more than 50 percent. Progress to date on intake towers has reduced this number by 15 percent. Advanced field-investigation techniques will allow 3-dimensional images to be produced that show physical and mechanical properties of the structures and underlying earth foundations more accurately, more rapidly, and less expensively than currently can be done. Guidance on the allowable amount and distribution of damage to an earth dam under earthquake-induced shaking will be developed. Physical modeling research on remedial construction will provide the first proof-testing at full design levels of earthquake shaking required to verify experimentally the remedial design. Theoretical developments will provide design tools for spot remediation to avoid costly overdesign and excessive remedial construction.

2107

4. Earthquake Engineering (Continued)

The number one EQEN payoff is avoiding remediation costs for dams that today are judged unsafe only because of the inadequacies in current assessment techniques and, when remediation is required, avoiding over-construction. Using the tools developed in this research program, the Corps will realize approximately $5M to $10M cost avoidance for each intake tower found to be safe with new methods, a $100M savings for each concrete dam, and $50M for each embankment dam found to be safe with more advanced analytical methods. In addition, field investigation costs will be reduced from $500K to $200K per dam (overall projected cost avoidance of more than $50M for the 200+ dams at risk), and there will be reduced uncertainty in seismic damage to dams and increased safety for all Corps dams.

MAJOR FEATURES OF THE FY 2001 PROGRAM:

The Earthquake Engineering Research Program addresses both the geotechnical and structural aspects of water resource facilities with participation by other federal and state agencies and academic and professional experts. The FY 2001 activities include:

1. Geotechnical: (a) develop engineering ground motion analysis modules for risk assessment and deformation or nonlinear numerical studies, (b) develop validation procedures for deformation analysis, (c) validate magnitude and intensity criteria for liquefaction of fine-grained soils prevalent throughout the central United States, (d) validate stress history effects of initial static shear stresses on liquefaction potential, (e) conduct centrifuge and numerical modeling experiments to investigate the amount of acceptable levels of damage, (f) add modules to beta version of large-strain deformation code for analysis of embankment dams and continue verification of code using field case histories and centrifuge results, and (g) continue three-dimensional extension of large-strain code for embankment dams.

2. Structural: (a) conduct additional cyclic experiments on physical models of outlet works to predict the extent of damage and ultimate capacity, (b) conduct full-scale shaking experiment of an intake tower, (c) conduct shake table experiments on multiple monoliths to quantify interaction between monoliths and energy losses that result, (d) validate numerical procedures using dynamic response data of the Feitsui concrete dam from the 21 Sep 99 Chi-Chi Earthquake, (e) develop numerical joint model essential for prediction of roller-compacted concrete behavior, monolith interaction, and lift-joint response (use results of shake table experiments and the performance of the Feitsui Dam to define failure mechanisms and calibrate numerical joint model), and (f) continue development of nonlinear time domain code for dynamic structure-reservoir-foundation interaction analyses that include hydrodynamic effects of the reservoir and interaction of the concrete dam with the surrounding rock foundation.

ACCOMPLISHMENTS IN FY 2000:

Significant geotechnical accomplishments in FY 2000 included: (a) beta tested engineering analysis system for determining design and evaluation of ground motions consistent with Corps procedures, (b) published reconnaissance report of significant lessons learned from the recent major earthquakes in Turkey and Taiwan, (c) incorporated a graphical user interface into the three-dimensional seismic tomography program and fielded initial version, (d) reported procedures for investigating coarse deposits for in-situ shear strength determination, (e) continued to conduct stress state (K-sigma and K-alpha) centrifuge experiments to quantify these parameters which are essential to liquefaction evaluation and for which no field data are available, (f) published report documenting the results of the in-flight cone penetration testing before and after liquefaction in centrifuge soil models, (g) conducted additional centrifuge experiments to investigate the extent of damage to an embankment dam founded on liquefiable materials and continue numerical analysis of same, and (h) validated and improved large deformation non-

2108

4. Earthquake Engineering (Continued)

linear code for analysis of embankment dams on existing Corps projects.

Significant structural accomplishments in FY 2000 included: (a) published simplified analysis procedures for intake towers and outlet works using results of physical experiments conducted in FY 1996-98 which revealed new failure mechanisms that had not been included in traditional analysis methods and quantified (a historical first) ductility available in these lightly reinforced concrete structures essential to reservoir control, (b) conducted cooperative 1/20th-scale shake table experiment of the Koyna Dam to contribute to field quantification of the behavior of concrete gravity dams, (c) developed material constitutive model to predict the nonlinear structural response caused by cracking and large displacements in concrete materials, and (d) continued development of nonlinear time domain code for dynamic structure-reservoir-foundation interaction analyses that included hydrodynamic effects of the reservoir and interaction of the concrete dam with the surrounding rock foundation and initiated development of a three-dimensional program architecture.

These research accomplishments were presented at workshops, conferences, seminars, Corps classes, on the Internet, and in technical publications.

2109

Justification of Estimates for Civil Functions Activities
Department of the Army, Corps of Engineers
Fiscal Year 2001
SUMMARY OF REMAINING ITEMS
CONSTRUCTION, GENERAL

	FY 2000 Allocation	FY 2001 Request	Increase (Decrease)
2. Navigation Projects			
a. Channels and Harbors			
(II) Projects Not Specifically Authorized By Congress (Sec. 107, P.L. 86-645)	6,432,000	7,000,000	568,000
(III) Mitigation of Shore Damages Attributable to Navigation Projects (Sec. 111, P.L. 90-483)	343,000	300,000	(43,000)
(IV) Dredged Material Disposal Facilities Program (sec. 101, P.L. 99-662)	8,567,000	5,000,000	(3,567,000)
c. Inland Waterways Users Board (Sec. 302, P.L. 99-662)			
(I) Board Expenses	39,000	45,000	6,000
(II) Corps Expenses	159,000	185,000	26,000
4. Shore Protection Projects			
b. Projects Not Specifically Authorized by Congress (Sec. 103, P.L. 87-874)	2,144,000	2,500,000	356,000
5. Flood Control Projects			
a. Local Protection			
(II) Projects Not Specifically Authorized by Congress (Sec. 205, P.L. 80-858)	30,702,000	25,000,000	(5,702,000)
(III) Emergency Streambank and Shoreline Protection (Sec. 14, P.L. 79-526)	5,574,000	9,000,000	3,426,000
(IV) Snagging and Clearing (Sec. 208, P.L. 83-780)	96,000	200,000	104,000
6. Dam Safety and Seepage/Stability Correction Program	0	3,000,000	3,000,000

2110

Justification of Estimates for Civil Functions Activities
Department of the Army, Corps of Engineers
Fiscal Year 2001

SUMMARY OF REMAINING ITEMS
CONSTRUCTION, GENERAL

	FY 2000 Allocation	FY 2001 Request	Increase (Decrease)
7. Recreation Modernization Program	0	27,000,000	27,000,000
a. Project Modifications for Improvement of the Environment (Sec. 1135, P.L. 99-662)	8,576,000	14,000,000	5,424,000
b. Aquatic Ecosystem Restoration (Section 206, P.L. 104-303)	5,469,000	10,000,000	4,531,000
12. Aquatic Plant Control Program	4,000,000	3,000,000	(1,000,000)
13. Beneficial Uses of Dredged Material (Sec. 204, P.L. 102-580)	858,000	4,000,000	3,142,000
14. Employees Compensation (Payments to Department of Labor)	19,554,000	19,200,000	(354,000)
15. Riverine Ecosystem Restoration and Flood Hazard Mitigation	0	20,000,000	20,000,000
Total	92,513,000	149,430,000	56,917,000

APPROPRIATION TITLE: Construction, General, FY 2001

2. Navigation Projects

a. Channels and Harbors

(II) Projects not Specifically Authorized by Congress (Section 107, PL 86-645, as amended)

Allocation FY 2000	$6,432,000	Tentative Allocation FY 2001	$7,000,000

GENERAL: Section 107 of the River and Harbor Act of 1960 (PL 86-645), as amended, authorizes up to $35,000,000 annually for construction of navigation projects where such construction is not already specifically authorized by Congress. Projects are designed to provide the same complete navigation project that would be provided under regular authorization procedures. Each project selected must be economically justified and complete within itself. Federal cost participation cannot exceed $4,000,000 per project.

BUDGET REQUEST: The $7,000,000 requested for Fiscal Year 2001 is to continue the Section 107 program of development and construction of navigation projects at locations throughout the Nation.

(III) Mitigation of Shore Damages Attributable to Navigation Projects (Section 111, PL 90-483, as amended)

Allocation FY 2000	$343,000	Tentative Allocation FY 2001	$300,000

GENERAL: Section 111 of the River and Harbor Act of 1968 (PL 90-483), as amended, authorizes the construction of projects for the prevention or mitigation of shore damages attributable to Federal navigation works. The cost of installation is cost shared in the same manner as the costs for the project causing the shore damage were shared. The cost of operation and maintenance is borne by the non-Federal sponsor. Projects first cost shall not exceed $2,000,000 without specific authorization by Congress.

BUDGET REQUEST: The $300,000 requested for Fiscal Year 2001 is to continue or complete project phases started prior to FY 1999 for the Section 111 program of mitigation of shore damages attributable to Federal navigation works.

2112

APPROPRIATION TITLE: Construction, General, FY 2001

2. Navigation Projects

a. Channels and Harbors

(IV) Dredged Material Disposal Facilities Program

Allocation FY 2000	$8,567,000	Tentative Allocation FY 2001	$5,000,000

GENERAL: Section 101 of the Water Resources Development Act of 1986 (WRDA 86)(Public Law 99-662) as amended by Section 201 of the Water Resources Development Act of 1996 (WRDA 96)(Public Law 104-303) established consistent cost-sharing for construction of dredged material disposal facilities associated with Federal navigation projects, including disposal facilities for Federal project maintenance. The costs of constructing land-based and aquatic dredged material disposal facilities associated with the construction, operation, and maintenance of all Federal navigation harbors and inland harbors shall be considered costs of constructing a general navigation feature of the project and shall be shared in accordance with the procedures set forth in section 101(a) of WRDA 86.

BUDGET REQUEST: The $5,000,000 requested for Fiscal Year 2001 will be used for the Federal share of construction of applicable dredged material disposal facilities required for maintenance of existing projects, reimbursement of non-Federal sponsors for dredged material disposal facilities constructed by them in advance of Federal appropriations for such purpose, or fee payments to private entities for the use of privately owned dredged material disposal facilities if such a facility is the least cost alternative to dispose of dredged material. All costs for dredged material disposal facilities associated with project construction and maintenance will be reimbursed from the Harbor Services Fund.

2113

APPROPRIATION TITLE: Construction, General, FY 2001

2. Navigation Projects

c. Inland Waterways Users Board

Allocation FY 2000	$208,000	Tentative Allocation FY 2001	$230,000

The $230,000 requested for Fiscal Year 2001 is to support, operations and expenses of the Inland Waterways Users Board, established by Section 302 of the Water Resources Development Act of 1986, (PL.99-662) and pursuant to the Board's charter, approved by the Secretary of the Army on March 3, 1987. The Board is an advisory committee subject to the requirements of the Federal Advisory Committee Act (PL 92-463).

(1) Funds in the amount of $45,000 are requested to meet the estimated expenses of the eleven member Board for its travel, meeting, and other needs to meet the requirements of the Charter.

(2) Funds in the amount of $185,000 are requested for Corps of Engineers expenses related to its responsibilities as an advisory committee sponsor. The Director of Civil Works has been designated Executive Director to the Board, and he has designated staff members to provide continuing Board support. Corps expenses will include personnel costs for administrative Board meeting support, including staff travel, clerical, printing, and related materials.

4. Shore Protection Projects

b. Projects Not Specifically Authorized by Congress (Section 103, PL 87-874, as amended)

Allocation FY 2000	$2,144,000	Tentative Allocation FY 2001	$2,500,000

GENERAL: Section 103 of the River and Harbor Act of 1962 (PL 87-874), as amended, authorizes up to $30,000,000 annually for construction of shore restoration and protection projects where not already specifically authorized by Congress. Projects under this special authority are formulated to provide the same complete project and same degree of protection provided under regular authorization procedures. Each project selected must be economically justified and complete within itself. Federal cost participation is limited to $2,000,000 per project.

BUDGET REQUEST: The $2,500,000 requested for Fiscal Year 2001 is to continue the Section 103 program of development and construction of flood, hurricane, and storm damage protection measures along the Nation's shorelines.

2114

5. Flood Control Projects

a. Local Protection

(II) Projects Not Specifically Authorized by Congress (Section 205, PL 80-858, as amended)

Allocation FY 2000	$30,702,000	Tentative Allocation FY 2001	$25,000,000

GENERAL: Section 205 of the Flood Control Act of 1948 (PL 80-858), as amended, authorizes up to $40,000,000 annually for construction of flood control projects where such construction is not already specifically authorized by Congress. Projects are designed to provide the same complete project and same degree of protection provided under regular authorization procedures. Each project selected must be economically justified and complete within itself. Federal cost participation is limited to $7,000,000 per project.

BUDGET REQUEST: The $25,000,000 requested for Fiscal Year 2001 is to continue the Section 205 program of development and construction of flood damage prevention projects at locations throughout the Nation.

(III) Emergency Streambank and Shoreline Protection (Section 14, PL 79-526, as amended)

Allocation FY 2000	$5,574,000	Tentative Allocation FY 2001	$9,000,000

GENERAL: Section 14 of the Flood Control Act of 1946 (PL 79-526), as amended, authorizes up to $15,000,000 annually for the construction of emergency bank protection works to prevent flood damages to highways, bridge approaches, public works, churches, hospitals, schools, and other non-profit public services. Each project selected must be economically justified and complete within itself. Federal participation under this authority is limited to a cost of not more than $1,000,000 at any single locality.

BUDGET REQUEST: The $9,000,000 requested for Fiscal Year 2001 is to continue the Section 14 program of emergency bank protection construction to prevent flood damages to highways, bridge approaches, and essential public facilities at locations throughout the Nation.

APPROPRIATION TITLE: Construction, General, FY 2001

5. Flood Control Projects

a. Local Protection

(IV) Snagging and Clearing (Section 208, PL 83-780, as amended)

Allocation FY 2000	$96,000	Tentative Allocation FY 2001	$200,000

GENERAL: Section 208 of the Flood Control Act of 1954 (PL 83-780), as amended, authorizes up to $7,500,000 annually for removing accumulated snags and other debris, and clearing and straightening of the channels in navigable streams and tributaries thereof, when in the opinion of the Chief of Engineers such work is advisable in the interest of flood control. Federal cost participation under this authority is limited to a cost of not more than $500,000 for any single tributary. Each project selected must be economically justified and complete-within-itself.

BUDGET REQUEST: The $200,000 requested for Fiscal Year 2001 is to continue the Section 208 program of channel clearing in the interest of flood control at locations throughout the Nation.

2116

APPROPRIATION TITLE: Construction, General, FY 2001

6. Dam Safety and Seepage/Stability Correction Program

Allocation FY 2000	$0	Tentative Allocation FY 2001	$3,000,000

GENERAL: The Dam Safety and Seepage/Stability Correction Program provides for modification of completed Corps of Engineers dam projects. There are over 700 dam projects under Corps jurisdiction. While no Corps dams are in imminent danger of failure, some may have a higher dam-safety risk than originally anticipated based on new data or the likelihood of extremely large floods and seismic events. Seepage problems at USACE dams are usually related to increased reservoir levels above the previous pool of record at a project. Static instability generally involves movement that starts at a slow rate and could result in massive displacement of large volumes of material if not corrected. Seepage/stability correction projects are classified as major rehabilitations. Dam modification work is proceeding under existing authorities on projects where cost-effective risk reduction measures have been identified and approved.

BUDGET REQUEST: The $3,000,000 requested for Fiscal Year 2001 will be used to initiate Dam Safety and Seepage/Stability projects which may be approved during FY 2001 as a result of studies now underway.

2117

APPROPRIATION TITLE: Construction General, FY 2001

7. Recreation Modernization Program (new)

Allocation FY 2000	$0	Tentative Allocation FY 2001	$27,000,000

GENERAL: The Army Corps of Engineers hosts 208 million visitors annually at Corps operated recreation areas. This makes the Corps the Nation's leading provider of water-based recreation and represents 30 percent of the visits to Federal recreation areas. Visitation to Corps recreation sites is expected to grow in the future. Most of the recreation facilities at Corps were constructed in the 1960's and 70's and were designed to serve the needs of the recreating public at that time. Visitor needs have changed significantly from that period. For example, tents and tent trailers have evolved to large travel trailers or motor homes making many of the Corps facilities obsolete. Additionally, funding for the maintenance of recreation facilities has been limited in the past decade. The result is that visitors to Corps lakes are faced with dilapidated recreation facilities and inadequate levels of service that do not meet Corps customer service standards. The combination of heavy use, lack of routine maintenance, and changes in visitor needs have caused significant deterioration in customer service and the natural resource base that draws our visitors to the lakes. This situation impairs the ability of managers to protect the resource and provide the level of service being sought by the recreating American public. Corps recreation facilities need to be modernized in order to provide our customers with safe and secure facilities that meet their needs and the level of service they expect.

BUDGET REQUEST: The $27,000,000 requested for Fiscal Year 2001 is to initiate the Recreation Modernization Program. The funds will be used to meet the needs of today's recreation user by upgrading worn out and obsolete Corps managed recreation facilities and protecting the natural resources that draw people to our areas. Modernization with state of the art materials and designs will reduce the cost of future maintenance, as well as eliminate much of the costly maintenance backlog.

2118

APPROPRIATION TITLE: Construction, General, FY 2001

10. Improvement of the Environment

a. Project Modifications for Improvement of the Environment (Section 1135, PL 99-662, as amended)

Allocation FY 2000	$8,576,000	Tentative Allocation FY 2001	$14,000,000

GENERAL: Section 1135 of the Water Resources Development Act of 1986 (PL 99-662), as amended authorizes review of Corps water resources projects to determine the need for structural or operational modifications for the purpose of improving the quality or the environment in the public interest; to determine if the operation of such projects has contributed to the degradation of the quality of the environment; and to carry out a program of such modifications that are feasible and consistent with authorized project purposes. Up to $25,000,000 may be appropriated annually. The non-Federal share of the cost of any modifications will be 25 percent. Modifications with estimated Federal costs over $5,000,000 require specific Congressional authorization.

BUDGET REQUEST: The $14,000,000 requested for Fiscal Year 2001 is to continue the Section 1135 program of project modifications in the interest of improving the quality of the environment. Funds included in this request are sufficient to provide 75 percent of the costs; the balance of the costs will be provided by the non-Federal sponsor.

b. Aquatic Ecosystem Restoration (Section 206, P.L. 104-303)

Allocation FY 2000	$5,469,000	Tentative Allocation FY 2001	$10,000,000

GENERAL: Section 206 of the Water Resources Development Act of 1996 authorizes up to $25,000,000 annually to carry out aquatic ecosystem restoration projects that will improve the quality of the environment, are in the public interest and are cost-effective. Non-Federal interests shall provide 35 percent of the cost of construction including provision of all lands, easements, rights-of-way, and necessary relocations. Non-Federal interests shall pay 100 percent of the cost of operation, maintenance, replacement and rehabilitation. Not more than $5,000,000 in Federal funds may be allocated to a project at a single locality.

BUDGET REQUEST: The $10,000,000 requested for Fiscal Year 2001 is to continue the Section 206 program of aquatic habitat restoration. Funds included in this request will provide 65 percent of the project cost with the remaining 35 percent provided by the non-Federal sponsor.

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12. Aquatic Plant Control (APC) Program

Allocation FY 2000	$4,000,000	Tentative Allocation FY 2001	$3,000,000

GENERAL: Aquatic plant control research is the nation's only Federally authorized research program for technology which is necessary to manage non-indigenous aquatic plant species. The objective of the research is to develop cost effective, environmentally compatible aquatic plant control technology, including biological, chemical, and integrated control methods. Research involving management strategies and applications and ecological factors are also being conducted. The control technology, management strategies and ecological understanding resulting from APC research forms the national base in the APC area, and is applied not only to control aquatic plant infestations in public waters nationwide, but is also essential to cost effective, environmentally compatible, aquatic plant control for the operation and maintenance of Corps projects. Nearly 3.0 million acres nationwide are now infested with problem aquatic plants. The Corps manages over 5.6 million surface acres of water at its reservoir projects alone, with significant additional acreage as part of navigation projects. Eurasian watermilfoil, hydrilla, alligatorweed, and other exotic species continue to expand from local infestations, many of which are interfering with navigation, flood control, hydropower production water quality and aquatic habitat. New colonies of objectionable aquatic plants continue to be found, such as hydrilla in the southeast and Eurasian watermilfoil in the Midwest. The direct application of technologies developed by research under the Aquatic Plant Control Program have resulted in the reduction of waterhycinth in the Gulf Coast States and California of over 3 million acres. In Louisiana alone, water hyacinth has been reduced from 1.5 million acres to about 200,000 acres. In addition, technology developed by the APC research program has resulted in a nationwide reduction of alligatorweed. Estimated annual savings produced by application of these APC research technologies are between $15,000,000 and $20,000,000 over the costs of conventional methods. The Aquatic Plant Control Program is authorized by Section 104 of the River and Harbor Act of 1958, (P.L. 85-500), as amended by Section 104 of the River and Harbor Act of 1962, (P.L. 87-874), Section 302 of the River and Harbor Act of 1965 (P.L. 89-298), and Sections 103, 105, and 941 of the Water Resources Development Act of 1986 (P.L. 99-662), Section 225 of the Water Resource Development Act of 1996 and Section 205 of the Water Resource Development Act of 1999 (P.L. 106-53). The APC program has an annual expenditure ceiling of $15,000,000.

BUDGET REQUEST: The $3,000,000 requested for Fiscal Year 2001 will be used for continued research efforts for aquatic plant control technologies to support the operation and maintenance of Corps projects. Efforts will focus on control methods for submersed aquatic plants (i.e. Eurasian watermilfoil, and hydrilla), with emphasis on biological control agents, chemicals, integrated control methods, management strategies and ecological factors that impact non-indigenous aquatic plant species . Research efforts are fully coordinated with other Federal, state, and local agencies to prevent duplication of effort and to ensure that research under this program is consistent with, and complementary to, the research efforts of others. The cost of research dealing with problems/outputs of regional or nationwide importance is 100 percent Federal.

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APPROPRIATION TITLE: Construction, General, FY 2001

13. Beneficial Uses of Dredged Material (Section 204, P.L. 102-580, as amended)

Allocation FY 2000	$858,000	Tentative Allocation FY 2001	$4,000,000

GENERAL: Section 204 of the Water Resources Development Act of 1992 (Public Law 102-580) authorizes the Secretary of the Army to carry out projects for the protection, restoration, and creation of aquatic and ecologically related habitats, including wetlands, in connection with dredging for construction, operation, or maintenance by the Secretary of an authorized navigation project. Annual appropriations not to exceed $15,000,000 are authorized. Non-Federal interests would be required to share in a minimum of 25 percent of the cost of each project including the provision of all required lands, easements, rights-of-way and relocations with the value of these contributions included in the 25 percent non-Federal share of the project and to pay 100 percent of the operation, maintenance, and replacement and rehabilitation cost of the wetland or other aquatic habitat area. The costs of the habitat protection, restoration or creation project would be limited to costs which are in excess of those costs necessary to carry out the dredging for the authorized navigation project.

BUDGET REQUEST: The $4,000,000 requested for Fiscal Year 2001 is to continue a cost shared program for the protection, restoration and creation of aquatic and ecologically related habitats, including wetlands. This program supports the objectives of the Coastal America Partnership, the North American Waterfowl Management Plan, and the cooperative agreement between the Department of the Army and the National Marine Fisheries Service.

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14. Employees Compensation (Payments to the Department of Labor)

Allocation FY 2000	$19,554,000	Tentative Allocation FY 2001	$19,200,000

GENERAL: Public Law 94-273, approved April 21, 1976, 5 USC 8147b, provides that each agency shall include in its annual budget estimates a request for an appropriation equal to costs previously paid from the Employees Compensation Fund on account of injury or death of employees or persons under the agency's jurisdiction.

BUDGET REQUEST: The $19,200,000 requested for Fiscal Year 2001 represents the total costs of benefits and other payments made from the Employees Compensation Fund during the period July 1, 1998, through June 30, 1999, due to injury or death of persons under the jurisdiction of the Corps of Engineers civil functions and also includes $700,000 for the investigation of fradulent claims for workers' compensation benefits.

APPROPRIATION TITLE: Construction General, FY 2001

15. Riverine Ecosystem Restoration and Flood Hazard Mitigation (new)

Allocation FY 2000	$0	Tentative Allocation FY 2001	$20,000,000

GENERAL: This Corps of Engineers initiative expands the use of non-structural flood hazard mitigation options, consisting of cost effective evacuation and relocation of public and private structures and facilities, in combination with restoration of the functions and values of riverine ecosystems to achieve the dual purposes of flood damage reduction and ecosystem restoration. Major regional floods over the past few years prompted studies that have concluded the United States should reexamine its approach to flood hazard mitigation and floodplain management. The historical practices of protecting existing and, in some cases, projected development in flood plains and allowing precipitation run-off patterns within watersheds to be substantially altered have dramatically changed conditions in the Nation's flood plains in terms of hydrology and natural floodplain functions and values. The initiative encompasses planning through implementation, builds on existing programs and initiatives, uses a watershed approach, and initiates and expands partnerships with other Federal agencies (particularly Federal Emergency Management Agency (FEMA), Natural Resources Conservation Service (NRCS) and United States Fish and Wildlife Service (USF&WS)) and non-Federal public entities. It would facilitate such partnerships by providing some funding for participation of cooperating Federal agencies within the context of specific studies. Areas where plans will be developed and implemented include areas where frequent or severe flooding has occurred, emergency assistance has been necessary, flood hazards have increased due to changes in hydrologic and hydraulic regimes, development is encroaching on and altering flood plains, and important floodplain functions and values need maintenance or restoration. Cost sharing will be 50 percent Federal and 50 percent non-Federal for studies and 65 percent Federal and 35 percent non-Federal for design and implementation. The annual Federal allocation for the planning, design and implementation of any plan will be limited to $10,000,000.

BUDGET REQUEST: The $20,000,000 requested for Fiscal Year 2001 is to initiate the program with a diverse set of activities located throughout the nation.

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DEPARTMENT OF THE ARMY, CORPS OF ENGINEERS -- CIVIL

OPERATION AND MAINTENANCE, GENERAL

FISCAL YEARS 2000 - 2001 SUMMARY OF REMAINING ITEMS

Activity	Nat./ Lab	FY 2000 Appropriation ($)	FY 2001 Budget ($)	Increase (Decrease) ($)
1. Navigation Projects				
a. Channels and Harbors				
· Coastal Inlet Research Program	R	2,500,000	3,000,000	500,000
· Dredge WHEELER Ready Reserve	R	9,000,000	13,500,000	4,500,000
· Dredging Operations and Environmental Research (DOER)	R	6,500,000	8,000,000	1,500,000
· Dredging Operations Technical Support (DOTS) Program	L	1,500,000	2,100,000	600,000
· Monitoring of Coastal Navigation Projects	L	1,000,000	2,000,000	1,000,000
b. Locks And Dams				
· Zebra Mussel Research Program	R	1,000,000	700,000	(300,000)
2. Flood Control				
a. Reservoirs				
· Cultural Resources (NAGPRA/Curation)	N	1,500,000	3,000,000	1,500,000
· National Dam Safety Program	N	40,000	40,000	0
· National Dam Security Program	N	20,000	25,000	5,000
· Recreation Management Support Program (RMSP)	L	1,000,000	1,950,000	950,000
· Water Operations Technical Support (WOTS) Program	L	700,000	1,500,000	800,000
4. Protection of Navigation (The four items, a, b, c, and d are on one justification sheet)				
· Dredging Data and Lock Performance Monitoring System	N	500,000	1,166,000	666,000
· Group of Four:				
a. Protecting, Clearing and Straightening Channels (Sec.3)	N	50,000	50,000	0
b. Removal of Sunken Vessels	N	500,000	500,000	0
c. Waterborne Commerce Statistics	N	4,000,000	4,600,000	600,000
d. Harbor Maintenance Fee Data Collection	N	575,000	975,000	400,000
5. National Emergency Preparedness Program (NEPP)	N	5,000,000	6,000,000	1,000,000
6. Project Operations Support Program				
· Earthquake Hazards Program For Buildings and Lifelines	L	500,000	600,000	100,000
· Management Tools For Operation and Management	L	500,000	1,100,000	600,000
· Mississippi River Basin Mainstem Model Development	N	0		0
· Performance Based Budgeting Support program	N	415,000	1,650,000	1,235,000
· Regional Sediment Management Demonstration Program	R	0	1,500,000	1,500,000
· Reliability Models Program For Major Rehabilitation	L	500,000	675,000	175,000
· Wetlands Functional Assessment Methodology	L	0	1,000,000	1,000,000
Total Remaining Items		**37,300,000**	**55,631,000**	**18,331,000**

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1. NAVIGATION

a. Channels and Harbors

Coastal Inlets Research Program

SUMMARIZED FINANCIAL DATA:

Estimated Program Cost	$ 32,000,000
Allocation for FY 2000	2,425,000
Allocation Requested for FY 2001	3,000,000
Increase of FY 2001 from FY 2000	575,000
Balance to Complete after FY 2001	9,000,000

JUSTIFICATION: The Corps of Engineers will expend an estimated $8 to $10 billion over the next 25 years at the more than 100 tidal inlets with existing Federal navigation projects to maintain and create navigation channels and structures, and to mitigate damage caused by navigation projects to adjacent beaches. Political, engineering, and demographic factors may increase these costs. Many Federal jetties are more than 100 years old, and the structures and channels are not always optimized according to modern knowledge to minimize dredging costs and beach impacts. The public perception, right or wrong, that Federal activities at inlets cause adverse responses at adjacent beaches has already required additional, expensive mitigation (e.g., Applegate et al. vs. U.S. concerning down-drift erosion along Brevard County, FL). Public sensitivity to current maintenance practices, where dredged material is placed in offshore disposal areas, may result in requirements for more nearshore placements of maintenance materials to benefit adjacent beaches. Inlets are the primary conduits for the transport of environmental constituents between bays and the open ocean, and the Corps may be constrained from performing present activities unless it can make accurate predictions of inlet response, and thus environmental response, to such activities.

Despite the need, little research to develop cost-reducing technology has been directed at coastal inlets. The Coastal Navigation and Storm-Damage Reduction Research Program, funded under the base General Investigations R&D Program, has studied some isolated aspects of coastal inlets, particularly the development of scour at structures placed at inlets and the movement of sediment in and near inlets. However, these studies are insufficient in their scope and content to satisfy the design and maintenance needs of the Corps of Engineers relative to coastal inlets. The Coastal Inlets Research Program was initiated in FY 1994 to address the special needs of the Corps in this area.

The Coastal Inlets Research Program is a finite-lived program to increase Corps' capabilities to cost-effectively design and maintain the more than 100 inlet projects which comprise the bulk of coastal operations and maintenance (O&M) expenditures. Because of their complex nature, the behavior of inlets is poorly understood. This has resulted in the Corps spending more of its O&M budget than necessary to maintain inlet projects. The Coastal Inlets Research Program studies functional aspects of inlets such as their short- and long-term behavior and their response to waves, tides, currents, and engineering modifications, given their regional geologic and oceanographic setting. As inlet behavior and the consequences of navigation projects are becoming better

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understood, sophisticated tools for management of inlets for navigation projects, such as models and empirical relationships, are becoming available. These new tools are leading to more efficient, cost-effective designs that have been shown to reduce O&M requirements and, consequently, costs.

ACCOMPLISHMENTS OF THE FY 2000 PROGRAM:

a. Developed and verified an automated PC-based Sediment Budget Analysis System (SBAS) for management of inlets and adjacent beaches. The SBAS incorporates a procedure for calculating uncertainty associated with sediment budgets AND was applied and verified for the 42-mile reach from Fire Island Inlet to Montauk Point, New York, encompassing three Federal Inlets, to assist in design of remedial efforts. The State of Florida, through the Jacksonville District, is implementing the SBAS on a regional basis to encompass many of the 61 inlets in the State. The SBAS was released Corps wide, and enhancements were made based on feedback from District users.

b. Developed scour prediction analytical model for applications in regions characterized by local flow curvature, flow separation and entrainment, and flow interaction with inlet structures. Verified the model at Ventura Harbor, CA, to give substantial cost savings in breakwater modification, and validated with data collected at Shinnecock Inlet, NY.

c. Introduced concept of "flood-shoal engineering" as means of improving navigation channel stability and reducing scour at inlets. In cooperation with the NY District and State of NY, tested the concept at Shinnecock Inlet. Flood-shoal engineering can save substantial costs in serving as a source of beach nourishment as compared to mining the ebb-tidal shoal under ocean wave and weather conditions.

d. Developed theory of combined random wave diffraction at structures together with wave shoaling, refraction, and breaking. Implemented the theory in the Corps' STWAVE model and validated with physical model data collected in the CIRP inlet physical model and with field data collected at Grays Harbor, WA.

e. Developed the SHOALS Toolbox, a set of PC-based analytic and visualization tools for analyzing and reporting results from the Corps' SHOALS system. Validated the Toolbox at East Pass, FL, and held workshop in November 1999 together with the SHOALS Center of Expertise.

f. Completed major laboratory experiment on inner bank erosion and applied concepts to validate a jetty modification at Grays Harbor, WA; the new design eliminated concerns raised by environmental interests and avoided a lawsuit threatened by the local surfers. Completed sediment pathway experiment in support of SBAS and the Inlet Modeling System. Completed laboratory experiments on the effects of bay channelization on location of the navigation channel through an inlet entrance.

g. Completed integration of the wave, tidal current, and sediment-transport models of the Inlet Modeling System (IMS). The IMS allows assessment of jetty modifications, channel infilling, and channel alignment for reduction of dredging and improved navigation safety. Trial evaluations of the system were conducted at Grays Harbor, WA, and at Shinnecock Inlet, NY, to examine navigation channel alternatives. The modeling system identified eddies associated with non-linear advective accelerations as being a major factor responsible for channel re-alignment, suggesting means of improving the stability of channel orientation.

h. Developed an analytic and numerical model called the Morphology Modeling System (MMS) to calculate inlet morphology change over decades and centuries. The MMS that explains tidal delta growth and volumes and time scales associated with natural bypassing and responses to engineering activities, such as mining of the ebb-tidal shoal.

i. Conducted a major technology-transfer workshop in February 2000 for Corps District engineers and private consulting companies which support Districts. Gave training on numerical models for inlets, automated sediment budget analysis system, scour prediction and remediation, field data collection, and capabilities of numerical models.

j. Completed data intensive data collection at Shinnecock Inlet. This comprehensive data set is used to benchmark CIRP numerical models of waves, currents, and sediment transport.

MAJOR FEATURES OF THE FY 2001 PROGRAM:

a. Extend the Morphology Modeling System to account for time-dependent growth of flood-tidal shoals, sediment exchange between ebb- and flood-tidal shoals, and consequences of mining or modifying these shoals.

b. Extend and complete work on empirically-based geomorphic indicators for estimating ebb- and flood-tidal shoal center of mass, volumes, areas, orientation, and related geometric characteristics.

c. Refine the Inlet Modeling System based on test applications at several inlets to provide guidance to Districts on appropriate time steps, coupling frequency of the wave, current, and sediment-transport models, required grid resolution, and similar practical details for wide-spread use.

d. Test the time-dependent numerical model of local scour in navigation channels and adjacent to jetties and breakwaters.

e. Develop design guidance on flood-shoal engineering after testing at selected inlets such as Barnegat Inlet, NJ and Ocean City Inlet, MD.

f. Prepare final design guidance on inlet channel cross-section stability based on integrating laboratory experiments, field data, and analytical models.

g. Transition work to deep-draft channels, dealing with channel shoaling at all water depths, different grain sizes, and different wave conditions ranging from breaking waves through deeper water conditions and inception of sediment motion. Extend hydrodynamic and sediment-transport modeling technology to deep-draft channel situations.

h. Conduct comprehensive technology-transfer workshops on all coasts of the U.S. to provide training to Corps personnel and private consulting companies on techniques and models developed in the Coastal Inlets Research Program.

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APPROPRIATION TITLE: Operation and Maintenance, General B **Fiscal Year 2001**

1. NAVIGATION

a. Channels and Harbors

Dredge WHEELER Ready Reserve

SUMMARIZED FINANCIAL DATA

Estimated Annual Cost	$12,450,000
Allocation for FY2000	9,000,000
Allocation Requested for FY2001	**13,500,000**
Increase of FY2001 over FY2000	4,500,000

JUSTIFICATION: The Water Resources Development Act of 1996 (WRDA 96), Section 237. HOPPER DREDGES, contained a provision requiring the Corps hopper dredge WHEELER to be placed in a ready reserve status. The section requires that no individual project funds may be used to fund the dredge in its ready reserve status unless the dredge is specifically used in conjunction with a project. Previously the costs for operation of the WHEELER have been reimbursed from project funds from the Operations and Maintenance General appropriation, and subsequently charged to the Harbor Maintenance Trust Fund account as eligible navigation costs subject to reimbursement. In FY98, the WHEELER was placed in a ready reserve status as required by the above referenced section of WRDA 96.

APPLICATION: The hopper dredge WHEELER, in a ready reserve status, is required to be able to perform emergency dredging work, but may not be assigned any scheduled hopper dredging work. The dredge may be placed in an active status in order to perform work that private industry fails to submit a responsive or responsible bid for advertised dredging, or where industry has failed to perform under an existing contract. In light of this criteria, the WHEELER is being kept at the dock, with sufficient crew to respond to any unforeseen requirement within 72 hours, and be able to work for approximately 3 weeks. The dredge is being maintained in a fully operational state and periodically will perform routine dredging operations to test equipment and keep the crew trained and prepared. In both FY 98 and FY 99, the WHEELER was called out of ready reserve status to perform urgent dredging to assist industry dredges in restoring navigation projects.

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1. Navigation

a. Channels and Harbors

Dredging Operations and Environmental Research (DOER) Program

SUMMARIZED FINANCIAL DATA

Estimated Eight-Year (FY 1997 - 2004) Program Cost	$48,000,000
Allocation for FY2000	6,500,000
Allocation Requested for FY2001	**8,000,000**
Balance to Complete after FY2001	18,530,000
Increase of FY2001 over FY2000	1,500,000

JUSTIFICATION: The last comprehensive research effort on contaminated sediments and dredged material management was completed in 1978 under P.L. 91-611. The Water Resources Development Acts of 1986, 1988, 1990 and 1992 contained provisions addressing contaminated sediments in navigation channels and dredged material management. Contaminant detection limits are now so low that sub-trace levels of toxic substances are identified. Traditional upland disposal areas have reached or are reaching capacity and are becoming scarce. Aquatic placement is coming under increased scrutiny with correspondingly increased costs. The continued economic viability and national defense of the Nation will depend upon our ability to remove and manage dredged material in a cost-effective and environmentally responsible manner.

The DOER program is an integral and highly beneficial component of performing the Corps' navigation dredging and environmental protection missions. Dredging and disposal must be accomplished within a climate of increased dredging workload, environmental constraints, and decreasing fiscal and manpower resources. Balancing environmental protection with critical economic needs while accomplishing dredging activities is a major challenge.

DOER products are designed to address issues impacting our ability to maintain a safe, reliable and economically efficient navigation system. The program has validated screening methods for high profile contaminants that will significantly reduce testing costs at virtually all harbors. Methods for recovering marginally contaminated sediments from upland disposal areas for beneficial uses are key components of the program that will increase valuable capacity in traditional upland areas. Instrumentation for monitoring of dredges and the dredging process will improve efficiency in contracting and help meet environmental compliance obligations under the law. Assuring that seasonal restrictions on dredging are valid and technically justified will balance demands for lower costs, safety, and contractual efficiency while remaining sensitive to ecological resources. Nearshore placement of suitable dredged material for maximum economic and environmental benefits is being demonstrated. Integration of economic and ecological risk factors are major components of the DOER Program.

The DOER program will produce technology that addresses operational, economic, and environmental risks of the Corps' dredging program and will be conducted in full coordination and cooperation with other appropriate agencies and offices such as Environmental Protection Agency, National Marine Fisheries

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Service and US Fish and Wildlife Service. Aggressive technology transfer and technology application will ensure that research products are integrated into decision making at Corps projects and made available to port authorities and other navigation project sponsors.

Research is proposed in six areas to address the navigation dredging and environmental protection mission. Research area products are designed to address issues impacting our ability to maintain a safe, reliable and economically efficient navigation system. These areas are:

1. Contaminated Sediment Characterization, Management and Treatment (reduce costs, increase options)
2. Dredge Instrumentation to Improve Efficiency (includes contract and environmental compliance)
3. Nearshore/Aquatic Placement of Dredged Material (in coastal, estuarine, and river waters)
4. Environmental Windows for Dredging Operations (assure environmental sensitivity based on facts)
5. Cost-effective Application of Innovative Technologies (includes contracting and other dredging activities)
6. Environmental Risk Assessment and Management for Dredged Sediments (factors economics, engineering, and ecological risk)

The DOER program is designed to produce a significant return on investment to the Corps' dredging program. Benefits include environmental quality improvements through application of innovative technologies; cost-effective compliance with regulatory requirements for identifying and containing contaminated sediments; technology for beneficially placing dredged material in the nearshore or offshore zone; greater flexibility in dredging in sensitive ecological areas; and implementation of risk based decision making.

MAJOR ACCOMPLISHMENTS OF THE FY 2000 PROGRAM

a. Completed development of Long Term Fate of Dredged Material (LTFATE) model to include layered beds, improved fine-grained transport algorithms, and nearshore processes. This tool expedites approvals for projects where fine-grained materials are placed in the nearshore zone.

b. Demonstrated and transitioned to other users innovative equipment called the "telescoping weir." This technology enhances the government's ability to manage water quality discharges to meet 401 State Water Quality Certification requirements under most conditions. Also extends useful life of disposal facilities by de-watering material more quickly thereby encouraging consolidation.

c. Developed management practices for reclamation of materials from Confined Disposal Facilities (CDFs) for beneficial use; including technologies to enhance natural decontamination and biodegradation of contaminants, separate usable portions of materials, and manufactured soil products.

d. Produced guidance on use of quantitative uncertainty analysis in assessing risk of trophic transfer of contaminants associated with dredged materials. Current practices use extremely conservative (and therefore extremely expensive) assumptions to arrive at these values.

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MAJOR FEATURES OF THE FY 2001 PROGRAM

a. Produce design procedures, construction methods, and costs for contaminant confinement technology (e.g., covers, dikes, and liners) appropriate for confined disposal facilities receiving high risk dredged materials. Incorporate risk assessment guidelines to establish range of risk parameters for various designs.

b. Evaluate suitability of physical and contaminant separation technologies and develop equipment selection guidelines for separation of contaminated sediment components at confined disposal facilities. If the highly contaminated fraction of dredged materials can be economically separated at CDFs, the remainder of the sediments can be made available for beneficial uses, thus freeing up valuable storage capacity.

c. Evaluate suitability of innovative approaches to accomplish high risk dredging requirements in an economical manner. There are numerous projects, such as bypassing large volumes of littoral materials in high-energy environments, e.g., at the Mouth of the Columbia River, which cannot be accomplished using conventional approaches.

d. Provide guidance and specifications for an automated system for monitoring of location, status, and capacity for dredged material dump scows. These un-manned containers are towed to a disposal site where the dredged material is to be placed. State and Federal agencies, including the Corps of Engineers, are requiring an information trail for each scow that includes where it was loaded, the characteristics of the dredged material, the route from the dredging site to the disposal site, the precise location and duration of the disposal event, and the route by which the scow returns to the dredging project. Manually maintaining this audit trail is not practicable.

e. Sediment bioassay techniques that provide indications of chronic sublethal effects will be demonstrated and transitioned for field use.

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1. NAVIGATION

a. Channels and Harbors

Dredging Operations Technical Support (DOTS) Program

SUMMARIZED FINANCIAL DATA:

Allocation for FY 1999	$1,500,000
Allocation for FY 2000	1,500,000
Allocation Requested for FY 2001 (Continuing Program)	**2,100,000**
Increase of FY 2001 from FY 2000	600,000

AUTHORIZATION: Under basic project authority in conjunction with general authorities contained in various laws.

JUSTIFICATION: Maintaining the nation's navigation projects requires compliance with numerous complex environmental statutes and Presidential Executive Orders. Compliance with regulations using state-of-the-art ecotoxicological assessments is required. The Dredging Operations Technical Support (DOTS) Program fosters the one-door-to-the-Corps concept through providing comprehensive and interdisciplinary technology transfer, technology application, and necessary training at all Corps navigation dredging projects. DOTS is managed from a centralized program to maximize cost effectiveness and implement National policies, laws, and complex technical requirements on a consistent basis. The DOTS Program focuses on application of state-of-the-art technology and research results to field problems. Emerging scientific approaches sometimes cause uncertainty in administration of the Corps navigation dredging program. DOTS provides a consistent technology base and ready response to technical issues with technology transfer capability and generic technology application to other projects with similar problems. Short-term work efforts to address generic Corps-wide technical problems for maintaining navigable waterways are major features of the DOTS Program. Technology transfer of new and emerging techniques for application at Corps navigation maintenance projects is an important DOTS activity. In response to new research results and continuing staff reductions the DOTS program will continue to expand to provide technology transfer to all O&M navigation projects.

MAJOR FEATURES: Special emphasis is placed on transfer of technology developed by the Corps and others that deal with maintenance and management of navigation structures and navigable waterways. Typical technology transfer includes management of contaminated dredged material, application of innovative risk-based technologies to contaminated dredged material, maintenance of coastal inlets and adjacent shorelines, shoreline stabilization and river training activities, assessment and management protocols for beneficial uses of dredged material, channel realignments, protection of endangered species, equipment selection, rational application of dredging windows, lock and dam maintenance needs, channel and harbor maintenance activities and ship simulation activities.

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Training of Corps staff and others who have regulatory authority over Corps navigation maintenance activities on the latest environmental and engineering techniques associated with maintaining navigable waterways, i.e., dredging and dredged material disposal and coastal and inland channel maintenance needs; water quality and related aquatic environmental issues; technology transfer of new and emerging techniques used to determine compliance with environmental protection statutes regarding management of dredged material and other features of navigation projects; development and preparation of manuals jointly with EPA that implement the inland and ocean disposal programs and short-term work efforts to address generic Corps-wide technical dredging and dredging material management problems and other technical problems at navigation projects.

ACCOMPLISHMENTS: Maintenance and continued updating of the national bioaccumulation database continues to be critical to implementing the CE/EPA ocean and inland testing manuals for dredged material disposal. That database allows full and complete interpretation of the toxic substances uptake testing protocols of the Clean Water and Marine Protection, Research and Sanctuaries Acts. Technical questions, from Federal and state agencies and private concerns dealing with implementation of the inland and ocean testing manuals continue to be addressed. The program reported ocean dumping activities to the EPA and the International Maritime Organization as required by the London Convention, 1972. The Program has conducted 14 sediment management seminars since 1991 that were attended by over 3,900 personnel from Corps districts, federal, state, and local agencies. Training was provided on the latest state-of-the-science techniques in regulating, testing, and managing dredged material. DOTS continues to support the Corps Center for Contaminated Sediments that provides technology transfer on: 1) endangerment assessments, 2) risk analysis, 3) ecological habitat restoration, 4) remediation, and 5) management activities. The Program also continues to provide specific guidance of the assessment and protection of threatened and endangered species associated with navigation projects. A joint Corps/EPA task force continues updating of the ocean disposal implementation manual with a view to combine it with the inland disposal implementation manual into one generic manual, bringing consistency in dredged material testing and management between the Clean Water and Marine Protection, Research and Sanctuaries Acts. The first draft of the Upland Testing Manual has been completed and is in field review. This document will serve as a companion document to the inland and ocean manuals. The three engineering manuals for managing dredged material were updated and published on a CD ROM for easier and more effective use and distribution.

The Program annually makes available thousands of copies of navigation related technical manuals, bulletins, technical notes and reports over a world wide web address at (www.wes.army.mil/el/dots) supporting, among other things, a complete information retrieval system for all relevant products related to regulating, maintaining, and managing the nations navigable waterways. A major feature of the DOTS program is the conversion of previously published relevant literature for access over the internet. The web accessible literature database, E2D2, was expanded to include over 4500 documents. More recent additions can be downloaded full text from the web. The home page is also electronically linked to other relevant information sources to include the bioaccumulation interpretation database, ocean disposal database, the Environmental Effects of Dredging and Disposal database, etc., that contain world-wide references for use by operations project managers, the public and regulatory agencies.

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1. NAVIGATION

a. Channels and Harbors

Monitoring of Completed Navigation Projects

SUMMARIZED FINANCIAL DATA

Average Annual Continuing Program Cost	$ 2,000,000
Allocation for FY 2000	1,000,000
Allocation Requested for FY 2001	**2,000,000**
Increase of FY 2001 over FY 2000	1,000,000

JUSTIFICATION: A national program is needed to monitor, evaluate, and document the performance of projects that are designed to solve or mitigate major navigation problems. Navigation projects often involve large financial investments. The Corps now has 800 navigation projects to maintain. Overly conservative design will make a project more expensive than it should be. Conversely, a deficient design usually leads to excessive life-cycle costs through operation and maintenance costs. This program monitors project performance, evaluates the performance against preconstruction projections, and transfers the sometimes costly lessons learned into guidance for Districts. Sediment transport patterns, water depths, currents, waves, flushing characteristics, tidal stages, and other hydrodynamic phenomena together with associated environmental impacts are changed by the construction of navigation projects. Information gained from monitoring navigation projects, including the magnitude and rate of these changes, is required to verify design expectations, determine benefits, and evaluate operational and maintenance efficiencies. Information collected from monitored navigation projects will be used by the local Districts to improve project performance. Additionally, this information will be collected and analyzed on a national basis to document successful designs, disseminate lessons learned on projects with problems, and provide upgraded field guidance that will help reduce life-cycle costs on a national scale.

SCOPE: A selective and intensive monitoring of Civil Works navigation projects is executed to acquire information to improve project purpose attainment, design procedures, construction methods, and operation and maintenance (O&M) techniques. Both shallow- and deep-draft navigation projects located in rivers, reservoirs, lakes, estuaries, and the coastal zone are included in this program. Projects that will potentially provide maximum life-cycle cost savings are identified and those that best address high-priority cost savings are selected for monitoring and evaluation. Monitoring plans are developed jointly by Corps of Engineers Districts and the USAE Waterways Experiment Station (WES). They consist of either a comprehensive detailed survey to verify post-construction conditions on a one time basis or a continuous (repetitive) collection of field data. Generally, monitoring efforts will not exceed five years in length. The intensive database is analyzed and the field results compared to the pre-construction predictions to verify or upgrade existing design guidance, minimize O&M cost, and assure project-formulated benefits. The analyses include structural, topographic, and hydrodynamic responses and intercomparisons of projects when applicable.

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FY 2000 ACCOMPLISHMENTS: A Technical Report was prepared on Ocean Dredged Material Disposal Site (ODMDS) guidance from results of monitoring efforts at the mouth of the Columbia River, WA/OR. The report evaluated the causes of disposed dredge material extending beyond the designated ODMDS limits, and adverse wave conditions believed to be the result of shoaling over the disposal mound. A Technical Report detailing results of FY99 monitoring of the Burns Harbor, IN, breakwater was published. Monitoring of CORE-LOC armor units at Ventura breakwater, CA, also was completed and a draft report prepared. Specialized wave and current gages were developed and monitoring continued at Morro Bay, CA, entrance channel to validate physical and numerical model predictions of hydrodynamic conditions and sedimentation phenomena for use as design tools. Bathymetric data were compiled and analyzed at the Morro Bay entrance channel. Instrumentation was developed and monitoring continued at Marseilles Lock and Dam, IL, to determine if the remote operating system is maintaining pool levels within tolerances, to determine if the submersible tainter gates are effective in passing ice, and to quantify vibration conditions for flows over and under the gates. In addition, monitoring continued at Boston Harbor, MA, to determine if confined aquatic disposal cells (located within the existing Federal channel limits) are a viable alternative for placement of dredged maintenance material not suitable for unconfined ocean disposal. Technical reports on stone degradation on coastal structures and monitoring of Barnegat Inlet, NJ, were published. Additionally, a Coastal Engineering Technical Note depicting lessons learned from completed projects was published and disseminated to the field.

FY 2001 ACTIVITIES: Coastal Engineering Technical Notes will be published and disseminated to the field immediately with improved/corrected design guidance. Technical Reports regarding findings and conclusions of periodic inspections of coastal structures previously monitored by this program will be published. These periodic data sets will be used to improve understanding in the design, construction, and maintenance of both existing and future structural projects, and will help avoid past design deficiencies which failed and/or resulted in high maintenance projects. An analysis of bathymetric data at Morro Bay entrance channel, CA, will be completed to understand the mechanisms by which filling of the entrance channel occurs so that preventive measures can be formulated. This study will also validate the accuracy of the design procedures used in determining the sediment budget at this site, results of which will then be extrapolated to other sites. Draft reports will be prepared detailing conclusions resulting from monitoring of Marseilles Lock and Dam, IL, and Boston Harbor, MA. Monitoring of Tedious Creek, MD, will be initiated to validate expected hydrodynamic, sedimentation, and geotechnical conditions at the site. Monitoring of upper Mississippi River training structures also will be initiated to study optimal riverine hydrodynamics and sediment transport processes. Corps of Engineers field offices will nominate additional monitoring sites that continue the process of improving project performance and realizing cost savings.

COORDINATION: Coordination between the Corps of Engineers and other Federal, State, and local agencies is essential for proper accomplishment of this program. In addition to satisfying Corps of Engineers requirements, the data are made available through publications and will be of value to local, State, and other Federal agencies tasked with the development and implementation of regional coastal and inland navigation management policies.

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1. NAVIGATION

b. Locks and Dams

Zebra Mussel Research Program (ZMRP)

SUMMARIZED FINANCIAL DATA:

Estimated Program Cost	$12,708,000
Allocation Requested for FY 2001	**700,000**
Balance to Complete After FY 2001	1,500,000
Allocation for FY 2000	1,000,000
Decrease of FY 2001 From FY 2000	(300,000)

JUSTIFICATION:

The zebra mussel (Dreissena polymorpha), first reported in the United States in 1988, was accidentally introduced from Northern Europe via ballast water from ocean-going vessels. By 1990, the zebra mussel had spread through the Great Lakes into the inland waterways of the Illinois River. By 1992, it had spread throughout the Mississippi River Basin down to New Orleans, LA. Encrustations of zebra mussels restrict and can totally obstruct raw water intake systems, including those associated with navigation, power, water treatment, and water control structures. Public facilities spend over $100 million annually to prevent catastrophic shutdown. This cost will increase to over $1 billion annually as numbers increase in the lower Mississippi and they spread too southeastern and western states. Methods of prevention and more effective, inexpensive methods of control must be developed.

The ZMRP is the only Federally funded R&D program directed at control of zebra mussels and their effects on public facilities. The ZMRP is authorized by the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 (PL 101-646). The development of strategies to apply control methods involves engineering design, operations, and maintenance of facilities and structures. Control strategies are being developed for (a) navigation structures; (b) hydropower and other utilities; (c) vessels and dredges; and (d) water treatment, irrigation, and other control structures.

ACCOMPLISHMENTS OF THE FY 2000 PROGRAM:

1. Shape-burst thermal treatment system for zebra mussel control on underwater structures was successfully applied in small-scale demonstrations on concrete and metal surfaces and raw water intakes. All zebra mussel life forms were destroyed and removed from the treated surfaces. When applied remotely using

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robotics this technology eliminates the cost of de-watering, dry-docking, and the shutdown of facilities. It also reduces the safety risk for divers and environmental impact of other control methods. This technology will save millions of dollars in facility management and reduce the risk of transmittal through vessel transfer.

2. In-water disposal of zebra mussels removed from facilities was demonstrated to be feasible without negatively impacting water quality. Research showed that zebra mussels disposed during periods of colder water temperatures did not negatively affect dissolved oxygen or cause a contaminant risk to the river system. This disposal option provides significant savings over removal to landfills.

3. Prevention technology using a dispersal barrier offers the greatest potential to stop the spread of zebra mussels and other aquatic nuisance species between watersheds. The state-of-knowledge for dispersal barrier technology was increased, making the prevention of the spread of all forms of free swimming aquatic nuisance species between the Great Lakes and Mississippi River Basins closer to reality. If the spread of zebra mussels to the western states and eastern seaboard is prevented or delayed, millions of dollars will be saved annually.

MAJOR FEATURES OF THE FY 2001 PROGRAM:

1. Zebra mussels increase the rate of corrosion of metal structures three fold. Electrochemical protection maintains the integrity of coated surfaces for the normal 10 to 15 year life of the coating. This technology will be demonstrated in the field at a lock and dam. Electrochemical protection will save over $1 million per facility in O&M cost through the normal 10 to 15 year maintenance cycle, not to mention the lost commerce during more frequent shutdown to combat zebra mussel affects.

2. Plasma sparker technology will be field demonstrated at an intake facility and on open concrete and metal surfaces to evaluate effectiveness and cost benefit. Small-scale field demonstrations were successful in preventing infestation of zebra mussels in intakes exceeding 150ft. This technology is cost effective and more environmentally friendly then existing control methods.

3. A zebra mussel risk assessment will be developed in conjunction with the National Sea Grant Program. The assessment will consolidate regional assessments and provide criteria suitable for use throughout the continental U.S. This assessment will set the standard required to meet federal statutes under invasive species legislation.

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2. FLOOD CONTROL.

a. Reservoirs.

Cultural Resources (NAGPRA/Curation)

SUMMARIZED FINANCIAL DATA

Estimated Annual Cost for Continuing Program*	$ 3,000,000
Allocation for FY 1999	1,500,000
Budget Request for FY 2000	2,000,000
Budget Request for FY 2001	**3,000,000**
Increase of FY 2001 from FY 2000	1,500,000

JUSTIFICATION: The Native American Graves Protection and Repatriation Act (NAGPRA) contains data gathering, reporting, consultation, and permitting provisions that have near-term and long-term implications for Civil Works programs and projects. A Mandatory Center of Expertise (MCX), located at the St. Louis District, has been established to provide overall management of the Corps NAGPRA programs and will serve as an information source and a centralized base for curation compliance and contracting. The MCX will facilitate the assurance of consistent nationwide program implementation and operation. In addition, the Corps is responsible for the curation of a large volume of cultural resource materials collected from its flood control projects. Curation of these materials, the largest volume of all federal agencies responsible for this activity, is required by a number of public laws.

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BACKGROUND: Enacted on 16 November 1990, NAGPRA is a complex piece of legislation that addresses the recovery, treatment, and repatriation of Native American and Native Hawaiian cultural items by Federal agencies and museums. As defined by the Act, cultural items are human remains, associated funerary objects, unassociated funerary objects, sacred objects, and objects of cultural patrimony. In FY 1994, the Corps of Engineers began the process of inventorying human remains and associated funerary objects and completing summaries as mandated by the legislation. In addition, the Corps has been responsible for curation of cultural resource materials collected from its flood control projects. These collections are extensive and are located at a variety of curation facilities across the nation. The costs are to accomplish NAGPRA work and to fund MCX curation support to the districts. The MCX, in providing NAGPRA inventories, will assist in establishing the extent of Corps holdings. Associated with efforts to complete NAGPRA, the MCX is beginning the process of effectively managing the Corps curation efforts.

MAJOR FEATURES IN THE FY 2001 PROGRAM: The MCX and certain Corps field offices will continue the process of inventorying Native American and Native Hawaiian human remains and associated funerary objects and complete summaries of unassociated funerary objects, sacred objects, and objects of cultural

patrimony as mandated by the legislation. Information will be made available to interested individuals and groups through notices in the Federal Register. Through MCX provided funding, districts will continue to be engaged in formal consultation with tribes and organizations for the legislated purpose of repatriating cultural objects for which there are legitimate claims. The MCX will continue to fulfill its chartered activities in support of other military services and DoD as well as serving in the pivotal role of assisting in the development and implementation of an agency-wide, long-term plan for the curation of USACE archeological collections (heritage assets). The MCX will complete an inventory of all DoD and USACE heritage assets and participate in the development of standards and guidelines for archeological collection rehabilitation. The MCX will also continue to work closely with DoD and USACE on the development and implementation of final guidelines and procedures for field collection of archeological materials and the long-term treatment of those collections. Finally, the MCX will provide leadership in the development of a training curriculum on the treatment of heritage assets and working in consultation with all stakeholders, take initial steps to make this training available to USACE and other appropriate DoD managers and decision makers.

FUNDING PROFILE:

	FY 2000	FY 2001
(a) NAGPRA Compliance	$1,200,000	$1,700,000
(b) Partnership Program (Curation)	300,000	300,000
(c) Development of curation standards and their application	0	1,000,000
TOTAL	$1,500,000	$3,000,000

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2. FLOOD CONTROL.

a. Reservoirs.

National Dam Safety Program

SUMMARIZED FINANCIAL DATA

Continuing Program Annual Cost	$40,000
Allocations for FY 2000	40,000
Allocation requested for FY 2001	**40,000**
Increase of FY 2001 from FY 2000	0

JUSTIFICATION: The Federal Guidelines for Dam Safety provide a framework for the safe construction, operation, and maintenance of USACE dams. Dams in the United States must be constructed, operated, and maintained in accordance with sound engineering practices to prevent failure and avoid potential loss of life and destruction of property. The National Dam Safety Program (NDSP) has been established to enhance national dam safety. These funds support the activities under the aegis of the NDSP, in the interests of the USACE and the citizens of the nation.

BACKGROUND: The National Dam Safety Program Act (Section 215 of Public Law 104-303 strengthens the NDSP, whose purpose is to reduce the risks to life and property from dam failure in the United States. The Act also codified the Interagency Committee of Dam Safety (ICODS) to coordinate the Federal actions under the National Dam Safety Program. The Chief, Engineering and Construction Division, Directorate of Civil Works, represents the Department of Defense as a member of ICODS. USACE also provides a representative to the National Dam Safety Review Board. The National Dam Safety Program Act expanded the scope of previous dam safety legislation (P.L. 92-367, and P.L. 99-662) and the requirements for ICODS participation with the various states to improve dam safety in the United States. Through ICODS, the NDSP provides support in development of federal guidelines for dam safety, promotion of public awareness programs, publications, training materials, and workshops. The Act also provides for archival research, which is supported by the Federal dam owning agencies through ICODS and the National Performance of Dams Program.

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2. FLOOD CONTROL.

a. Reservoirs.

National Dam Security Program

SUMMARIZED FINANCIAL DATA

Estimated Annual Cost for Continuing Program	$40,000
Allocations for FY 2000	20,000
Allocation Requested for FY 2001	**25,000**
Increase of FY 2001 from FY 2000	5,000

JUSTIFICATION: The National infrastructure in the United States, including dams, is becoming an increasing target of terrorist threats. Additional security, training, and preparedness are required to guard against terrorist activity and to avoid potential loss of life and destruction of property.

BACKGROUND: The Interagency Committee on Dam Safety (ICODS) has recognized terrorism as one of the major threats to dams in the United States. Of all the agency members of ICODS, the Department of Defense acting through the U.S. Army Corps of Engineers has the most unique and in depth knowledge in the area of antiterrorism program development and execution. This program uses the Army's experience in antiterrorism planning and building design as the basis for developing a program for safeguarding the Corps of Engineers dams and for export to the other Federal agencies through ICODS. Training under this program is designed for the dam operator and field manager in order to improve their awareness of the potential threat and to establish lines of communications to minimize damage if and when a threat is received. The program also provides for the exchange of information on threats received and the establishment of a database to review trends in the pattern of threats. The Corps of Engineers and other Federal agencies established a task group to study the extent of the problem of internal terrorism against dams and other natural resource facilities and to determine the proper level of security awareness required for these facilities. This task group was established in response to the concerns of ICODS and the Executive Order 13010.

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2. FLOOD CONTROL

a. Reservoirs.

Recreation Management Support Program (RMSP)

SUMMARIZED FINANCIAL DATA

Estimated Annual Cost for Continuing Program	$ 1,850,000
Allocation for FY 2000	1,000,000
Budget Request for FY 2001	**1,950,000**
Increase of FY 2001 from FY 2000	950,000

AUTHORIZATION: This program is conducted under the general authority of PL 78-534, the Flood Control Act of 1944 (58 Stat. 887)

JUSTIFICATION: The recreation program serves over 375 million recreation visitors and generates over $34 million in revenue annually. Visitors spend over $12 billion annually to engage in recreation at Corps projects; over 600,000 full and part time jobs are associated with this spending. The RMSP program supports the recreation program through the management of the National Recreation Reservation Service, the conduct of focused management studies to improve operational efficiencies, and the provision of technical assistance to include technology transfer and technology support and maintenance for recreation specific automated information systems. The RMSP supports performance monitoring of the Corps recreation business program, pursuant to the requirements of the Government Performance and Results Act (GPRA).

MAJOR FEATURES:

1. National Recreation Reservation Service (NRRS). In cooperation with the Forest Service, the Corps operates a centralized reservation service, using a toll free telephone number and Internet Website, for recreation facilities on Forest Service and Corps lands. The toll free call center became operational in Oct 98. The Internet Website became operational in May 99. Funds from RMSP are used to support the operation of the NRRS, to include activities conducted by the Interagency Contract Management Office, as well as activities to support participating Corps sites. The NRRS provides one-stop, comprehensive reservation services for recreation customers of the Corps and Forest Service. The National Park Service and Bureau of Land Management are expected to join in the NRRS in the near future.

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2. Focused Management Studies. RMSP provides focused management studies and reports to acquire and analyze information about recreation trends, emerging issues, user conflicts, visitor diversity, use fee impacts and similar issues affecting the Corps recreation program. Information and technology transfer pursuant to these studies is funded by the RMSP.

3. Technical Assistance. RMSP provides technical assistance for management tools which quantify recreation program outputs and relate them to customer needs and budget allocations for the purpose of measuring performance. RMSP provides technical support and maintenance for visitation collection and analysis, fee collection and reporting, economic analysis, inventory, and similar analysis utilities.

4.BACKGROUND: RMSP has been in operation since 1987 and has provided the Corps with valuable solutions to a variety of problems. The title of the program has been changed from "National Recreation Management Support" to "Recreation Management Support Program" to reflect more clearly the character of conducted activities.

2. FLOOD CONTROL

a. Reservoirs

Water Operations Technical Support (WOTS) Program

SUMMARIZED FINANCIAL DATA:

Estimated Annual Cost for Continuing Program	$1,500,000
Allocation for FY 2000	700,000
Allocation Requested for FY 2001	**1,500,000**
Increase of FY 2001 from FY 2000	800,000

JUSTIFICATION: Maintaining the environmental and water quality conditions at 562 reservoirs (5,500,000 surface acres), thousands of miles of ancillary waterway projects and rivers impacted by the operation of Corps projects requires compliance with numerous statutes and state standards. Providing the technology and knowledge base necessary to address the general non-project specific environmental and water quality needs of project operations can best be accomplished through a comprehensive centralized program that will maximize cost effectiveness, and ensure broad dissemination and implementation of technology and information.

MAJOR FEATURES: The WOTS Program provides effective environmental and water quality engineering technology to address a wide range of water resource management problems at Corps reservoir and waterway projects, and in the river systems affected by project operations nationwide. The program provides technology to address problems occurring from the presence of Zebra Mussels and other non-indigenous aquatic species, tailwater fisheries at pump-back hydropower projects, water quality impacts of shoreline erosion control and reservoir sedimentation, and other project operations related to environmental and water quality issues.

WOTS provides technical support to the Corps' mission related project responsibilities, with special emphasis on the transfer of technology. The program ensures that the technologies developed by the Corps and other Federal agencies are current and readily available to all Corps field offices. The effective use of technologies is secured through rapid direct technical assistance, field demonstrations, specialty workshops, publication of information exchange bulletins, technical notes, executive notes, technical reports, miscellaneous papers, instruction reports, videos, meetings, seminars, briefings at field offices, and congressional testimony.

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ACCOMPLISHMENTS: Since its inception in FY 1985, WOTS has provided environmental and water quality technological solutions to over 1,000 problems identified at projects from every Corps District. The program annually publishes and distributes nearly 10,000 copies of manuals, bulletins, notes, and reports. WOTS annually conducts specialty workshops, training personnel on the latest environmental and water quality management techniques. Recently, the WOTS program conducted 8 technology demonstration efforts to verify management strategies and techniques, 3 training workshops on environmental and water quality management techniques, and prepared 12 technical publications for distribution to the field. In addition, the WOTS program developed an electronic version of the Simplified Procedures for Eutrophication Assessment and Prediction: User Manual (IR W-96-2). This file is available for downloading from the internet and will automatically install the models BATHTUB, FLUX, and PROFILE along with a copy of the user manual to the user's hard drive.

A continual endeavor of the WOTS program is coordination with water quality elements of other Federal agencies such as the Tennessee Valley Authority, Bureau of Reclamation, Fish and Wildlife Service, and the Bonneville Power Administration. These efforts have involved problems on the spread of Zebra Mussels, the impacts of hydropower facilities, and cold water releases in tailwater areas on fisheries.

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4. PROTECTION OF NAVIGATION

Dredging Data and Lock Performance Monitoring System

SUMMARIZED FINANCIAL DATA:

Estimated Annual Cost for Continuing Program	$1,166,000
Allocation for FY 2000	500,000
Allocation Requested for FY 2001	**1,166,000**
Increase of FY 2001 from FY 2000	666,000

AUTHORIZATION: These efforts are necessary to provide data for efficient management of Congressionally authorized navigation projects, as well as to respond to specific public laws, including P.L. 96-269 (Minimum Dredge Fleet) and P.L. 100-656 (Small Business Set-Aside).

JUSTIFICATION:

(1a) **Dredging Data**: Collection of dredging data is a continual process to support the National Dredging Program. Ongoing tasks include multi-year analysis of dredging costs and quantities for previous, current and future Fiscal Years, including both new work and maintenance dredging performed by the Corps and commercial dredging industry. Analysis includes nationwide and regional trending of dredging cost and quantity data. Funding also supports the management, enhancement, operation and maintenance of the Dredging Information System (DIS) which contains dredging data on all Corps performed and contracted dredging of Federal projects. The DIS is a transactional system within the Operations and Maintenance corporate information system. The DIS data includes advertising schedules, contract award and completion data (actual quantities dredged, cost, type dredge used, etc.). The Dredging Information System is an interactive on-line system with District data input directly into the central database and is immediately available for output reports. Reports and data are accessible Corps-wide via the Corps intranet and biweekly updated reports are disseminated to the public via the World Wide Web. The Dredging Statistics Program, which manages the DIS, has been successful in rapidly addressing all dredging data requests from Corps and other customers. These funds include appropriate software and hardware upgrades, user assistance and training, and implementation of program performance measures. The DIS is a feeder system to the Corps performance based budgeting.

(1b) **Lock Performance Monitoring System (LPMS)**: The Lock Performance Monitoring System provides operational and strategic management data and performance measures for the Corps navigation projects and program. The funds cover salaries, quality control, and teleprocessing services for full LPMS service remote batch, interactive timesharing, and CEAP network services for the Corps nationwide program. This also includes funding for lock characteristics, decision support systems and project database development. These data systems are both transactional systems within the Operations and Maintenance corporate information system. Items 1a (DIS) and 1b (LPMS) are reported under OMBIL-Plus in ITIPS totaling $450,000 of the overall OMBIL-Plus cost.

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(2) **Future National Dredging and Port Requirements.** To maintain the nations Federal navigable waterways, approximately 200-250 million cubic yards of material are dredged in the United States annually. Technological change in the shipping industry is a continual process requiring ongoing efforts to adequately plan for future maintenance dredging activities. Update of current and future needs using the Dredging Needs Database on vessel characteristics, channel dimensions, and commodity origins-destinations and other cargo data is needed to support the Corps maintenance dredging program. Tasks include the annual update of the world fleet composition and forecasts; analysis of current and projected commodity and traffic flows and trade patterns; analysis of characteristics of vessels routing through Corps channels including identification and compilation of the types and sizes of various design vessels (design draft and beam) associated with maintaining Corps projects; analysis of current dredging practices including determination of underkeel clearances; and identification of those harbors and channels with the greatest safety and piloting problems.

FUNDING PROFILE

	FY 2000	FY 2001
(1) Dredging Data & Lock Performance Monitoring System	$ 476,000	$ 866,000
(2) Future National Dredging and Port Requirements	24,000	300,000
TOTAL	$ 500,000	$1,166,000

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4. PROTECTION OF NAVIGATION

(Four Items)

SUMMARIZED FINANCIAL DATA:

Estimated Annual Cost of Continuing Program	$ 6,125,000
Allocation for FY 2000	5,125,000
Allocation Requested for FY 2001	**6,125,000**
Increase of FY 2001 from FY 2000	1,000,000

JUSTIFICATION: The budget estimate of $ 6,125,000 provides for carrying out the following work:

a. **Protection, Clearing, and Straightening of Channels**

Section 3 of the 1945 River and Harbor Act (as amended by Section 915 (g) of the 1986 Water Resources Development Act) provides continuing authority for limited emergency clearing of navigation channels not specifically authorized by Congress. A limit per project is not specified; however, in any given year, a maximum of $1,000,000 may be used nationwide. Work pursuant to this authority is undertaken as emergency measures to clear or remove unreasonable obstructions to navigation in navigable portions of rivers, harbors and other waterways of the U.S., or tributaries thereof, in order to provide existing traffic with immediate and significant benefit. The amount requested is an estimate based on historical experience. If actual requirements are more than estimated, funds will be reprogrammed to meet demonstrated needs.

b. **Removal of Sunken Vessels**

Removal of sunken vessels, or other similar obstructions, is governed by Sections 15, 19, and 20 of the River and Harbor Act of 1899, as amended. Primary responsibility for removal belongs to the owner, operator, or lessee. If the obstruction is a hazard to navigation and removal is not undertaken promptly and diligently, the Corps may obtain a court judgement requiring removal, or remove the wreck and seek reimbursement for the full cost of removal and disposal. Determinations of hazards to navigation and Federal marking and removal actions are coordinated with the Coast Guard in accordance with a memorandum of understanding between the two agencies dated 16 October 1985. Removal procedures are outlined in 33 CFR 245. If removal requirements are more than estimated, funds will be reprogrammed to meet actual needs.

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c. **Waterborne Commerce Statistics**

The USACE serves as the Federal Central Collection Agency, and is the sole U.S. Government source, for U.S. domestic and foreign (U.S. foreign statistics mission transferred to USACE from Census in FY 1999) waterborne commerce and vessel statistics in conformance with the River and Harbor Act of 1922 as amended. Activities supporting this national statistics mission include: (1) collecting and reporting (includes enforcement role) of water transportation statistical data; (2) automated systems development and operation (transactional systems within Operations and Maintenance corporate information system), processing, compiling, and publishing (monthly, quarterly, and annually) statistical data and information on waterborne commerce and vessels moving on the internal U.S. waterways, the Great Lakes, and through all U.S. ocean channels and ports; and (3) compiling and publishing the official U.S. documentation of U.S. vessels engaged in commerce, their principal trades and zones of operation. The data provide essential information for navigation project investment analyses, including accurate benefit-cost analyses; annual funding prioritization for operations and maintenance of existing projects; for computation of performance measures; for input into the U.S. National Accounts; and for regulatory and emergency management decisions. This item is reported under OMBIL-Plus in ITIPS and is $1,300,000 of the total OMBIL-Plus cost.

d. **Harbor Maintenance Fee Data Collection**

Public Law 103-182 authorizes up to $5 million to be used annually for the administration of the Harbor Maintenance Trust Fund. Most of these funds are used by Customs. The Corps is required to collect data on domestic and foreign shippers of waterborne commerce subject to the Harbor Maintenance Tax (HMT) and provide it to Customs for enforcement. Analysis of HMTF revenues and transfers is required to validate the adequacy of the HMTF in light of the uncertainty over the legal and international challenges to the HMT, and to document the operation of the trust fund in the *Annual Report to Congress.* Analysis of waterborne commerce shipments and vessel movement data is also needed to respond to legal questions to the HMT; to analyze alternative funding options; and to assess the economic and competitiveness impacts of other potential funding sources. Therefore the Corps requires a portion of the administrative funding. The recent transfer of the Foreign Waterborne Transportation Statistics Program to the Corps will require the data processing system to be expanded to include validation of users engaged in foreign trade, in addition to domestic users. It is estimated that $975,000 will be needed in FY 2001 to operate and enhance the system to analyze, enforce, collect and validate harbor usage information required by the Customs Service for auditing HMT collections.

FUNDING PROFILE

	FY 2000	FY 2001
(a) Protection, Clearing, and Straightening of Channels	$ 50,000	$ 50,000
(b) Removal of Sunken Vessels	$ 500,000	$ 500,000
(c) Waterborne Commerce Statistics	$4,000,000	$4,600,000
(d) Harbor Maintenance Fee	$ 575,000	$ 975,000

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5. NATIONAL EMERGENCY PREPAREDNESS PROGRAM (NEPP)

SUMMARIZED FINANCIAL DATA:

Estimated Annual Cost of Continuing Program	$ 6,000,000
Allocation Requested for FY 2000	5,000,000
Allocation Requested for FY 2001	**6,000,000**
Increase of FY 2001 over FY 2000	1,000,000

AUTHORIZATION: Executive Orders 10480 and 12656 which cite several acts including PL 93-288, the basis for the Federal Response Plan.

JUSTIFICATION: The budget request will enable the Corps of Engineers to be prepared to accomplish its continuity of operations and continuity of government responsibilities during national/regional crises. This entails support of civil government through coordinated execution of federal agency plans and the planning/conducting of exercises to test readiness to provide such support. The cited executive directives assign significant responsibilities for such preparation (planning, training, research and testing) to the Corps of Engineers. This includes responsibility for development of comprehensive national level preparedness plans and guidance for response to all regional/national emergencies, whether caused by natural phenomena or acts of man, plans for response(s) to acts of terrorism, and the local preparedness necessary to support Corps continuity of operations. The Corps provides engineering and construction support to state and local governments in response to catastrophic natural/technological disasters. Rapid response to disasters of a regional/national magnitude requires that extensive pre-emergency planning and preparedness activities be conducted to assure the availability of a work force capable of shifting from routine missions to crisis operations and the organizational command and control structure(s) necessary to provide a coordinated and comprehensive response in the critical early stages of a catastrophic disaster.

This program provides the activities necessary to prepare for response to catastrophic natural and technological disasters requiring major Federal support of state and local governments overwhelmed by a disaster event, and for national level emergency water planning. The preparation requires the development of plans, training of employees, conducting of training exercises, including support to Federal Emergency Management Agency (FEMA) exercises, and coordination within DOD and with other Federal agencies and state and local governments. Unlike the Corps' Civil Works programs related to individual project planning, development and operations and maintenance, the NEPP requires the development of an integrated command planning and response capability. Corps divisions have a key role in the planning, coordination and operational control of multi-district response(s) and the integrated preparedness effort required for accomplishing this response. Preparation also includes the Headquarters sponsored Corps-wide programs necessary to provide the capabilities and operational command and control required by Corps field commands in order to accomplish their NEPP responsibilities, both routinely and in specific emergency response situations.

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ACCOMPLISHMENTS: National Emergency Preparedness Program funds provide support to two major national level civil planning areas: (a) support to the nation's ability to mobilize national assets to meet national/regional level emergencies and (b) support to continuity of government and continuity of operations during national emergencies (e.g., some NEPP funding was used to staff USACE emergency operations centers through the new year period to respond to State and local emergencies). Activities include conducting studies and analyses which identify national support requirements; the development, coordination, review and updating of plans; development of operating guidance and procedures; training of personnel in emergency response skills and procedures; conducting exercises to test readiness; operating and maintaining emergency response command and control facilities and support systems; and providing program management.

FISCAL YEAR 2001: The FY 2001 program will provide for continuing the implementation of the National Emergency Preparedness Program. Lessons learned from events such as the Midwest Floods of 1993, Hurricanes Hugo, Andrew and Iniki, the Loma Prieta and Northridge earthquakes and the evolving New Madrid earthquake scenario, clearly indicate that the Federal Response Plan, while a solid system, does not contain enough detail to provide for a response to catastrophic disasters that is sufficiently timely or comprehensive. To overcome this, the Corps initiated a program that uses the deliberate planning process to develop scenario specific catastrophic disaster plans. This will result in more detailed planning and should provide for a more comprehensive response to national catastrophic disasters. More extensive coordination with Federal, state and local entities will be incorporated into plan development. Specific plans for response to 7 different earthquake and hurricane events, to include the New Madrid Earthquake, are currently being developed. Exercising and refining plans and development of additional plans will be the focus during FY 2001.

MAJOR FEATURES IN THE FY 2001 PROGRAM: The FY 2001 program will continue the process of catastrophic disaster planning and exercising to enable the Corps to rapidly respond to a broad spectrum of emergencies, with emphasis on natural disaster events that have national implications.

OTHER INFORMATION: The NEPP is complementary to the Flood Control and Coastal Emergencies (FCCE) appropriation. Although both programs are related to emergency situations, there is a distinct separation of responsibilities. The NEPP provides for the planning, training, and testing activities necessary to develop the capability to meet essential requirements associated with local continuity of operations and response(s) to scenario specific national/regional crises. The FCCE, on the other hand, provides preparedness and response related to emergency flood fighting, post-flood repair and restoration of flood and shore protection works damaged or destroyed by floods, hurricanes or wave action and Corps preparedness associated with Federal Response Plan mission requirements.

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6. PROJECT OPERATIONS SUPPORT PROGRAM

Earthquake Hazards Reduction Program for Buildings and Lifelines

SUMMARIZED FINANCIAL DATA:

Estimated Eleven Year Program Cost (FY 1992-FY 2002)	$8,448,000
Allocations Prior to FY 2000	6,848,000
Allocation for FY 2000	500,000
Allocation Requested for FY 2001	600,000
Increase of FY 2001 from FY 2000	100,000
Balance to Complete after FY 2001	500,000

AUTHORIZATION: This program is being conducted under the authority of Public Law 101-614, November 1990, National Earthquake Hazards Reduction Program Re-authorization Act and individual project authorizations for maintaining safety of personnel and emergency response capability.

JUSTIFICATION: The purpose of this program is to respond to the requirements of Public Law 101-614, National Earthquake Hazards Reduction Program (NEHRP) and Executive Order (EO) 12941, Seismic Safety of Existing Federal Buildings. The EO directs all Federal departments and agencies to develop an inventory of their owned and leased buildings and an estimate of the cost of mitigating unacceptable seismic risks in their buildings. The objective of PL 101-614 is to establish and initiate for buildings and lifelines a systematic approach to reducing loss of life, injuries, and economic costs resulting from earthquakes in the United States. Lifelines are defined as public works and utility systems.

STATUS OF IMPLEMENTATION: By the end of FY 1999 the following work has been completed: (a) over 11,000 owned buildings and powerhouses were inventoried and data collected, (b) seismic screenings of over 700 buildings in all seismic regions, (c) seismic evaluations were performed on over 200 buildings and powerhouses in various geographic regions primarily in high and moderate seismic regions, (d) development of reports for FEMA to be forwarded to Congress on both buildings and powerhouses, (e) development of seismic evaluation guidance for buildings and lifelines: building evaluation criteria, powerhouse evaluation criteria, lifeline criteria for intake towers, navigation locks, and powerhouses, (f) two seismic evaluation seminars for district personnel, (g) technical support to the districts in accomplishing the evaluations, (h) over 30 rehabilitation case studies including seismic mitigation cost estimates (rehabilitation, replacement, or demolition) for buildings, (i) over 25 rehabilitation cost estimate studies for structural or nonstructural powerhouse deficiencies, (j) inventory of USACE owned buildings including powerhouse superstructures, and (k) inventory of USACE leased buildings with estimated populations and recommendations for leasing procedures. During FY 2000 work is planned on the following: (a) development of mitigation program options to meet the executive order requirements and the legal opinion concerns, (b) develop technical seismic building evaluation criteria, (c) develop programmatic seismic criteria, (d) develop guidance for the

seismic evaluation and risk mitigation of lifeline facilities, (e) develop associated costs studies to include asbestos and lead based paint costs associated with rehabilitation, (f) adapt the building and powerhouse inventory database to an Oracle system compatible with the OMBIL program and (g) revise building report to reflect the new criteria. (Note: One-third of the FY 98 funds were used to inspect and evaluate drainage pipes through levees. During recent floods seepage along these pipes showed them to be critical weak points in levee protection systems.)

MAJOR FEATURES OF THE FY 2001 PROGRAM: USACE has a legal opinion which indicates that once we have identified seismically vulnerable structures we are legally responsible to develop a plan to mitigate these vulnerabilities. In addition, FEMA is pursuing the possibility of requiring agencies to develop mitigation plans for their deficient buildings. The funds requested will be used to help finalize the details of the USACE mitigation plan and provide the tools for implementation of the program, provide assistance to districts in the development of mitigation concepts and designs, provide support to HQUSACE in oversight and management of the mitigation program, provide technical support to HQUSACE, maintain technical seismic expertise, develop guidance for additional lifeline systems not previously covered in commercially available standards or existing USACE guidance, develop guidance for operations personnel, develop a mitigation plan for the USACE lifelines, update and maintain database. The development and updating of guidance for the seismic evaluation and risk mitigation of lifeline facilities will continue as well.

APPROPRIATION TITLE: Operation and Maintenance, General -- FY2001

6. PROJECT OPERATIONS SUPPORT PROGRAM

Management Tools for O&M

SUMMARIZED FINANCIAL DATA

Estimated Total (FY 2000-2002) Program Cost	$2,265,000
Allocation for FY 2000	500,000
Allocation Requested for FY2001	**1,100,000**
Increase of FY 2001 from FY 2000	600,000
Balance to Complete after FY2001	665,000

JUSTIFICATION: Operations and Maintenance, General is the Corps of Engineers largest Civil Works (CW) appropriation account. During preparation of the budget for submittal to the Office of Management and Budget (OMB) and Congress, managers of the CW Operation and Maintenance (O&M) appropriation must identify, provide cost estimates for, and assign priorities to the work to be accomplished and/or deferred in the program for the budget year. The prioritization requirement is complicated by the diversity (five uniquely different major business areas) and size of the CW O&M budget. Because the funding needs significantly outstrip the available programmed funds, an objective and consistent prioritization process is essential. Typically, the CW O&M budget contains over 17,000 items of work on approximately 850 projects in 38 Civil Works districts throughout the nation. Recent appropriation levels have included moderate growth in the CW O&M budget from approximately $1.6 billion in fiscal year 1998 to an estimated $1.88 billion in fiscal 2000. Budget caps and other restraints will make future O&M budget increases more difficult to obtain even though O&M requirements will increase. Thus, the CW O&M budget constraints and the requirement that the budget be performance based are the impetus for this research program. It proposes a performance-based benefits analysis model/procedure for prioritization/ranking of the maintenance activities of the annual Civil Works O&M budget and it includes a best practices component to assist in cost efficient execution of the O&M budget.

The need for a performance-based benefits analysis procedure has been validated by several recent policy initiatives including: The Government Performance and Results Act (1993), and the Corps' Performance Measurement Guidebook (1995). The product of this research will provide an objective, consistent, and reproducible procedure, to be used for both O&M budget prioritization and quantifying the impact of deferred maintenance on maintenance and/or operations expenditures. The product can also be used to identify the optimum (lowest) level of O&M funding required to maintain justified and established levels of customer service. It accomplishes this by relating maintenance expenditures to condition changes, and condition changes to changes in customer service and/or operation/maintenance expenditures.

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The best practices effort is needed to assure that lessons learned in technology and process application at one district is shared with all districts and project sites. The product, an internet accessible, O&M Cost Reduction Handbook, will provide brief descriptions of research activities that have been successfully utilized in the field but not widely implemented. The Handbook will initially focus on CW O&M funded research that has been successfully used in the field by at least one district.

Limited work required to develop a performance-based benefit analysis model for O&M budget prioritization has already been initiated by previous or other ongoing activities. The completed work includes the component level condition indices (CIs) and QUADRANT. The CIs are objectively based, reproducible numerical indicators of the condition of structures and equipment. CIs are developed at the component level (e.g., lock gates, dam gates, concrete monoliths, steel sheet pile structures, etc.). CIs have been completed for all CW infrastructure excluding recreation facilities, levees, lift gates, and electrical/mechanical motors. QUADRANT is a management tool for providing economic (net benefit value) information for prioritizing annual non-routine maintenance. QUADRANT has been prototyped and evaluated for inland navigation and hydropower, and significant modifications identified. The ongoing work includes several multi-attribute prioritization efforts, and models for maintenance optimization. The missing items required to complete the performance-based benefit analysis model are the completion of the remaining CIs, the development of composite CIs for O&M work items, and the development of an objective and consistent benefits analysis model. A summary Index (SI) procedure, based on CIs, will be developed for indicating the overall condition of a project or site. Additionally, a recent analysis of CIs and QUADRANT use indicates that the final product must be simple and easy to use. Thus the CI inspection procedures will be revised and simplified, and the performance based benefit analysis model will be simple and user friendly.

FY2001 ACTIVITIES: Field utilization of the O&M Cost Reduction Handbook will be assessed to determine the required modification including the need for a feedback loop. Based on the FY00 analysis the development of simplified CIs will be initiated to support the composite CI requirement. Also new CIs will be developed to support the composite CI requirement. Development of CIs for site or project condition indices will be initiated. The development of a benefits analysis procedure for O&M budget prioritization will be initiated, and it will integrate the FY00 field effort.

FY2000 ACCOMPLISHMENTS: The beta version of the O&M Cost Reduction Handbook was completed and field evaluation initiated. Reports and training was completed on the Embankment Dam and Non Rubble Breakwaters & Jetties CI procedures. Decision points were reached on what other CIs will be developed, and how CI inspection procedures will be simplified. Procedures for developing composite CIs that are applicable to maintenance work items in the annual O&M budget were proposed for field review. A review of existing methods of benefits analysis for work item prioritization was completed and integrated into ongoing field efforts directed at O&M budget prioritization.

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6. PROJECT OPERATIONS SUPPORT

Performance Based Budgeting Support Program

SUMMARIZED FINANCIAL DATA:

Estimated Annual Cost of Continuing Program	$ 1,650,000
Allocation for FY 2000	415,000
Allocation Requested for FY 2001	**1,650,000**
Increase of FY 2001 from FY 2000	1,235,000

AUTHORIZATION: The Government Performance and Results Act of 1993 (GPRA)and under basic project authority in conjunction with general authorities contained in various laws.

JUSTIFICATION: GPRA requires that the Corps implement performance based budgeting for Civil Works Operations and Maintenance, General Program. The Performance Based Budgeting Support Program addresses this requirement by seeking new methods for linking performance to annual budget requests and for analyzing the potential economic impact of budget requests on customers.

1. O&M Performance Measurements: Improvement of performance measurements to be incorporated into the budget decision making process. FY 2001 efforts will center on the refinement of corporate performance principles and program and project level performance measures that focus on anticipated performance and output at different levels of funding, in accordance with the revised finance and accounting cost codes that now align with the five O&M business processes - navigation, hydropower, flood damage reduction, recreation and environmental stewardship. These measurements, at different organizational levels, provide the analytical basis to make adjustments in priorities both at the program and project levels concerning efficiency of facilities or services. Comparison of measurements among projects at all levels helps focus management attention on corrections of program or project deficiencies.

2. O&M Business Function Information: During FY 1997, FY 1998, and FY 1999 processes and procedures for developing, analyzing and using performance measurements to manage a results oriented business were developed. This included the design and development of automated processes to collect, process and distribute both national and local performance and output information. The implementation will be completed in FY 2000 and program management, infrastructure inventory, maintenance and corporate distribution and analysis will be initiated. The result is the ability for the total O&M community (using a centrally maintained corporate O&M information system fed by transactional systems (e.g. LPMS)) at the local through the national level to recognize, verify and adjust the business process to align with national goals, and an improved understanding of the relationship between budget versus results. This will assist in mobilizing the total workforce to focus on results oriented management and performance based budgeting. This system comprises $600,000 of the total OMBIL-Plus costs within ITIPS.

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3. Performance Based Budget Decision Tools:

FY 2001 efforts are aimed at refinement of a performance based budget process and analytical tools to set priorities for O&M work packages with the Automated Budget System (ABS). Corps O&M budgeting personnel have successfully used ABS to rank work packages, but need an improved evaluation process to determine budget priorities based on performance and/or expected benefits resulting from funding and accomplishment of the maintenance work. The process is based on work package performance and incremental analysis and will allow for evaluation of work packages with ABS. Funding will allow work packages to be "scored" based on performance indicators and relative outputs to help select a set of work packages for the O&M budget. The new performance based budget process and tools will be incorporated within the existing ABS process.

FUNDING PROFILE

	FY 2000	FY 2001
(1) O&M Performance Measurements	$ 100,000	$ 300,000
(2) O&M Business Function Information	315,000	1,100,000
(3) Performance Based Budget Decision Tools	0	250,000
TOTAL	$ 415,000	$1,650,000

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6. PROJECT OPERATIONS SUPPORT PROGRAM

Regional Sediment Management Demonstration Program

SUMMARIZED FINANCIAL DATA:

Estimated Five Year Program Cost (FY 2000 - FY 2004)	$10,000,000
Allocations Prior to FY 2000	0
Allocation for FY 2000	1,000,000
Allocation Requested for FY 2001	**1,500,000**
Balance to Complete after FY 2001	7,500,000

AUTHORIZATION. Regional Sediment Management studies are authorized by Section 516 of WRDA 96 and the Report on the Shores of the United States is authorized by Section 215 of WRDA 99.

JUSTIFICATION. The purpose of the Regional Sediment Management Demonstration Program is to demonstrate that by managing our O&M Navigation Channel Maintenance Dredging and our CG Shore Protection Projects and Environmental Restoration and Beneficial Uses of Dredged Material in tandem that we can reduce the total costs of all the projects within a given littoral system (coastal equivalent to a watershed) and increase the both the economic and environmental benefits throughout the littoral system. The demonstration program will add significantly to the Report on the Shores by quantifying the success achieved by a systems approach at several sites.

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STATUS OF IMPLEMENTATION. With the $1,000,000 appropriated for the regional sediment management demonstration in Fiscal Year 2000, several efforts will be initiated. Budget amount will be allotted to the Mobile District to fully implement the regional sediment management demonstration project that stretches from Alligator Point in Florida to the Alabama/Mississippi border. This will collect data on the new management actions and analyze the effects of recent management actions on the project goals of (a) keeping sand in the littoral system, (b) reducing total project costs, and (c) increasing economic and environmental benefits in the region.

MAJOR FEATURES OF THE FISCAL YEAR 2001 PROGRAM. With the $1,500,000 proposed in the President's Budget for FY 2001, the following would be accomplished.

1. $500,000 would be allotted to demonstration projects in SAD, $350,000 in NAD, and $200,000 in SPD.
2. $200,000 would be allotted to the Coastal and Hydraulics Laboratory for support to demonstration projects and analysis of technical results.
3. $50,000 would be allotted to the Institute for Water Resources for support to demonstration projects and analysis of management results.

ESTIMATED REQUIREMENTS AFTER FISCAL YEAR 2001.

Fiscal Year	Regional Sediment Management Demonstrations
2002	3,000,000
2003	3,000,000
2004	1,500,000

> Fiscal Year 2002: $3,000,000 for the Regional Sediment Management Demonstrations.

> Fiscal Year 2003: $3,000,000 to complete the Regional Sediment Management Demonstrations and prepare guidance for implementing this approach Corps-wide.

> Fiscal Year 2004: $1,500,000 for implementing the Regional Sediment Management Corps-wide.

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6. PROJECT OPERATIONS SUPPORT PROGRAM

Reliability Models Program for Major Rehabilitation

SUMMARIZED FINANCIAL DATA:

Estimated annual Cost for Continuing Program	$675,000
Allocation for FY 1999	500,000
Allocation for FY 2000	500,000
Allocation Requested for FY 2001	**675,000**
Increase of FY 2001 from FY 2000	175,000

JUSTIFICATION: The purpose of this program is to respond to yearly needs of Districts and Divisions which are preparing Major Rehabilitation reports for the upcoming fiscal year. The objective of the program is to provide reliability models for project features or components that are being considered for Major Rehabilitation, or to provide procedures to consider the impact of various chemical, environmental or physical processes in a reliability analysis.

STATUS OF IMPLEMENTATION: Reliability models and other analytical tools have been provided in support of Major Rehabilitation reports on numerous navigation and hydropower projects. In addition, 15 rehabilitation workshops have been conducted in the last 8 years to provide assistance to the Districts as they prepare their reports. These workshops offer guidance in conducting reliability and risk analyses, and provide the opportunity for interdisciplinary teams from the Districts to discuss their particular project with HQUSACE and other Districts personnel. A report is in the process of being prepared to show the progress of the preparation of reliability models in support of the FY 1999 rehabilitation reports and a similar report will be prepared for the FY 2000 and FY 2001 work.

FY 2001 PROGRAM: The requested funds will be used to prepare reliability models and collect data for reliability analyses anticipated to be required by several Districts. Reliability models and/or data are anticipated to be needed for the following: Collection of data and performing tests on navigation lock and dam gates electrical and mechanical operating equipment, Instrumentation of dam gates to determine performance modes and verify load cycles used in reliability analyses, and electrical/mechanical systems reliability models for navigation locks and flood control dams. Updating of the existing concrete reliability models to current standards is also anticipated. Provide reliability analysis procedures for selected hydropower equipment. It is also anticipated that 2 rehabilitation workshops would be conducted. The makeup of these units is subject to the needs of the respective Districts and Divisions.

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2. Flood Control

a. Reservoirs

Wetlands Functional Assessment Methodology

SUMMARIZED FINANCIAL DATA

Estimated (FY 1995-2001) Program Cost	$5,289,000
Allocations for FY 2000(O&M)	1,000,000
Allocation Requested for FY 2001	1,000,000
Increase of FY 2001 from FY 2000	0
Balance to Complete after FY 2001	3,000,000

JUSTIFICATION: Section 307(a) of the Water Resources Development Act of 1990 (P.L. 101-640) and other more recent laws require the Corps to consider possible impacts to wetlands under it's water resources development program. To address this issue, the Corps submitted a "Wetlands Action Plan" in January 1993 that was approved by the White House and endorsed by ASA(CW). This plan called for "expedited development and implementation of a new approach for wetland functional assessment – the HGM Approach". Assessment of wetland functions is an integral part of the Corps Regulatory mission, both in regulating the public under Section 404 of the Clean Water Act and Federal projects under NEPA. The HGM Approach is a fully coordinated and partnered multi-agency effort with participation from Federal and State agencies, academia and the private sector. As the lead-agency in this effort, the Corps must continue its funding of this effort to insure the necessary quality control/consistency with previously developed guidance and in direct support of the Corps' Regulatory Mission.

ACCOMPLISHMENTS TO DATE Initial R&D for the development of the HGM Approach was funded under the General Investigations (GI) R&D Program. Results to date include Guidelines for the development of National and Regional HGM Guidebooks. In addition, two of the six National HGM Assessment Guidebooks have been completed with two others in final draft form. One Regional Guidebook has been completed for Tidal Fringe wetlands and 20+ others are in various stages of completion. Several of the completed Guidebooks are now being field verified. Funding is now requested under the O&M R&D Program to continue the HGM methodology development as it moves more toward its operational phase.

PROPOSED OPERATIONS. In support of the Corps Regulatory mission to evaluate potential impacts to jurisdictional wetlands, this program will fund the completion and validation of 20+ Regional and 4 National HGM Guidebooks. These ecosystem-based functional assessment guidebooks will replace more labor-intensive/less scientifically defensible methodologies with more rapid, technically sound and legally defensible tools. These tools will be use for decisions involving wetlands protection, restoration and creation on a "function for function" basis at the watershed level. This approach will also allow scientifically defensible

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methods to support more regional and national permit use, instead of individual permit actions. As a result, many man-hours in the field, office and court will be reduced, thereby providing significant cost savings to the taxpayer and the Corps.

APPROPRIATION TITLE: Regulatory Program, FY 2001

AUTHORIZATION: Rivers and Harbors Act of 1899, Sections 9, 10 and 13
Clean Water Act, Section 404
Marine Protection, Research and Sanctuaries Act, Section 103

SUMMARIZED FINANCIAL DATA:

Budget Request for Fiscal Year 2001	$125,000,000
Appropriation for Fiscal Year 2001	$117,000,000
Increase in FY 2001 over FY 2000	$ 8,000,000

JUSTIFICATION:

Background. The Corps of Engineers has been regulating certain activities in the nation's waters since 1890. Most authority for administering the program has been delegated to the district and division commanders. National public awareness of wetlands and increasing state and Federal regulatory emphasis on wetlands continue to grow. In August 1993, the President proposed a new plan for improved management and protection of the nation's wetlands. The Corps has implemented many aspects of the plan, designed to improve the efficiency and effectiveness of the program. Some have enhanced efficiency, allowing the Corps to respond more quickly to permit applicants, while others have improved its ability to ensure protection of the aquatic environment. The general permit program is the primary method of reducing Federal regulation of minor activities and eliminating duplication of effort with state and local governments where possible. However, by statute, general permits can only authorize projects with minimal adverse effects on the aquatic environment. As resources allow, the Corps works with state and local governments to develop mechanisms that give them greater responsibility for wetlands regulation. This is achieved primarily through programmatic and regional general permits but also includes joint permit applications and processing procedures as well as work-sharing agreements. The Corps of Engineers is one of nine Federal agencies participating in the President's Clean Water Action Plan, which was created in 1998 to address critical problems facing the Nation's watersheds. The objectives of the Plan include preserving and restoring wetlands and other natural habitats. In addition, the Corps supports the Administration's efforts to advocate assumption of Section 404 authority (in non-navigable waters) by states where states are able to implement appropriate regulatory controls. (Since 1984, only Michigan and New Jersey have chosen to assume this aspect of the program).

Types of Activities Regulated by the Corps.

a. Construction and other work in navigable waters of the United States;
b. Construction of fixed structures and artificial islands on the outer continental shelf;
c. Discharges of dredged or fill material, including those associated with construction and land-clearing activities, into the waters of the United States (including wetlands);
d. The transportation of dredged material for the purpose of disposal in ocean waters.

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APPROPRIATION TITLE: Regulatory Program, FY 2001 (continued)

Evaluation Criteria. The decision whether to issue a permit is based on an evaluation of the probable impact of the proposed activity on the public interest. That decision reflects the national concern for both protection and utilization of important aquatic resources. In addition, for Section 404 permits, the Corps must determine compliance with the Section 404 (b)(1) guidelines of the Clean Water Act.

ACCOMPLISHMENTS: In FY 1999, the Corps authorized over 90,000 activities in writing. Of these, 90 percent were authorized by regional and nationwide general permits and the remaining 10 percent by individual permits. Although the evaluation process for an individual permit is typically greater than that for a general permit, most regional and nationwide authorizations now involve substantive evaluation and determination of necessary mitigation. Without regional and nationwide general permits, all activities would have to be intensively evaluated as individual permits. The Corps continues to depend on its nationwide permit program to help manage its workload and will be issuing new nationwide permits in FY 2000 and terminating nationwide permit 26. In addition, in FY 2000, the Corps is implementing a full administrative appeals process for both permit denials and jurisdiction determinations.

The Corps is working to ensure protection of the nation's aquatic environment, while continuing to provide fair and equitable decisions in a reasonable period of time. Despite a nearly 50 percent increase in the total number of written permit authorizations in the last six years, the Corps is working to maintain its evaluation time for permit actions. (In FY 1999, over 90% of all actions were authorized in less than 60 days). In addition to the large increase in the number of written authorizations, a higher percentage of them involve detailed evaluation and development of mitigation conditions. The Corps and other Federal resource agencies are using the Corps 1987 wetlands manual for identifying and delineating wetlands. The Corps now makes 60,000 jurisdiction determinations a year, six times the number in the mid-1980's.

FISCAL YEAR 2001: The request of $125 million is an $8 million increase over the $117 million appropriated in FY 2000. This increase is necessary to continue Corps responsibilities to serve the regulated public in a fair and reasonable manner, while ensuring the protection of the aquatic environment required by current laws and regulations. Approximately $5 million of the increase is needed to maintain performance levels in the face of a workload that has steadily increased over the last few years and is likely to increase in FY 2001 (total written authorizations jumped from 76,900 in FY 1996 to 90,600 in FY 1999). The funds will cover labor cost increases and allow the filling of vacancies in this labor-intensive program.

About $3 million of the increase will allow further development of specialized tools and studies to manage the aquatic environment in sensitive areas under intensive developmental pressures. This includes development of watershed management plans and special area management plans. These studies and plans are developed in partnership with state and local agencies and can result in some sharing of regulatory responsibilities with these agencies. In particular, they can help reduce some workload for the Corps and reduce duplication for the regulated public. Subjects of recent or on-going studies include vernal pools in Northern California; watersheds in Orange County and the San Joaquin-Sacramento Delta in California; South Florida; coastal Mississippi; and the Yellowstone River in Montana, all of which are under intense developmental pressures.

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Other program management efforts will continue as in past years, including specialized training of Corps personnel and technical assistance to Corps districts by the Waterways Experiment Station (WES). Generally, from $500,000 to $1,000,000 is allocated to WES each year for its technical assistance with complex and sensitive permit cases. In addition, a similar funding amount may be allocated to other Corps labs and activities (e.g., the Construction Engineering Research Laboratory and the Institute for Water Resources) to address special program management issues such as studies of mitigation banking, improvement of data systems to track program workload and wetland acreage, assessment of impacts due to program changes, and a national environmental study of nationwide permits. Funds also will be used to pay for the review of environmental impact statements by Corps districts, an increasingly costly work item, especially for larger projects.

Appropriation bill language is proposed which would require the Corps to establish and collect reasonable permit fees that would partially recover program costs. As collections would be credited to the General Fund of the Treasury, they would have no effect on the appropriation required to effectively administer the program and serve the needs of the regulated public.

The $125 million will be applied as follows:

Permit Evaluation	$ 92,000,000
Enforcement, Compliance and Resolution	$ 24,000,000
Administrative Appeals Process	$ 5,000,000
Studies and Wetlands Technical Support	$ 3,000,000
Environmental Impact Statements	$ 1,000,000
TOTAL	$125,000,000

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APPROPRIATION TITLE: Flood Control and Coastal Emergencies (FCCE), FY 2001

SUMMARIZED FINANCIAL DATA:

Appropriation for FY 2000	$0
Budget Request for FY 2001	$0
Change from FY 2000	$0

DISASTER PREPAREDNESS AND EMERGENCY RESPONSE: The U.S. Army Corps of Engineers continues to provide a leadership role in response to natural disasters throughout the United States. In that regard, the Corps must maintain a preparedness program that ensures the Corps is ready to respond to the needs of the Nation. Although no new funds are requested for FY 2001, carryover of FY 1997 Supplemental Appropriation funds will provide for the known requirements of this program. The Corps responsibility for emergency response requires sustainment of fully functional engineering, construction, and emergency operations capabilities. This response can be under Corps authorities, such as P.L. 84-99, 33 USC 701n, Flood Control and Coastal Emergencies, or in support of other agencies, particularly the Federal Emergency Management Agency (FEMA) under P.L. 93-288, 42 USC 5121, The Stafford Act, and Executive Order 12148. Response activities under P.L. 84-99 authority include the following: all preparedness activities; emergency operations (flood response and post-flood response); emergency repair and restoration of flood control work which are threatened, damaged or destroyed by flood; emergency protection of existing Federal hurricane and shore protection works; the repair or restoration of Federal hurricane or shore protective structures damaged or destroyed by wind, wave or water action of other than ordinary nature; preventive work performed prior to flooding when conditions pose a threat to life or property; providing emergency supplies of clean water to any locality confronted with a source of contaminated water causing or likely to cause a substantial threat to public health and welfare; and provision of water supplies to drought-distressed areas by reimbursable well drilling or transportation of water at Federal cost.

In support of FEMA's disaster response and recovery activities (most of which are specified in the Federal Response Plan), Corps mission assignments have included emergency debris removal; preliminary damage assessments; detailed damage survey reports; temporary housing and life support; infrastructure restoration; emergency snow removal contracting; engineering services, construction management, and other support that makes full use of the Corps engineering, contracting, and construction expertise. The availability of carryover funds from the FY 1997 Supplemental Appropriation, contingent on the number and magnitude of disasters in FY 2000, will provide for normal disaster preparedness activities, emergency operations activities, and lab support. The prudent management of FCCE funds assures that mobilizing people and materials, obtaining contractor support, and coordinating with other agencies involved in emergency events are accomplished on a timely basis. Included in these emergency activities are overtime pay for Headquarters staff, travel to disaster areas, supplies and materials, increased staff support from field activities and Individual Mobilization Augmentees (IMA's), and Geographic Information System (GIS) support of field operations.

2166

APPROPRIATION TITLE: Flood Control and Coastal Emergencies (FCCE), FY 2001 (continued)

ACCOMPLISHMENTS: In the past year, the Corps has successfully responded to disasters such as the droughts in the Northwest and Midwest states; Hurricanes Georges, Dennis and Floyd; and the Oklahoma tornadoes. In addition, work has continued on repair and rehabilitation projects in California, the Pacific Northwest, James River, SD, and Devils Lake, ND. The planning of and preparedness for "all hazards" response activities are funded under P.L. 84-99 authority. The continued investment in these activities guarantees an engineering organization capable of responding to both natural and manmade disasters to include catastrophic events of major proportions such as hurricanes and earthquakes. To continue to provide rapid, effective and efficient emergency response to the needs of communities impacted by major disasters, the Corps has developed a new response system -- Readiness 2000 – which provides trained professionals from throughout the Corps to plan for disasters and respond within 6 to 12 hours of activation.

Major preparedness efforts include the review and updating of response plans based on lessons learned from recent disasters; training of personnel and teams to develop critical skills which enhance the capability to respond under adverse conditions; procurement and prepositioning of critical supplies and equipment (i.e., sandbags, pumps) which likely would be unavailable during the initial response stages; periodic exercises to test and evaluate plans, personnel, and training; inspection of non-Federal flood control projects to ensure their viability to provide flood protection and assess their eligibility for post-flood rehabilitation; laboratory support for field operations; liaison with State and local governments and agencies; and effective management of the overall response program to ensure workable, coordinated efforts that will meet the needs of disaster victims. The funding identified under All-Hazards Planning Activities reflects expanded planning and coordination to support Federal response to all natural disasters. This includes disasters under the umbrella of the Federal Response Plan. Because of the vast experience of the Corps of Engineers in the infrastructure area, the Department of Defense has given the Corps the lead to support FEMA in Infrastructure Recovery. The Federal Response Plan restructuring requirements requires additional coordination at the Federal (28 departments and agencies), State, and local levels to jointly train and conduct exercises.

FISCAL YEAR 2001: Due to the carryover of FY 1997 Supplemental Appropriation funds, sufficient funds will be available to provide for an effective FY 2001 program level for preparedness activities, to include an aggressive levee inspection program. Funds also will be available for continued response planning and All-Hazards Planning Activities in support of the Federal Response Plan. The program for FY 2001 will provide for the following preparedness activities:

Corps Statutory Authorities	$ 13,000,000
All-Hazards Planning Activities	$ 3,000,000
Facilities	$ 1,000,000
Inspections	$ 1,000,000
Total Preparedness Program, FY 2001	$ 18,000,000

21187

APPROPRIATION TITLE: Formerly Utilized Sites Remedial Action Program, Fiscal Year 2001
($000)

State Project Name	Allocated through FY 2000	FY 2001 Request	Remaining Requirement*
Connecticut			
CE, Windsor, CT	6,002	1,000	37,580
Maryland			
W. R. Grace, Baltimore, MD	5,597	2,900	26,164
Massachusetts			
Shpack Landfill, Norton, MA	2,688	400	3,073
Missouri			
Latty Avenue, St. Louis, MO	43,312	12,000	84,088
St. Louis Airport, St. Louis, MO	92,465	25,454	113,281
St. Louis Airport Vicinity Properties, St. Louis, MO	31,282	1,550	88,068
Downtown, St. Louis, MO	70,584	16,000	62,616
New Jersey			
Dupont Chambers Works, Deepwater, NJ	3,510	1,000	12,904
Maywood, NJ	167,087	29,000	127,762
Middlesex, NJ	72,478	2,000	19,003
Wayne, NJ	100,072	**	**
New York			
Ashland 1, Tonawanda, NY	44,486	18,400	352
Ashland 2, Tonawanda, NY	28,660	20	0
Colonie, NY	108,386	8,035	0
Linde Air Products, Tonawanda, NY	51,798	11,621	9,653
Niagara Falls Storage Site, NY	19,007	6,000	269,751
Seaway Industrial Park, Tonawanda, NY	5,024	20	8,381
Ohio			
Luckey, OH	13,319	3,200	112,469
Painesville, OH	7,450	1,400	4,847
	875,207	140,000	979,992

*The remaining requirement , except as indicated on individual justification sheets, is based on cost estimates developed during the spring of 1998 to validate initial Corps estimates in the Report to Congress. As in the case of the estimates in the Report to Congress, these estimates assume acceptance of criteria for remediation which, while fully protective of human health and the environment also strike an appropriate balance among cost, regulatory and community acceptance, and land use considerations. They also assume funds are provided to support the optimal remediation schedules.
**FY 2001 and remaining remediation requirements will be funded from the government's settlement with the W.R. Grace Corporation.

2168

CONNECTICUT

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Requested Allocation FY 2001 $	Additional to Complete After FY 2001 $
CE, Windsor New England District	44,582,000	3,821,000	2,181,000	1,000,000	37,580,000

The CE site is a 600-acre area in Windsor, Connecticut. Combustion Engineering, under contract to the Atomic Energy Commission (AEC), fabricated nuclear fuel assemblies using highly enriched uranium (HEU) from 1958 to 1961. They also conducted licensed commercial nuclear activity on the site from the early 1960's to 1993. Although the commercial nuclear fuel fabrication ceased in 1993, Combustion Engineering is still licensed by the Nuclear Regulatory Commission (NRC) for other commercial nuclear activities and the facility is operating today. Highly enriched uranium is the primary radiological contaminant of concern at the site to be addressed by Formerly Utilized Sites Remedial Action Program (FUSRAP). Only limited site characterization work had been performed when FUSRAP was transferred from the Department of Energy (DOE) to the Corps for execution. Since then, the Corps has performed a gamma survey of the site and completed characterization of Building 3.

Fiscal Year 2000 funds will be used to continue site characterization and complete Potentially Responsible Party (PRP) studies to assign responsibilities between Combustion Engineering and the government. In addition, these funds will be used to identify Applicable Relevant and Appropriate Requirements (ARARs) and Derived Concentration Guideline Limits (DCGLs), and to evaluate whether a time-critical removal action is warranted under FUSRAP to permit the town to acquire the northern parcel of Combustion Engineering property adjacent to the Town's landfill. Funds requested for Fiscal Year 2001 will be used to complete site characterization and initiate feasibility studies to develop and evaluate alternatives for remedial action.

Schedule to complete site remediation is being determined.

2169

MARYLAND

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Requested Allocation FY 2001 $	Additional to Complete After FY 2001 $
W.R. Grace Site Baltimore District	34,661,000	2,722,000	2,875,000	2,900,000	26,164,000

The W.R. Grace site is situated within a 260-acre property owned by Grace, located on an industrialized peninsula in south Baltimore. Currently, Grace manufactures and produces specialty chemicals at this facility. Contamination at the site consists of radioactively-contaminated slabs and other surfaces impacted by the thorium extraction process in Building 23, which is still used by Grace, and the Radioactive Waste Disposal Area (RWDA) to the east of the plant proper. To date, a Potentially Responsible Party (PRP) has not been identified. The Department of Energy (DOE) had conducted radiological surveys at the site; however, no actual characterization or remediation had been performed. To date the Corps has initiated a remedial investigation/feasibility study (RI/FS) at the radioactive waste disposal area (RWDA), an Engineering Evaluation/Cost Analysis (EE/CA) for Building 23 decontamination, and removed contaminated waste stored in Building 23.

FY 2000 funds are being used to initiate and complete a Site Inspection (SI) for Building 23 to fill in data gaps required for completion of the EE/CA in FY01. FY 2000 funds are also being used to continue the RI/FS at the RWDA, to include completion of the Draft and Final RI report, the Draft and Final FS reports, and the draft proposed plan. FY 2001 funds will be used to complete the EE/CA for Building 23, the design as well as commencement of the Remedial Action for building 23. FY 2001 funds will also be used for the completion of the Final proposed plan, the Draft and Final ROD and completion of the Removal Action Design for the RWDA.

The project completion date is being determined.

2170

MASSACHUSETTS

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Requested Allocation FY 2001 $	Additional to Complete After FY 2001 $
Shpack Landfill, Norton/Attleboro New England District	6,161,000	2,388,000	300,000	400,000	3,073,000

The Shpack site is an 8-acre abandoned domestic and industrial landfill, which operated from 1946 to 1965. It is located along the Norton/Attleboro town boundary line with approximately 5.5 acres in Norton and 2.5 acres in Attleboro. The Town of Norton and Attleboro Landfill, Inc. owns the property. Radioactive contamination is believed to have come from Metals and Controls, Inc. (now Texas Instruments) who had used the landfill to dispose of trash and other materials from 1957-1965. The General Plate Division of Metals and Controls began to fabricate enriched uranium foils at their Attleboro plant in 1952. In 1959 they merged with Texas Instruments who continued the operations until 1981, using enriched and natural uranium for the fabrication of nuclear fuel for the U.S. Navy and commercial customers. The site was also listed on the National Priority List (NPL) in 1986. EPA has signed an Administrative Order by Consent with a group of Settling Parties (which includes Texas Instruments) for the performance of a remedial investigation/feasibility study (RI/FS). The initial phase of the RI has been completed. The Department of Energy performed a radiological survey in the early 1980's and conducted an interim removal action based on the results of that survey.

Available funding in Fiscal Year 2000 will be used to perform site characterization and conduct PRP studies to assign responsibilities between Texas Instruments and the Government. Funds requested for Fiscal Year 2001 will be used to develop and evaluate alternatives for remedial action.

Schedule to complete site remediation is being determined.

2171

MISSOURI

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Requested Allocation FY 2001 $	Additional to Complete After FY 2001 $
Latty Avenue Properties, Hazelwood Interim Storage Site, MO St. Louis District	139,400,000	37,312,000	6,000,000	12,000,000	84,088,000

The Latty Avenue Properties site is comprised of several different tracts of land in North St. Louis County, Missouri. The project includes an 11-acre site, encompassing the Hazelwood Interim Storage Site and FUTURA Coatings, on Latty Avenue and the Latty Avenue Vicinity Properties, which are located around this 11-acre tract. The site was placed on the National Priority List in 1989. The primary contaminants of concern are radium-226, thorium-230, and uranium-238 in storage piles created during earlier cleanups, in soils under the piles and elsewhere on the site. The primary regulators/stakeholders include the Environmental Protection Agency Region VII, Missouri Department of Natural Resources, and the St. Louis Oversight Committee. Potentially Responsible Party investigations are ongoing. In FY 1999, construction of a rail load facility was completed; a contract was awarded for the removal of the Eastern and railspur piles; and a draft Feasibility Study/Proposed Plan for final cleanup of the entire Latty Avenue and St. Louis Airport and Vicinity Properties sites was developed.

FY 2000 funds are being used to complete remediation of the Eastern and railspur piles (12,500 cubic yards) and develop the Record of Decision. FY 2001 funds will be used to complete the Record of Decision and remedial design and to remediate approximately 14,000 cubic yards from the Supplementary and Main piles.

The completion date for this project is being determined.

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Requested Allocation FY 2001 $	Additional to Complete After FY 2001 $
St. Louis Airport Site, St. Louis, MO St. Louis District	231,200,000	68,365,000	24,100,000	25,454,000	113,281,000

The St. Louis Airport Site (SLAPS) consists of 21.7 acres north of Lambert International Airport in North St. Louis County, Missouri. The site contamination is bordered by McDonnell Boulevard on the north and east, Coldwater Creek on the west, Banshee Road and Norfolk and Western Railway on the south. The ditches immediately adjacent to the north and south of SLAPS are considered part of this location. The primary contaminants of concern are radium-226, thorium-230, and uranium-238. The St. Louis Airport Authority owns the property, which is not being used for any activity. The primary regulators/stakeholders include the Environmental Protection Agency Region VII, Missouri Department of Natural Resources, and the St. Louis Oversight Committee. A Potentially Responsible Party Investigation is underway. The site was placed on the National Priority List in 1989. In FY 1999, the Corps remediated approximately 34,000 cubic yards and developed a draft Feasibility Study/Proposed Plan for final cleanup of the area comprising the St. Louis Airport and Vicinity Properties and Latty Avenue sites. It is estimated that the project will require removing approximately 270,000 cubic yards of contaminated soil.

FY 2000 funds are being used to develop the Record of Decision and remediate approximately 40,000 cubic yards. FY 2001 funds will be used complete the Record of Decision and remediate approximately 50,000 cubic yards.

The completion date for this project is being determined.

2173

APPROPRIATION TITLE: Formerly Utilized Sites Remedial Action Program, Fiscal Year 2001 — Mississippi Valley Division

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Requested Allocation FY 2001 $	Additional to Complete After FY 2001 $
St. Louis Airport Site, Vicinity Properties, St. Louis, MO St. Louis District	20,900,000	29,632,000	1,650,000	1,550,000	88,068,000

The St. Louis Airport Site (SLAPS) Vicinity Properties consists of 78 properties in North St. Louis County, Missouri. The contamination site includes former ball fields (located directly north of SLAPS), areas along haul roads, and Coldwater Creek. The primary contaminants of concern are radium-226, thorium-230, and uranium-238. Dispersion of radioactive material occurred either through direct migration from SLAPS, by air or water, or through vehicular distribution along the roadways. (This is the case for most of the roadway, shoulder, and ditch contamination.) The properties are owned by residential, commercial, industrial, and state interests; and they are being used for those respective purposes. The primary regulators/stakeholders include the Environmental Protection Agency Region VII, Missouri Department of Natural Resources, and the St. Louis Oversight Committee. A Potentially Responsible Party investigation is underway. As of the end of FY 1998, 32 of 78 properties had been remediated under an existing Department of Energy Engineering Evaluation/Cost Analysis. In FY 1999, the Corps completed one vicinity property and developed a draft Feasibility Study/Proposed Plan for the site together with the St. Louis Airport and Latty Avenue Sites. The project is estimated to require removing approximately 111,000 cubic yards of contaminated fill material.

FY 2000 funds are being used to finalize the Feasibility Study/Proposed Plan, develop the Record of Decision, and remediate approximately 1,500 cubic yards. FY 2001 funds will be used to complete the Record of Decision, perform remedial design, and provide utility support.

The completion date for this project is being determined.

2174

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Requested Allocation FY 2001 $	Additional to Complete After FY 2001 $
St. Louis Downtown Site St. Louis, MO St. Louis District	49,200,000	58,084,000	12,500,000	16,000,000	62,616,000

The St. Louis Downtown Site and vicinity properties are located at the Mallinckrodt Chemical Company plant in St. Louis, Missouri. The extent of contamination includes 17 acres where contaminated soils are accessible for remediation without major disruption of plant operations. Included are 17 buildings, subsurface soil, and 6 vicinity properties. The primary contaminants of concern are radium-226, thorium-230, uranium-238, progeny, metals, and organic compounds. Mallinckrodt owns the property and operates a chemical manufacturing operation on the site. The company has also manufactured radionuclide products independent of government operations. Waste from these operations is commingled with FUSRAP wastes. The vicinity properties are active industrial operations owned by others. The primary regulators/stakeholders include the Environmental Protection Agency Region VII, Missouri Department of Natural Resources, and the St. Louis Oversight Committee. A Potentially Responsible Party investigation is underway. In FY 1999, the Corps completed removal of approximately 2,500 cubic yards from a city-owned vicinity property; completed remedial design and removal of approximately 8,200 cubic yards at Plant 2; and initiated remedial design efforts at Plant 1. Cost to complete has been revised to reflect the cleanup level approved for this site in the Record of Decision.

FY 2000 funds are being used to complete remedial design and remove approximately 8,500 cubic yards from Plant 1, Plant 2, and Plant 6 east areas. FY 2001 funds will be used to complete remedial design and remove approximately 15,000 cubic yards from Plant 6 west and Plant 7 areas.

The completion date for this project is being determined.

NEW JERSEY

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Requested Allocation FY 2001 $	Additional to Complete After FY 2001 $
DuPont Chambers Works Deepwater, NJ Philadelphia District	17,414,000	2,210,000	1,300,000	1,000,000	12,904,000

Site Description: The DuPont Chambers Works site is a 700-acre active chemical plant located in Pennsville and Carneys Point Townships on the southeastern shore of the Delaware River, north of the I-295 Delaware Memorial Bridge, and adjacent to the residential community of Deepwater, N.J. The plant is owned and operated by E.I. duPont de Nemours & Company. Operations involving uranium at the Chambers Works site began in 1942. As part of its work on the Manhattan Engineer District (MED) Program, DuPont worked on developing a process for converting uranium oxide to produce uranium tetrafluoride and small quantities of uranium metal. The major contaminant is U-238 found in both soil and water samples. During FY 99, the Corps completed removal and disposal of contaminated structural steel from Building 845 which had been demolished by DuPont, and initiated site characterization, Remedial Investigation / Feasibility Study (RI/FS) activities for soil contamination and investigation of possible groundwater contamination.

Fiscal Year 2000 funds are being used for continuation of: site characterization; RI/FS activities for soil contamination and investigation of possible groundwater contamination. Requested funds for Fiscal Year 2001 will be used to complete the Remedial Investigation / Feasibility Study and investigation of possible groundwater contamination.

The completion date for this project is being determined.

2176

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Requested Allocation FY 2001 $	Additional to Complete After FY 2001 $
Maywood, N.J. New York District	323,849,000	137,743,000	29,344,000	29,000,000	127,762,000

Site description: The Maywood site is included on the Environmental Protection Agency Superfund National Priorities List. Site consists of 140 acres of residential, commercial and industrial property totaling 88 commercial and residential properties, located 20 miles north of Newark adjacent to Interstate 80 and State Route 17. There are approximately 259,000 cubic yards of subsurface contaminated material containing thorium-232, radium-226, and uranium-238. The United States owns 11.7 acres of the site which will be used as a staging area during cleanup operations. The Stepan Company occupies part of the site and operates a chemical factory processing a patent product. Sears operates a large central distribution warehouse (leased) on the site. In the mid-1980's 25 residential vicinity properties were remediated. In 1994 an Engineering Evaluation/Cost Analysis was completed by the Department of Energy approving a further interim removal action to remediate an additional 39 vicinity properties. As of the end of FY 99, 38 of the 39 vicinity properties included in the 1994 EE/CA had been remediated, including 22 completed by the Corps (15 in FY 98, and 7 in FY99). Additionally, the Corps initiated the development of a proposed plan for the remainder of the site and Potentially Responsible Party investigations.

FY 00 funds are being used to remediate the one remaining residential VP under the 1994 EE/CA, continue the development of a Proposed Plan and Record of Decision (ROD) and to further characterize the site. FY01 funds will be used to complete the ROD and initiate remedial design and remedial action under the ROD

The project completion schedule is being determined.

2177

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Requested Allocation FY 2001 $	Additional to Complete After FY 2001 $
Middlesex Sampling Plant New York District	93,481,000	64,478,000	8,000,000	2,000,000	19,003,000

Site description: The Middlesex site is a Federal government owned site located at 239 Mountain Ave, Middlesex, NJ which includes 36 Vicinity Properties (VPs). Primary contaminants are Uranium-232, Radium-226, and Thorium-232. Manhattan Engineer District (MED) established the Middlesex Sampling Plant (MSP) in 1943 for use in sampling, storage, and shipment of uranium, thorium, and beryllium ores. MED operations ended in 1955, and the Atomic Energy Commission (AEC) later used the site for storage and limited sampling to thorium residues. In 1967, AEC terminated activities at the MSP and decontaminated onsite structures to meet criteria then in effect. From 1969 to 1979, the site served as a US Marine Corps training center. In 1980, the MSP was returned to the Department of Energy (as AECs successor) and designated for clean up under FUSRAP. MSP was used for interim storage, in two piles, of radioactively contaminated soils removed from 30 vicinity properties (VPs) and the Middlesex Municipal Landfill (MML). Thru the end of FY99, the Corps has removed and disposed of the MML pile and half of the VP pile. The Middlesex site was added to the Environmental Protection Agency Superfund National Priorities List (NPL) in FY 99. Coordination with Federal and state agencies, and local communities is continuing.

FY 00 Funds are being used to complete the removal of the VP pile, to further characterize the subsurface soils and groundwater, and to initiate Remedial Investigation/Feasibility Study (RI/FS) leading to a Record of Decision (ROD) for subsurface contamination and the remaining buildings on the site. FY 01 funds will be used to complete the ROD.

The project completion schedule is being determined.

2178

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Requested Allocation FY 2001 $	Additional to Complete After FY 2001 $
Wayne Interim Storage Facility New York District	112,372,000	90,072,000*	10,000,000**	10,000,000**	2,300,000

Site Description: The Wayne site is 6.5 acre Federal government owned site at 868 Black Oak Ridge Road in Wayne Township, NJ, which includes 26 Vicinity Properties (VPs) covering 11 acres in the towns of Wayne and Pequannock. The radioactive contamination (Thorium-232) originated from commercial thorium processing operation conducted by Rare Earth's Inc. and W.R. Grace and Company from 1948 to 1971. Contaminants migrated off-site, primarily via Sheffield Brook. The Wayne site was placed on the Environmental Protection Agency's National Priorities List (NPL) in 1984 and was added to Formerly Utilized Sites Remedial Action Program (FUSRAP) the same year, after Congress directed the Department of Energy to undertake a cleanup of the site. Coordination with Federal and state agencies, and local communities is continuing. W.R. Grace was a Potentially Responsible Party. Settlement negotiations with the company were completed in 1998; and subsequent to court review, a $32M settlement was finalized in July 1999. Work accomplished to date included the disposal of approximately 40,000 CY of soil from the VP pile. The pile was created by the remediation of the VPs; completion of an Engineering Evaluation/Cost Analysis (EE/CA) to authorize an interim removal action of up to 40,000 CY of subsurface contaminated soil. Under this EE/CA the Corps removed and disposed of a total 10,600, 26,500, and 2,900 cubic yards of contaminated soil in FY 98, FY99 and FY00, respectively; completed a Subsurface Characterization Study; developed a proposed plan for final cleanup of the site, and a Record of Decision (ROD).

In FY 00 the Corps will complete the ROD and initiate remediation of the remainder of the site under the ROD. In FY 01, the Corps will continue subsurface soil removal and final site cleanup under the ROD. The Corps received the initial installment of $10 million in W.R. Grace Corporation settlement funds in FY 99. The Corps anticipates that it will be able to complete the site with funds already appropriated together with the remainder of the settlement funds.

The project completion schedule is being determined.

*Includes $10M in settlement funds.
**Settlement funds.

2179

NEW YORK

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Requested Allocation FY 2001 $	Balance Required After FY 2001 $
Ashland 1, Tonawanda, NY Buffalo District	63,238,000	23,865,000	20,621,000	18,400,000	352,000

The Ashland 1 Site is a privately-owned 10.8 acre site in the Town of Tonawanda that is contaminated with radiological waste, including thorium, uranium and radium. The waste that was disposed of at the site originated at the Linde plant, where uranium ore was processed. The Record of Decision (ROD) for this site, which includes Ashland 2 and Area D of the Seaway site, was signed in April 1998. The cleanup approved in this ROD calls for excavation and off-site disposal of radiological waste that exceeds the site-specific guidelines. The volume estimate in the ROD for Ashland 1 was 33,000 cubic yards. Based on its experience in remediating Ashland 2, the Corps has done additional sampling of contaminated materials at Ashland 1, and now estimates that about 120,000 cubic yards will have to be excavated and disposed of to meet cleanup criteria at this site.. The project has been coordinated with the New York State Department of Environmental Conservation.

FY 2000 will be used to continue the remediation of the site and continue the Potentially Responsible Party investigations. FY 2001 funds will be used to complete remediation of the site and closure of the site.

The project completion is scheduled for September 2001.

2180

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Requested Allocation FY 2001 $	Balance Required After FY 2001 $
Ashland 2, Tonawanda, NY Buffalo District	28,680,000	28,460,000	200,000	20	0

The Ashland 2 Site is a privately-owned 115 acre site in the Town of Tonawanda, three miles north of Buffalo, NY, that is contaminated with radiological waste, including thorium, uranium and radium. The waste that was disposed at the site originated at the Linde Air Products plant, where uranium ore was processed. The wastes at Ashland 2 were relocated from the Ashland 1 site when Ashland Petroleum Company acquired that site for use in their refining operations. The Record of Decision, which included also Ashland 1 and Seaway Area D, was signed in April 1998 and requires excavation and off-site disposal of radiological waste that exceeds site-specific guidelines. The initial Corps estimate of quantities which would have to be removed to meet the cleanup criteria in the ROD were approximately 17,000 cubic yards. During remediation it became clear that substantially greater quantities would require removal. The actual volume removed to meet the cleanup criteria is approximately 42,000 cubic yards. The increased quantities have increased project costs by an estimated $8,323,000 The project has been coordinated with the New York Department of Environmental Conservation. Remediation of the site was completed in FY 99

FY 00 funds will be used to initiate and continue Potentially Responsible Party (PRP) investigations and for maintenance. FY 01 funds will be used to complete short term maintenance prior to turning the site over to the Department of Energy for any long term maintenance that might be required.

2181

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Requested Allocation FY 2001 $	Balance Required After FY 2001 $
Colonie Site New York District	108,421,000	96,086,000	12,300,000	8,035,000	0

Site Description: The site consists of a total area of 11.2 acres plus 56 vicinity properties. The site was owned and operated by National Lead Industries (NL) from 1937-1984. The facility was used for electroplating and manufacturing various components from uranium and thorium. Radioactive materials released from the plant exhaust stacks spread to site buildings, portions of the grounds, and 56 commercial and residential properties (VPs). NL also dumped contaminated casting sand into the former Patroon Lake. The New York State Supreme Court shut down NL plant in 1984. Coordination is ongoing with the New York State Department of Environmental Conservation, and local leaders. There is no Potentially Responsible Party (PRP). The transfer of the property from NL to the Federal government in 1984 contained "hold harmless" language which precludes holding NL as a PRP. At the time of transfer from Department of Energy (DOE), a plan of action had been finalized, an Engineering Evaluation/ Cost Analysis (EE/CA) decision document and action memorandum had been issued, and DOE was attempting to award a total site remediation contract. The Corps awarded a contract for the total site remediation of the Colonie site FY 98.

FY 00 and FY 01 funds will be used to continue remedial action. The Corps is reevaluating the requirement for remediation of the chemical contamination and off-site disposal of additional contaminated materials, which were not included in scope of the project, and may result in an increase to the total federal cost.

The project completion schedule is being determined.

2182

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Requested Allocation FY 2001 $	Balance to Complete After FY 2001 $
Linde Air Products, Tonawanda, NY Buffalo District	73,072,000	44,765,000	7,033,000	11,621,000	9,653,000

The Linde project is located in the Town of Tonawanda, a suburb north of Buffalo, NY. The project consists of two distinct areas: (1) The original Linde site that is occupied by Praxair, Inc.; and (2) a Department of Energy (DOE) designated vicinity property that is located about 1.5 miles north of Praxair. The privately owned Praxair facility is zoned industrial and currently serves as the worldwide research and development site for Praxair, Inc. Employment is currently approximately 1,400 people and is expected to rise with planned expansion. The site consists of office buildings, laboratories, fabrication facilities, warehouse storage areas, material laydown areas, and parking areas. Uranium processing operations were conducted in five buildings, principally buildings 14 and 30, in support of Manhattan Engineering District (MED) activities. MED activities resulted in radioactive contamination, with the principal radionuclides of concern being uranium, thorium, and radium. Other industry, railroad sidings, a public park, public elementary school, numerous residential properties, and the Town of Tonawanda highway garage now surround the site. Through FY 99 the Corps completed work initiated by DOE under an Engineering Evaluation/Cost Analysis (EE/CA) which included decontamination of Building 14, and demolition and disposal of Building 30 and the materials stored in it. The Corps also completed a Reconnaissance Investigation/Feasibility Study and developed and coordinated a Record of Decision for remediation of subsurface soils on the remainter of the Linde site.

FY00 funds are being used to complete the Record of Decision for remediation of subsurface soils on the Linde property in coordination with the New York State Department of Environmental Conservation (NYSDEC), the US Environmental Protection Agency and the Coalition Against Nuclear Materials in Tonawanda; to initiate remedial action of radioactive contaminated soils; initiate a Feasibility Study Addendum (FSA) for groundwater and for demolition of Building 14; and initiate a remedial investigation/feasibility study (RI/FS) at a vicinity property. FY 01 funds will be used to remedial action, complete the FSA and initiate a Proposed Plan for groundwater and Building 14, and complete the RI/FSA and initiate a Proposed Plan for the vicinity property. Remediation of the VP, groundwater, and the demolition of Building 14 were not in the original scope of the project, and may result in an increase to the total federal cost.

The project completion schedule is being determined.

2183

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Requeste Allocation FY 2001 $	Balance to Complete After FY 2001 $
Niagara Falls Storage Site, NY Buffalo District	294,758,000	12,985,000	6,022,000	6,000,000	269,751,000

The Niagara Falls Storage Site is a Federally-owned site with a below ground interim repository for radioactive residues and waste, several buildings, one of which contains isolated areas of low level radioactive wastes and several vicinity properties. It is located in Lewiston Township, 19 miles northwest of Buffalo, NY. Material stored in this repository includes 234,770 cy of low activity radioactive waste and 14,390 cy of high activity radioactive residues. The repository is covered with an interim cap designed to retard radon emissions and rainwater infiltration. There are no Potentially Responsible Party issues at this time.

FY00 funds will be used to complete the Remedial Investigation and initiate the Feasibility Study (FS), and to continue surveillance, monitoring, maintenance and appropriate security at the site.

FY01 funds will be used to complete the FS including potential initiation of treatability studies for the radioactive residues and continue surveillance, monitoring, maintenance and appropriate security at the site.

The project completion schedule is being determined.

2184

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Requested Allocation FY 2001 $	Balance to Complete After FY 2001 $
Seaway Industrial Park Tonawanda, NY Buffalo District	13,425,000	4,500,000	524,000	20,000	8,381,000

The Seaway Landfill is a privately-owned 93 acre site in the Town of Tonawanda, 3 miles north of Buffalo, NY that is contaminated, principally on 16 acres, with radiological waste, including thorium, uranium and radium. The waste that was disposed of at the site originated at the Linde Air Products plant, where uranium ore was processed. The waste was originally stored at Ashland 1, before being moved to Seaway, a closed sanitary landfill. There are four areas of the Seaway Landfill with FUSRAP materials; they have been designated Areas A, B, C and D. Clean up of Area D is included in the Record of Decision for the remediation of Ashland 1 and Ashland 2. The project is being coordinated with the New York State Department of Environmental Conservation (NYSDEC). During FY 99, the Corps continued development of Remedial Investigations/Feasibility Study (RI/FS) for Areas A,B, and C.

FY00 funds will be used to complete the Remedial Investigation/Feasibility Study (RI/FS), Proposed Plan and the Record of Decision (ROD) process and to coontine the Potentially Responsible Party (PRP) investigations. FY01 funds will be used to complete remedial design.

The project completion schedule is being determined.

2185

OHIO

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Requested Allocation FY 2001 $	Balance to Complete After FY 2001 $
Luckey, OH Buffalo District	128,988,000	9,119,000	4,200,000	3,200,000	112,469,000

The Luckey Site is a privately owned 40-acre site located approximately 22 miles southeast of Toledo, Ohio. The site is contaminated with radiological and chemical waste. The primary radiological contaminants at the site include radium, uranium and thorium. The primary chemical contaminant at the site is beryllium, which was used for atomic weapons production. In 1942, the Federal Defense Plant Corporation purchased the site for the construction of a magnesium processing facility. In 1949, the Atomic Energy Commission constructed a beryllium production facility at the site. The waste solutions and sludge from the beryllium production operations were stored on the plant property in lagoons. Waste solutions were also discharged into Toussaint Creek. In 1951 and 1952, the site operator purchased 1,000 tons of radiologically contaminated scrap steel from the Lake Ontario Storage Area. In 1958, beryllium production operations ceased. The scrap steel and potentially radiologically contaminated ores shipped to the site are believed to be the sources of radiological contamination. The Luckey project is being coordinated with the Ohio EPA and Ohio Department of Health.

FY 00 funds will be used to complete the Remedial Investigation (RI), including baseline risk assessment, and initiate the Feasibility Study (FS) and Potentially Responsible Party (PRP) investigations. FY 2001 funds will be used to complete the FS and PRP investigations, and begin coordination of the Proposed Plan.

The project completion schedule is being determined.

2186

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2000 $	Allocation FY 2000 $	Requested Allocation FY 2001 $	Balance to Complete After FY 2001 $
Painesville, OH Buffalo District	13,697,000	6,050,000	1,400,000	1,400,000	4,847,000

The Painesville Site is a privately owned 60-acre site located approximately 22 miles northeast of Cleveland, Ohio. The site is contaminated with radiological waste, including uranium, radium, thorium, and decay products. In the early 1940's, the Defense Plant Corporation constructed a magnesium production facility on property owned by the Diamond Magnesium Company. The Diamond Magnesium Company received approximately 1,650 tons of radiologically contaminated scrap steel from the Lake Ontario Storage Area, which resulted in contamination of the site. The site is currently owned by the Witco Chemical Company which closed the facility in July 1999. In November 1998, following removal of 1,330 cubic yards of contaminated soils, it was determined that an RI/FS would be needed to determine extent of additional contamination and final cleanup criteria. The Painesville project is being coordinated with the Ohio Environmental Protection Agency and Ohio Department of Health to develop the final cleanup criteria.

The FY 2000 funds will be used to initiate the Remedial Investigation/Feasibility Study (RI/FS), including some limited additional site characterization, and initiate Potentially Responsible Party (PRP) investigations.

FY 2001 funds will be used to complete the RI/FS and PRP investigations, develop/coordinate the final cleanup criteria, and initiate the Proposed Plan.

The project completion schedule is being determined.

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Justification Of Estimates for Civil Functions Activities
Department of the Army, Corps of Engineers
Fiscal Year 2001
($000)

APPROPRIATION TITLE: General Expenses

	FY 2000 Allocation*	FY 2001 Budget	Change FY 2000-2001	Percent Change
1. Executive Direction and Management				
a. Headquarters, U.S. Army Corps of Engineers				
Baselevel Operating Expenses	$ 56,898	$ 54,741	$ - 2,157	- 3.9%
Civil Program Accounts	2,000	2,000	0	0.0%
Total	$ 58,898	$ 56,741	$ - 2,157	- 3.9%
b. Major Subordinate Commands	$ 72,944	$ 71,322	$ - 1,622	- 2.3%
2. Other Activities				
a. Coastal Engineering Research Board	$ 324	$ 337	$ +13	+ 3.9%
b. Humphreys Engineer Center Support Activity	$ 18,351	$ 20,600	$ + 2,249	+ 10.9%
c. Water Resources Support Center	$ 3,434	$ 3,000	$ - 434	- 14.5%
d. USACE Finance Center**	$ 420	$ 0	$ - 420	0.0%
TOTAL:	$154,371	$ 152,000	$ - 2,371	- 1.6%

*The FY 2000 allocation represents distribution of the appropriated level of $149,500,000 plus $4,871,000 from prior year unexpired funds to supplement the appropriation amount due to offsetting the impacts of inflation, higher than budgeted pay increases, potential increased costs due to offering relocation services under the Defense National Relocation Program for vacancies and Plant Replacement and Improvement program payback costs for the Headquarters move.

**The budget was based on an assumption that the USACE Finance Center would be capitalized and transferred to the Defense Finance and Accounting Service during FY 2000. A portion of the Finance Center's headquarters support functions costs for FY 2000 and all of their costs for FY 2001 are shown under the Headquarters, U.S. Army Corps of Engineers budgeted amounts.

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APPROPRIATION TITLE: General Expenses

1. Executive Direction and Management

	FY 2000 Allocation	FY 2001 Request
a. Headquarters, U.S. Army Corps of Engineers		
(1) Baselevel Operating Expenses:	$56,898	$54,741
(2) Civil Works Program Accounts:	2,000	2,000
	$58,898	$56,741

The Headquarters, U.S. Army Corps of Engineers is responsible for providing policy, guidance, and oversight of a comprehensive Civil Works Program. This mission is decentralized across the Corps of Engineers in 37 districts, 8 major subordinate commands (MSCs), and several field operating activities. The Headquarters, U.S. Army Corps of Engineers assists field offices by providing policy formulation and oversight, national programs management, preparation of the annual budget and legislative submission, national and international interface, management of high interest or controversial projects or issues, resource analysis and distribution, oversight of execution, and performance measurement. In addition to the traditional Civil Works mission, beginning in FY 1998, the Chief of Engineers was given responsibility for the Formerly Used Sites Remedial Action Program (FUSRAP) previously managed by the Department of Energy.

The amount requested for the Headquarters, U.S. Army Corps of Engineers for FY 2001 consists of two components: the baselevel operating expenses of $54,740,540; and the Civil Program Accounts amounting to $2,000,000. The baselevel expenses amount reflects a net decrease of $2,157,790 over FY 2000, due to staffing reductions, reduced travel expenditures, reduced contractual expenses and reduced training. The Program Accounts were established in FY 1995 as an outgrowth of disestablishing the Centralized Accounts, which were centrally managed at headquarters and billed back across the Corps. For expediency purposes, those activities essential to supporting the Civil Works mission were deemed appropriate for direct-funding from the General Expenses account and were presented in detail in the FY 1996 budget justification data. Activities funded in the Program Accounts for FY 2001 consist primarily of Civil Works Automated Systems Maintenance, Civil Policy Guidance Update Program, and maintenance of a USACE standard set of construction guide specifications. Beginning in FY 1999, fiscal management of jointly funded programs was transferred to the respective functional proponent. Amounts for these have been included in operating expenses and include approximately $1,732,000 for USACE-wide Training and Professional Development, approximately $898,000 for information technology/automated information systems, $361,000 for real estate specific automated information systems, and $64,000 for the Standard Procurement System. These activities continue to undergo close scrutiny to ensure they meet the criteria for Program Account funding and are minimally funded to meet essential mission needs.

The Corps is continuing its efforts to streamline executive direction and management functions at all levels. The Headquarters projected staffing level for FY 01 is 426 FTE. This is a 14% reduction from the FY 97 level of 487. These reductions have been accomplished through focusing on appropriate roles and missions and eliminating duplication of effort, reducing the number of division offices from 11 to 8, and continual process reviews to achieve additional savings through efficiencies.

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APPROPRIATION TITLE: General Expenses

1. **Executive Direction and Management** (Continued)

a. Headquarters, U.S. Army Corps of Engineers	FY 2000 Allocation	FY 2001 Request
	$58,898	$56,741

The breakout of cost differences for the Headquarters by category of expenses is shown below.

Change	
$ - 602	- Personnel compensation and benefits
- 463	- Travel and transportation
- 1,066	- ADP, training and other contractual services
- 26	- Printing and reproduction, supplies and materials
$ - 2,157	

(1) Cost differences: The FY 2001 budget reflects a further reduction of 3.3% in the headquarters staffing level, from 440 in FY 2000 to 426 in FY 2001. The $56,740,540 requested for expenses of the Headquarters, U.S. Army Corps of Engineers, includes $45,873,150 for personnel compensation and benefits for civilian personnel and military officers, and $10,867,390 for other costs. The other costs include:

$ 964	- Travel and transportation
684	- Printing and reproduction, supplies and equipment
9,219	- ADP, training, and other contractual services
$10,867	

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1. Executive Direction and Management (Continued)

b. Major Subordinate Commands

FY 2000 Allocation	FY 2001 Request
$72,944	$71,322

Major subordinate commands (MSC) provide the managerial and technical direction required for supervision of subordinate district offices and coordination of regional activities necessary to execute the Civil Works Program. The Executive Direction and Management activities are currently decentralized to 8 MSC throughout the United States.

In accordance with the Energy and Water Development Appropriations Act for 1996 (Public Law 104-46), the Secretary of the Army approved a plan to reduce the number of division offices from eleven to eight, with each division supervising at least four districts, and without changing the functions of the districts. This division restructuring plan was implemented beginning in FY 1997 with full implementation to be phased in over the next five years. With full implementation of the 8 division office structure, the divisions will have reduced to 544 FTE, (a decrease of 17 FTE from the 2001 level of 561). This staffing level will support an average civil staffing per division of 75 FTE with the exception of the Pacific Ocean Division, which has a primarily military mission.

The breakout of cost differences for the Division Offices by category of expenses is shown below.

Change	
$ + 1,083	- Personnel compensation and benefits
+ 153	- Rent, utilities, and communications
- 195	- Printing and reproduction, supplies and equipment
- 1,458	- Travel and transportation
- 1,205	- ADP, training, and other contractual services
$ - 1,622	

The $71,322,430 requested includes $54,254,660 for personnel compensation and benefits for civilian and military personnel, and $17,067,770 for other costs. Labor costs reflect increases for higher than budgeted pay raises and potential increased costs due to offering relocation services under the Defense National Relocation Program. Other costs include:

$ 5,001	- Rent, communications, and utilities
2,815	- Travel and transportation
970	- Printing and reproduction, supplies and equipment
8,281	- ADP, training, and other contractual services
$ 17,067	

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APPROPRIATION TITLE: General Expenses

2. Other Activities

FY 2000 Allocation	FY 2001 Request
$22,529	$23,937

Other activities include: the Coastal Engineering Research Board (CERB) which provides broad policy guidance, reviews plans and funds requirements for conducting coastal engineering research and development, recommends research project priorities, and performs other duties assigned by the Chief of Engineers; the Humphreys Engineer Center Support Activity (HECSA) which provides administrative support to Corps tenants of the Humphreys Engineer Center and to Corps headquarters; the Water Resources Support Center (WRSC) which provides a variety of water management functions such as conducting and managing national studies, special studies in support of the Civil Works mission, data collection and distribution, and technical support to other Corps offices in matters dealing with water resource management; and the US Army Corps of Engineers Finance Center which was established in 1996 in Memphis, TN, to begin the centralization of finance and accounting activities Corps-wide. The Department of Defense plans to capitalize and transfer the Finance Center to the Defense Finance and Accounting Service during FY 2000. Funding for the Headquarters support functions of the finance center is shown under the Headquarters, U.S. Army Corps of Engineers partially in FY 2000 and totally in FY 2001. The General Expenses account provides funds only for those FTE supporting headquarters missions. These activities have further reduced their staffing from 108 to 94 FTE in 2001.

The amount requested for these activities for FY 2001 is $23,937,030 which is a net increase of $1,408,350 from the FY 2000 allocation of $22,528,680. Variances from the previous year represent the cost of pay increases and inflation plus the increase due to the $4.7 million Plant Replacement and Improvement Program (PRIP) paybacks. The PRIP items include a 5-year payback for the Headquarters move to the GAO building, the Electronic Data Management System (EDMS) equipment purchase which will reduce the amount of offfice space required; and the HQ USACE LAN centralization equipment purchase. These increases are partially offset by staffing reductions, lower rent costs due to the Headquarters move to the GAO building and the USACE Finance Center costs being reflected in FY 2001 under Headquarters, U.S. Army Corps of Engineers costs.

Changes	
$ - 653	- Personnel compensation and benefits.
- 1,588	- Rent, utilities, and communications.
- 14	- Travel and transportation of goods.
- 20	- Printing and reproduction, supplies and equipment.
+ 3,683	- ADP, training, and other contractual services, PRIP payback.
$ + 1,408	

Breakdown of the total $23,937,030 request for these support activities includes $7,197,890 for personnel

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2. Other Activities (Continued)

compensation and benefits for civilian and military personnel and $16,739,140 for other costs. The other costs include:

$ 5,062	-	Rent, communications, and utilities (includes HQ payments also)
173	-	Travel and transportation of goods
855	-	Printing and reproduction, supplies and equipment
10,649	-	ADP, training, other contractual services, PRIP payback.
$16,739		

APPROPRIATION TITLE: REVOLVING FUND - PLANT REPLACEMENT AND IMPROVEMENT PROGRAM (PRIP)

1. Explanation of Revolving Fund. The Revolving Fund, which was established by Congress in 1953 (Public Law 153, 83rd congress – 67 Stat. 199), replaced the Plant Allotment Account authorized by the Secretary of War, on 13 December 1934, which had in turn replaced the Plant Program - Appropriation Basis which was in use prior to 1934. The two systems, prior to the establishment of the Revolving Fund, did not prove to be successful, because the accounting procedures necessitated by the systems were cumbersome and resulted in a distorted picture of costs when plant was transferred from one appropriation to another.

Essentially, PL 153 provided that the Revolving Fund assume the total capital value of $127.9 million in 1953, consisting of the unexpended cash balance ($25.3 million) and the net value ($102.6 million) of the assets and liabilities of the plant accounts; and to perform all future services, as a separate entity, within its own resources. The Plant Replacement and Improvement Program of the Revolving Fund, or PRIP, has proven to be an effective means of providing equipment and materials needed on more than one project. Some advantages of the system are: (1) Simplifies funding and accounting procedures; (2) Provides a means for plant rental which considers plant replacement costs; (3) Eliminates distorted project costs when plant is not used entirely on a single project throughout its economic life; and (4) Permits plant to be available on a timely basis to meet changing workload requirements.

The concept of the Revolving Fund is for it to operate within its own resources, rather than from annual appropriations. The Fund owns all the land, structures, dredges, other floating plant, aircraft, fixed and mobile land plant, tools, office, furniture, special equipment, and computers, that serve two or more Civil Works projects. In order for the Revolving Fund to acquire and replace the above items, it is necessary that the user project or appropriation be charged a fee for the actual time the equipment is used. This fee consists of operating and fixed costs. The operating costs are reimbursed to the Revolving Fund without any surcharge. The fixed or capitalized costs include depreciation, based on the straight-line method and a plant replacement increment factor to provide for future increased costs of replacement items due to inflation. When planned expenditures exceed the income producing capability of the Fund, additional direct appropriations are requested.

When the Revolving Fund was established, Congress authorized a capital limitation or ceiling (Corpus) of $140.0 million for the Fund. The capital value or corpus is the total assets, less liabilities and reserves. The $140.0 million ceiling was adequate until 1965, when increased workload and inflation required that the Corps of Engineers request annual increase in the corpus ceiling. These requests were generally granted. The limitations on the corpus ceiling value limited the income that could be generated from plant rentals, which, in turn, adversely affected the overall management of the Fund. Therefore, the Corps recommended that an annual capital expenditure ceiling be substituted for the corpus ceiling. Congress granted the request in FY 1979. Starting with FY 1985, expenditure ceilings were replaced by estimates of expenditures. Starting in FY 1994, the Corps replaced the estimate of expenditures by an estimate of obligations. This was done in accordance with recommendations of the General Accounting Office that the Corps change to obligations accounting within the Revolving Fund.

2. The Revolving Fund is operated in the Divisions, Districts, and separate Field Offices, the Waterways Experiment Station, and the Cold Regions Research and Engineering Laboratory. The fund incurs the expenses of acquisition, rehabilitation, operations, and maintenance of multiple use structures, such as warehouses, shops, garages, and laboratories; the expenses of acquisition, rehabilitation, operations, and maintenance of general-purpose plant, such as dredges, tugs, launches, trucks, cranes, bulldozers, and other construction equipment; and the general expenses of District offices.

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3. FY 2000 and FY 2001 (Items costing $700,000 or more)

a. Land and Structures:

(1). Coastal and Hydraulic Laboratory Headquarters Building – Waterways Experiment Station (New). The U.S. Army Waterways Experiment Station Coastal Engineering Research Center and Hydraulics Laboratory were merged in 1996 to form the Coastal and Hydraulics Laboratory, the largest water resources research and development laboratory in the world. The principal objectives of the merger were to foster team approaches to addressing complex water resources issues; to streamline management and eliminate duplication in technical methods, support staff, support systems and infrastructure and create synergy. These objectives are essential in the support of the Corps civil works mission. Progress has been hampered significantly because the two former organizations remain physically located in their pre-merger buildings approximately .5 miles apart by road. While some goals of the merger have been achieved, management and administration of the new organization has become more complex and less efficient because of the physical separation. The additions and betterments to the present Coastal Hydraulics Laboratory complex of buildings will allow full and complete consolidation of all personnel and equipment under one roof for maximum efficiency. The economic analysis comparing the cost of the proposed additions and betterments to the status quo supports the former based on a savings to investment ratio of 2.23 and a discounted payback period of 10.4 years. The net present value of the additions and betterments is $15.3 million, which is $8 million less than net present value of the status quo. Total cost estimate is $7,806,000. FY 2001: $630,000 to initiate and complete design. Future years: $7,146,000.

(2). ESTEX Hyperflume Research Facility - Waterways Experiment Station (Continuing). The USACE Waterways Experiment Station (WES) hydraulics, coastal and environmental research is increasingly directed to problems of time varying stratified flow and transport in rivers, reservoirs, and estuaries. ESTEX is needed to make progress in a number of areas. The WES Hydrodynamic and Sedimentation Experimental Hyperflume Research Facility (ESTEX) will be one of the world's premier experimental facilities for highly unsteady flow and transport research. It will be the hub of a 20 to 25 year research program providing R&D products that are essential to keeping USACE projects safe, effective, and environmentally sound in the 21st century. The facility will be a major resource for the Corps and national research in studying processes of solving problems in water resources. The facility will consist of four units with total length of approximately 500 ft. The final design was accomplished in consultation with expected users, which includes other government agencies and academia, through correspondence and presentations at national and international conferences. Primary economic analysis of constructing the ESTEX shows a savings/investment ratio of 4.84 and a discounted payback period of 4.6 years. The Net Present Value (NPV) of using the existing facility is $13.8 million, the NPV to build the ESTEX is $3.6 million. Total estimated cost: $4,000,000. Through FY 1999: $60,000 to initiate design. FY 2000: $1,900,000 to complete design and initiate construction. FY 2001: $1,500,000 to substantially complete construction. Future years: $500,000 to complete construction.

(3). Dock Front Rehabilitation - Pittsburgh District (Continuing). The Pittsburgh Engineer District Warehouse and Repair Shops (PEWARS) is located at mile 7.5 on the Ohio River. It is a revolving fund owned facility, which supports the district mission of maintaining 23 civil works navigation projects and 327 miles of navigable river. The dock front wall at PEWARS is a 1,380 ft. long sheet pile cell design, constructed in 1942 as a part of a U.S. Navy outfitting dock-yard later acquired by the Corps. A field investigation of the condition of the cell wall and crane foundations located atop the wall was performed in 1993. This study revealed significant deterioration of the sheet pile material. Deterioration of the sheet piling has reached the point where over-stressing can occur under present operating conditions and where corrective actions should be initiated. The most effective repair alternative studied is to construct a tied-back sheet pile wall riverward of the existing sheet pile cells. This repair will restore the design strength of the wall and provide for an additional 50-years of useful life. If no repairs are made to the dock front facility, the crane capabilities at the waterfront will be lost and with it, the District's capability of transferring heavy equipment and materials to and from the warehouse and repair shops to the floating plant in support of major maintenance of the civil works projects served. Three alternatives were considered. The alternative #1, New Tied-Back Wall provides a solution for 50 years at a net present value of $8.3 million. Alternative # 2, Strap Existing Wall, while less expensive,

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with a net present value of $7.0 million, only provides a solution for 25 years. Total estimated cost: $5,208,200. Through FY 1999: $5,008,200 complete design and initiate and substantially complete construction. FY 2000: $200,000 to complete construction.

(4) Fort Mifflin Replacement Warehouse - Philadelphia District (Continuing): In April of 1994, the Fort Mifflin Warehouse Building No.4 and its contents were destroyed by fire. Warehouse Building No. 4 was a storage facility for spare parts and emergency operations support items. Since the damaged building, which was completely razed, was essential to District operations and maintenance services, a replacement warehouse/file-storage building is required. The proposed replacement facility will be a prefabricated metal structure constructed on the existing 16,000 square.foot concrete foundation which has been found structurally sound and did not sustain any damage as a result of the fire. In addition, a file storage area of approximately 5,000 sq. ft. has been identified and will be used to alleviate the high storage costs ($140,000/year) currently incurred because leased space is used. An area of approximately 600 square feet for the storage of flammable materials has also been identified to comply with safety and fire prevention requirements. The current water supply cannot provide adequate fire protection for the present occupancy of the Fort Mifflin Project Office (FMPO) and the Distribution Center (FMDC). The warehouse replacement project includes installation of a new 10-inch (minimum) water main to FMPO/FMDC and will provide a clean, reliable and virtually maintenance-free water supply for automatic sprinkler systems. The existing main access road to the FMDC/FMPO facilities routes traffic past Olde Fort Mifflin. The warehouse replacement project also includes construction of an access road and fencing to alleviate the safety concerns regarding school buses; the presence of children crossing the existing entrance to Olde Fort Mifflin; and to prevent unauthorized persons, or thieves from wandering onto the FMPO/FMDC facilities. Total Estimated Cost: $4,038,000. Through FY 1999: $3,938,000 for design, to initiate and substantially complete construction. FY 2000: $100,000 to complete construction.

(5) Alaska District Headquarters Building Addition - Alaska District (Continuing). A 17,100 square foot addition is requested to replace inadequate office space in buildings housing Real Estate and Regulatory personnel. Real Estate personnel are located in a building owned by Elmendorf AFB, about a mile and a half away from the main headquarters building, which they have indicated that we must vacate by FY 1999. Regulatory personnel are located in a warehouse building adjacent to the main headquarters building which was converted for use as office space. The main headquarters building was constructed in the late 1940's by the Air Force but has been owned and occupied by the Corps ever since. It was completely renovated in the late 1980's using PRIP funds. The Alaska District looked at a number of options for more satisfactorily meeting its space requirements, including, leasing an additional 17,700 from GSA, leasing sufficient space to accommodate the entire district from GSA, and constructing a new facility using space available on an installation in the Anchorage area. Of these alternatives the lease costly was the recommended alternative of constructing an addition. The alternative of leasing the additional 17,700 space from GSA, in addition to being more costly, had the further disadvantage of requiring that the personnel assigned to the leased space would be 4 or 5 miles distant from the main building because such leased space would be located in downtown Anchorage rather than in the vicinity of Elmendorf AFB. Total estimated cost: $5,819,200. Through FY 1999: $5,584,200 to complete design and substantially complete construction. FY 2000: $235,000 to complete construction.

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b. Dredges -

(1). Dredge ESSAYONS Control System Replacement - Portland District (New). The Dredge ESSAYONS has been in service since 1983. At delivery from the shipyard, automated systems were state of the art. However since 1983, automation associated with dredging systems have evolved significantly. Dredge ESSAYONS is still operating with much of its original automated dredge control and monitoring systems. Over time some of the systems have been either modified or upgraded or bypassed or abandoned. The major problem associated with the age of the systems is that replacements for some components necessary to run the systems are no longer commercially available. Replacement of the dredging system automation is required to allow continued operation of the dredging system. The economic analysis showed without the upgrade, the original dredging automation is estimated to fail in the next 3 to 5 years, and the vessel will be unsafe to operate with loss of revenue is estimated at $40.5 million a year. Total estimated cost: $3,999,000. FY 2000: $50,000 to initiate and complete design. FY 2001: $2,515,000 to initiated construction. Future years: $1,434,000 to complete construction.

(2). Dredge McFARLAND Longitudinal Seam Replacement – Philadelphia District (New). The McFARLAND is one of four Corps of Engineers hopper dredges, and the only one operating on the East Coast. It requires the replacement of a longitudinal structural seam in order to maintain the ship's integrity and prevent the possibility of leaking contaminants into the sea. The McFARLAND was originally constructed with a riveted lap seam strake running along the hull. Over the past thirty years this riveted strake has experienced wastage from moisture on the inside and wear on the outside, consequently is scrutinized by the U.S. Coast Guard during vessel dry-dock inspections. The wastage has created a leakage condition. These leaks were locally repaired during previous shipyard periods, but are a problem that is becoming more prevalent. Although, in the past, the Corps of Engineer has been able to obtain a waiver, the Coast Guard has become increasing reluctant to pass the McFARLAND without major repairs made to the strake. The only permanent way to correct the problem is to replace the riveted strake. Replacement of the strake will allow the McFARLAND to pass Coast Guard inspections; will increase the level of vessel safety and alleviate potential hazard to the environment. Only two alternatives were considered, the status quo which involves continuing to maintain and repair existing riveted lap seam strake, and replacement of the strake. The net present value of the replacement alternative, $172.4 million, is slightly less than the status quo, $173.9 million. More importantly it is a permanent repair which eliminates the need for a waiver from Coast Guard requirements and effectively reduces the possibility of fuel oil leakages Total estimated cost: $1,525,000. Through FY 1999: $25,000 to initiate design. FY 2001: $1,500,000 to complete design and initiated and complete construction.

(3). Dredge WM. A. THOMPSON Repowering – St. Paul District (New). The Dredge WM. A. THOMPSON was built in 1937 and repowered in 1966. The dredge is a 62-year-old self-propelled dredge and part of the Corps' Minimum Dredge Fleet. It has consistently proven itself to be the most cost-effective method of maintaining the 9-foot Mississippi River navigation channel in both the St. Paul and Rock Island Districts. In 1996 the THOMPSON was competitively bid against industry. Continued use of the THOMPSON would save the Government $3 million annually. The existing power plant, after 33 years of use, must be replaced to reduce operating costs and down-time required to make repairs. Spare parts are also becoming increasingly scarce. In addition to the proposed repowering, other production improvements will be effected at the same time, including the installation of a more efficient dredge pump, propulsion power increases, and electrical updates. Repowering efforts are expected to increase the useful life by thirty years with net long-term savings of $22 million. An economic analysis of repowering shows a discounted payback period of 4.8 years, and savings to investment ratio of 5.09. The net present value of the status quo is $82,324,300, compared with $64,519,500 for the proposed repowering. Total estimated cost: $12,400,000. Through FY199: $186,100 to initiate design. FY 2000: $450,000 to complete design. FY 2000: $10,175,000 to initiate construction. Future years: $1,588,900 to complete construction.

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(4). Repower Dredge POTTER, MDC 2375 - St. Louis District (Continuing): The obsolete, 1930's vintage steam power plant on the POTTER is underpowered, unreliable, expensive to operate and very difficult to maintain. This project will employ current technology to modernize the vessel's power plant, and increase the efficiency of both its propulsion and dredging systems. The dredge will be used indefinitely. The daily rate for the repowered dredge is projected at $33,200 per day, vice the current rate of $37,000 per day. The dredge uses an average of 6,200 gallons of fuel per day, which can be reduced to 2,400 gallons per day by repowering with a diesel electric configuration. The annual repair costs, presently in the $1 million to $1.5 million range, decrease to the annual estimated $500,000 repair cost of a repowered dredge. The total annually estimated savings in repairs, fuel, labor and plant increment is $1.5 million. Based upon a cost differential (savings) of $180 million over the life of the repowered dredge and a present value of savings of $31 million, it is recommended that the Dredge POTTER be repowered with a diesel electric configuration. Total estimated cost: $21,705,200. Through FY 1999: $19,185,200 to complete design and initiate construction. FY 2000: $2,500,000 to substantially complete construction. FY 2001: $20,000 to complete construction.

(5). Dredge Ladder Extension for the JADWIN, MDC 2276 - Vicksburg District (Continuing): The dredge ladder will be extended from 58' to 75' to enable maintaining the recently deepened 45' navigation channel from Baton Rouge to New Orleans. Lengthening is required because dredging must be accomplished when river stages are still high in order to maintain the authorized depth at low stages. The present practice is to start dredging as soon as the dredge can reach the river bottom, but with the 58' ladder sometimes this is allows maintaining only a 250' wide channel, which presents problems to the shipping industry and increases the likelihood of collisions and groundings. In addition, the shipping industry is lobbying hard to have the depth increased to 50' in the near future and to have the width increased from 500' to 750.' Modifications will be accomplished during the lay up period, which normally runs from December to June. Total

estimated cost: $1,090,000. Through FY 1999: $10,000 to initiate design. FY 2000: $105,000 to complete design. FY 2001: $800,000 to initiate construction. Future years: $175,000 to complete construction.

(6) Dredge Ladder Extension for the HURLEY, MDC 2450 - Memphis District (Continuing): All modifications necessary will be made to increase the dredge depth of the HURLEY from 40' to 75'. This involves lengthening the existing dredge ladder, extending the hull to accommodate the longer ladder, and modifying the ladder hoisting mechanism. As presently equipped the HURLEY can effectively be utilized only to dredge the shallow draft channel of the Mississippi River. The ladder extension will allow the HURLEY to be used to maintain the deep draft channel from Baton Rouge to New Orleans, extending its useful dredge season to about 250 days per year. Modifications will be accomplished during the lay up period, which normally runs from December to June. Total estimated cost: $5,232,000. Through FY 1999: $412,000 to complete design. FY 2000: $4,607,000 to initiate construction. FY 2001: $125,000 for construction. Future years: $88,000 to complete construction.

c. Other Floating Plant:

(1). Surveyboat C. M. WOOD Replacement – Galveston District (New). The C.M. WOOD is used for hydrographic surveying of the Galveston District's navigable waterways. Replacement is required because the existing vessel, built approximately 33 years ago, is aging and does not have the space or stability required and needed to utilize current hydrographic surveying equipment. The C.M. WOOD is not able to execute fully the mission in inland waterway channels and offshore where sea conditions exceed 2 1/2 to 3 feet which limits utilization of the C.M. Wood to less than 150 days a year. Especially important is a capability to respond in a timely fashion to perform final surveys when a contractor completes dredging. A timely response reduces potential for disputes or claims over final quantities. An economic analysis compared the cost of replacement with the costs of leasing a surveyboat and the cost of modifying an existing boat to meet current operational requirements. This net present value analysis showed that acquisition of a new survey boat ($2,096,300) was less costly than either leasing ($4,007,300) or modifying an existing boat ($2,801,400). Total estimated cost: $885,000. Through FY 1999: $75,000 for design. FY 2001: $810,000 to initiate and complete construction.

(2). 55 foot Surveyboat M/V ALEXANDER Replacement - New Orleans District (New). The ALEXANDER is used for hydrographic surveying of the New Orleans's District's navigable waters. Replacement is required because maintenance costs are escalating due to the age of the vessel and the design of the ALEXANDER is not well suited to its present mission. The ALEXANDER is a larger vessel than is needed to run cross sections in the Mississippi River deep draft crossings, its normal work site. Due to the implementation of global positioning systems on board the vessel, more cross sectional surveys are required. Therefore, a smaller vessel, designed for a crew of two, would be more functional. Replacement of the existing surveyboat with a lighter smaller vessel will allow surveys to be done quicker and with less fuel, saving time and money. The net present value analysis comparing the cost of a new vessel with cost with leasing a similar vessel ($4,328,600) and with continuing to operate and maintain the ALEXANDER ($3,923,000) showed that acquisition of a new survey boat ($3,800,400) was the most cost effective of the alternatives. Total estimated cost: $1,404,000. Through FY 1999: $5,000 to initiate design. FY 2000: $5,000 to complete design. FY 2001: $1,279,000 to initiate construction. Future years: $115,000 to complete construction

(3). Replacement Towboat, M/V RAYMOND C. PECK (MDC 2389) - Pittsburgh District (Continuing). The M/V PECK is a 1200 HP diesel powered towboat used in mobilization of the district repair fleet for major maintenance of 23 navigation structures on the Ohio, Allegheny and Monongahela Rivers; channel maintenance of 327 miles of navigable river; and for response to navigation emergency situations. The existing vessel, which was constructed in 1983, is underpowered relative to current demands which often results in double-tripping when tow size, river or weather conditions require. An economic analysis showed that it would be less than 2% cheaper to repower the PECK to 2400 HP than to replace it with a new vessel. However, while repowering is the cheaper of the alternatives, new construction was favored because of concerns regarding how well the repowered vessel would handle and because the repowered vessel would be likely to have significantly higher operations and maintenance costs to keep it operational for the assigned 40 year life. Total cost: $5,491,100. Through FY

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1999: $11,100 initiate design. FY 2000: $5,160,000 to complete design and initiate construction. FY 2001: $175,000 for construction. Future years: $145,000 to complete construction.

(4) Survey Boat GRANADA Replacement, MDC 2425 - New Orleans District (Continuing). The GRANADA is used for hydrographic surveying of the New Orleans District's navigable waterways. Replacement is required because the existing surveyboat was constructed in 1971 and is approaching the end of its economic life. Maintenance costs are escalating due to the age of the vessel, and the steel hull has deteriorated over the years. In addition the weight of a steel hull significantly reduces speed and increases fuel consumption. An economic analysis comparing the alternatives of replacing the GRANADA with continuing to operate and maintain the existing plant favored the construction of a replacement. Total estimated cost: $1,547,100. Through FY 1999: $24,000 initiate design. FY 2000: $1,315,000 to complete design and initiate construction. FY 2001: $203,000 to substantially complete construction. Future years: $5,000 to complete construction.

(5) Derrickboat No. 6 Replacement, MDC 2446 - St. Louis District (Continuing). The existing Derrickboat No. 6 is over 30 years old. It requires replacement because the hull plating has become thin due to wear and age. In addition its hydraulic crane, which is 13 years old, requires extensive repair due to heavy use. An economic analysis comparing the cost of a new derrick boat with the cost of repairing/rehabilitating the existing boat favored acquiring a new boat because it would save over $2.2 million over its useful life. The economic analysis also established a present value savings of over $800 thousand. The Derrickboat No 6 is attendant plant in support of the Dredge POTTER, which is used for placing/moving dredging anchors, transferring supplies and materials between the riverbank and the dredge. During the season when the dredge is laidup, the Derrickboat supports repairs to the dredge, pipeline and other plant. Total cost: $770,000. Through FY 1999: $25,000 initiate and complete design. FY 2000: $600,000 to and initiate and substantially complete construction. FY 2001: $145,000 to complete construction.

(6) Panama City Crane Barge Replacement, MDC 2427 - Mobile District (Continuing). The Panama City Crane Barge performs snagging, riprap placement, minor clamshell and drag bucket dredging, pile driving, and other general navigation channel maintenance tasks on the Apalachicola-Chattahoochee-Flint River (ACF) system and the Gulf Intracoastal Waterway. The present crane barge was locally constructed in the 1960's making maximum use of components and materials obtained from surplus. It was constructed around a surplus deck barge built in 1940. With the present 40-ton crawler crane, the lifting capacity of the crane barge combination is grossly inadequate for the plant's mission. A larger crane cannot correct the problem because it would be severely limited by the barge's narrow 30' beam and 110' length. The replacement-floating crane will eliminate all the shortcomings of the existing plant. It will also be capable of supporting routine maintenance of locks and dams on the Black Warrior and Tombigee and Alabama Rivers, which now requires use of the larger capacity Debris Boat ROS, which is more costly to operate. Four alternatives were considered; construction of a new crane the least costly. The net present value of the PRIP alternative is $2.5 million, compared to $8.7 million, $8.8 million, and $12.7 million respectively for the Status Quo, Rehabilitation and Lease alternatives. Total estimated cost: $6,393,800. Through FY 1999: $6,800 initiate design. FY 2000: $5,800,000 to complete design and initiate construction. FY 2001: $425,000 to substantially complete construction. Future years: $162,000 to complete construction.

(7) Survey Boat GATLIN Replacement, MDC 2428 - Mobile District (Continuing). The Survey Boat GATLIN conducts hydrographic surveys in support of dredging and other channel maintenance activities for Gulf Coast harbors and for the stretch of Gulf Intracoastal Waterway within the district's area of responsibility. The existing survey boat was constructed in 1973 and will require major rehabilitation if it is not replaced. The existing vessel also suffers from a design deficiency, which limits its capacity to carry out its mission in rough seas. The proposed replacement will reduce the percentage of days when surveys cannot be done from 40 to 15%; it will also increase productivity through an increase in speed from 16 to 40 knots which will reduce transit times to survey sites. The economic analysis comparing the costs of a new vessel with costs of leasing a similar vessel, rehabilitating the GATLIN and the status quo showed that acquisition of a new survey boat was the most cost effective of the alternative. Total cost: $1,794,400. Through FY 1999: $4,400 initiate design. FY 2000: $1,550,000 to complete design and initiate construction. FY 2001: $130,000 to substantially complete construction. Future years: $110,000 to complete construction.

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(8) Fuel Oil Barge No. 64 Replacement, MDC 2411 - St Louis District (Continuing). Fuel Barge #64 is a single skin barge constructed of steel in 1972. The fuel barge is used to transport heavy fuel oil to the Dredge POTTER. The Oil Pollution Act of 1990 (OPA-90) requiring the replacement of single skin fuel barges with double skin barges mandate replacement. Design will be based on plans and specifications already developed by the Marine Design Center for double skin fuel barges. To comply with the law and based upon a cost differential (savings) of $264,591 over the life of a new barge and the present value of savings of $26,373, it is recommended that Fuel Barge No. 64 be replaced. Total estimated cost $1,335,000. Through FY 1999: $1,198,500 to complete design and initiate construction. FY 2000: $110,000 for construction. Future years: $26,500 to complete construction.

(9) Tender KIMMSWICK Replacement, MDC 2413 - St. Louis District (Continuing). The KIMMSWICK tends the Dredge POTTER. It is used for positioning the pipeline, placing anchors, towing the dredge between locations and transporting personnel. The KIMMSWICK is 29 years old. The hull plating is thin due to wear and age. The diesel engines are 10 years old and in need of overhaul. Electrical/mechanical systems are original and have become unreliable. Need for a dredge tender continues. The daily rate for a new vessel is estimated to be $1,800, and the present rate of the KIMMSWICK ($1,200) is expected to rise to $2,000 per day due to the need for major hull work and engine overhaul. Based on a savings of $1,137,197 over the life of a new vessel and a present value of savings of $290,645, it is recommended that the Tender KIMMSWICK be replaced. Total estimated cost: $1,785,000. Through FY 1999: $1,490,000 complete design and initiate and substantially complete construction. FY 2000: $200,000 for construction. FY 2001: $95,000 to complete construction.

(10) Tugboat PILOT Replacement- Philadelphia District (Continuing). The PILOT was built in 1941 (56 years old). It requires frequent maintenance and repair parts are expensive and extremely difficult to acquire. It has a single screw with 345 horsepower. The prospective new tugboat will have twin screw propulsion that has more maneuverability and is safer when towing barges and floating pipeline. Comparison of net present values of construction of a new tugboat versus the costs to place the PILOT in first class condition indicates an estimated savings to the civil appropriations of approximately $12 million over the life of the new vessel. Total estimated cost: $2,495,000. Through FY 1999: $100,000 to initiate design. FY 2000: $30,000 to complete design. FY 2001 $2,040,000 to initiate construction. Future Years: $325,000 to complete construction.

2000

(11) Survey Boat SENTRY Replacement, MDC 2399- New York District (Continuing). The survey boat SENTRY's replacement will be used to perform year-round hydrographic survey work in offshore or unprotected waters as well as protected waters in the New York Harbor area. If the SENTRY is not replaced, New York District's ability to fulfill its mission of maintaining the federal channels under authority of the River and Harbor Acts will be seriously degraded. An additional new requirement for the District is the Phase II deepening of Newark Bay, Kill Van Kull to Howland Hook, scheduled for construction from 1999 through 2008. The use of a new high technology survey vessel and equipment will be required. Secondary missions of the vessel will include side scan survey operations, water quality sampling, oceanographic survey station keeping, soil sampling, current meter placement, diver support, inspection tours, and emergency operations in New York Harbor. Economic analysis shows that new construction is about $40,506 less per year (present value terms) than the status quo. The analysis also shows a savings to investment ratio (SIR) of 1.23, that is, for every dollar invested in new construction, $1.23 in savings will result. Based upon a cost differential (savings) of $8.3 million over the life of a new vessel and present value savings of $2.9 million, it is recommended that the SENTRY be replaced. Total estimated cost: $3,160,600. Through FY 1999: $30,000 to initiate design. FY 2000: $2,720,000 to complete design and initiate construction. FY 2001: $190,000 for construction. Future years: $220,000 to complete construction.

(12) Quarterboats 6381 and 6008 Replacement, MDC 2302 - Vicksburg District (Continuing): Quarterboats 6008 and 6381 were constructed in 1963 and 1960 respectively, and have reached the end of their useful lives. Neither vessel meets U.S. Coast Guard standards for housing personnel. Options considered in addition to the recommended option of replacing both boats with a single larger vessel: rehabilitating one or both of the existing boats, leasing quarterboats, and utilizing hotel/motels in the vicinity of work sites to house personnel. The most expensive alternatives were leasing and utilizing hotels/motels in the vicinity of the work sites. In addition, quarterboats for lease are not readily available and at some sites commute distances to motels/hotels would be as much as 80-90 miles. The alternative of rehabilitating the existing quarterboats was less costly than new construction, however, it would extend their economic life only by 20 years, while

a new vessel would have a life of 40 years. For this reason, because the NPV differential between the two alternatives, analyzed over 20 years, was not great, the alternative of constructing a single new vessel is recommended. Total estimated cost: $9,897,100. Through FY 1999: $9,507,100 to complete design and to initiate construction. FY 2000: $200,000 for construction. FY 2001: $160,000 to substantially complete construction.
Future Years: $10,000 to complete construction.

(13) Fuel Oil Barge 407 Replacement, MDC 2412 - St. Louis (Continuing). A replacement 84,000, gallon diesel fuel barge in support of the Dredge POTTER is required to meet the requirements of the Oil Pollution Act of 1990 (OPA-90). OPA-90 requires that all fuel barges in use in 2002 be double-hulled. The existing barge 407 was constructed in 1934 and replated in 1969. It is again in need of replating and may not pass the next U.S. Coast Guard inspection. An economic comparison of the alternatives of either continuing to operate and maintain the barge 407 versus constructing a new barge shows a savings of approximately $200,000 over the life of the new vessel. Total estimated cost: $721,500. Through FY 1999: $671,500 for design and to initiate construction. FY 2000: $45,000 to substantially complete construction. FY 2001: $5,000 to complete construction.

(14) Crane Barge 7 Replacement, MDC 2360 - Rock Island District (Continuing): The existing crane barge consists of a crawler crane, mounted on a spud barge. The unit is used for structural repairs on the Illinois Waterway. The barge, constructed in 1959, was originally designed as a 34' x 104' x 8' deck cargo barge. This existing barge has reached the end of its useful life and is no longer economically reparable. The width of this spud barge makes it an unstable platform for a lift crane. Recent evaluations indicate the crane barge combination in its current configuration is operating at reduced safety and efficiency. The existing, fully operational 150-ton crane, purchased in 1988, will be mounted on the new spud barge. The replacement crane barge will be designed and constructed utilizing an existing concept being developed by Marine Design Center. This unit, when constructed and delivered, will continue to be used in direct support of the Illinois Waterway project to perform structural repairs to locks and dams, strike removal, and maintenance of channel regulating structures. Total Estimated Cost: $3,203,700. Through FY 1999: $3,111,700 to complete design and initiate construction. FY 2000: $80,000 to substantially complete construction. FY 2001: $12,000 to complete construction.

(15) Crane Barge 8 Replacement MDC 2361 - Rock Island District (Continuing): The existing crane barge consists of a crawler crane mounted on a spud barge. The unit is used for structural repairs on the Illinois Waterway. The barge, constructed in 1959, was originally designed as a 34' x 104' x 8' deck cargo barge, and is identical to Crane Barge 7. The barge has reached the end of its useful life and is no longer economically reparable. The width of the existing barge makes this an unstable platform for a lift crane. Evaluations indicate the crane barge combination is operating at reduced safety and efficiency. The existing, fully operational 150-ton crane, purchased in 1988, will be mounted on the new spud barge. The crane barge will use the standard design being developed by Marine Design Center. This unit will be used in direct support of the Illinois Waterway project for work similar to work being performed by Crane Barge 7 Replacement. Total Estimated Cost: $3,207,700. Through FY 1999: $3,115,700 to complete design and initiate construction. FY 2000: $80,000 to substantially complete construction. FY 2001: $12,000 to complete construction

(16) Office Barge Replacement - Rock Island District, MDC 2320 (Continuing): The existing District Office Barge was fabricated in 1966 using a deck cargo barge built in the 1940s, pouring a lightweight concrete slab on the deck, and erecting a prefabricated metal pole building on the concrete slab. The existing office barge is in poor condition, with numerous hull leaks. The metal on the hull is suffering metal fatigue, and it has a short life expectancy. This office barge is used as a combination office/locker room/galley for the District Mississippi River structural repair crew. It is used year-round in all weather conditions. In addition, it is proposed to make the new office barge larger, which will result in the elimination of a second, smaller office barge. This will consolidate all personnel assigned to the section on one barge, reducing both the fleet size and winter heating requirements. The replacement barge design dimensions replicate existing barge dimensions so that the new office barge can be easily accommodated in tow with other barges. This replacement office barge will provide safe and efficient office space, locker room, and galley or break area for the thirty-person crew of the Mississippi River project. Total Estimated Cost: $2,166,600. Through FY 1999: $2,051,600 to complete design and initiate construction. FY 2000, $100,000 substantially complete construction. FY 2001: $15,000 to complete construction.

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(17) Replacement Derrickboat, MONALLO, MDC 2400 - Pittsburgh District (Continuing): The existing Pittsburgh District heavy-lift floating crane MONALLO II is a 145-ton marine revolver type crane. The vessel is used in support of major maintenance and repair activities for the twenty-three (23) navigation structures on the Ohio, Allegheny and Monongahela Rivers, channel maintenance of 327 miles of navigable rivers and emergency response situations. Since delivery of the existing Derrickboat in 1954, construction of new navigation projects in the Pittsburgh District with larger, heavier components has out-paced the capacity of this floating crane. The District currently and historically performs 4 to 5 lock chamber unwaterings per year. During these scheduled unwaterings, the miter gates are lifted, removed and repaired as necessary. In addition to utilizing the vessel for project maintenance, the District also maintains an emergency response capability to restore navigation in the event of natural disaster or man-made disasters such as barge breakaways and collisions. The Derrickboat MONALLO II is currently 42 years old and spare parts for the vessel and its machinery are increasingly difficult to locate and repairs increasingly more expensive. Acquisition of a replacement vessel with greater capacity will provide the capabilities required to safely and efficiently perform the operations and maintenance mission of the District. Total Estimated Cost: $9,040,400. Through FY 1999: $8,535,400 for design and to initiate construction. FY 2000: $335,000 for construction. FY 2001: $20,000 to substantially complete construction. Future years: $150,000 to complete construction.

(18) Tender KANKAKEE Replacement, MDC 2189 - Rock Island District (Continuing): The KANKAKEE is a twin screw towboat built in 1948. It is used on the Illinois Waterway to move the maintenance fleet between work sites and as a switchboat at work sites. The existing Tender KANKAKEE is fully depreciated and has reached the end of its useful service life. The alternatives to replacing the boat are either a series of repair/replacements to hull, engines and transmission costing over $300,000 or deadlining the boat and leasing another boat, if one can be found. At best the repairs would extend the life of the boat only ten to fifteen years before other major components would need replacement or overhaul. The design for the Tender KANKAKEE will be used for the replacement of the Tender MONMOUTH. Economic analysis indicates that annual costs of leasing are approximately $120,000 more than annual costs of acquiring a replacement tender. The cost of leasing exceeds the cost of ownership after only seven years. Total estimated cost: $3,203,200. Through FY 1999: $3,193,200 to complete design and to substantially complete construction. FY 2000: $10,000 to complete construction.

(19) Tender MONMOUTH Replacement, MDC 2347 - Rock Island District (Continuing): The MONMOUTH is a twin screw towboat built in 1943. The Mississippi River Structures Maintenance Section is used as a switchboat at work sites. The existing Tender MONMOUTH is fully depreciated, has reached the end of its useful service life, and is too small to meet mission requirements effectively. The hull has been repaired twice already and another repair will be needed soon to keep it operational. At best, the repair would extend the life of the boat ten years before other major components would need replacement or overhaul. Major repairs are not economical. The alternatives are deadlining the existing boat, leasing another boat (if one can be found) or replacement. Our economic analysis indicates that annual costs of leasing are approximately $120,000 more than annual costs of acquiring a replacement tender. The cost of leasing exceeds the cost of ownership after only seven years. Total estimated cost: $2,436,500. Through FY 1999: $2,356,500 to complete design and to substantially complete construction. FY 2000: $70,000 for construction. FY 2001: $10,000 to complete construction.

(20) Dragline/Crane for Crane Barge 1 Replacement, MDC 2438 - St. Louis (Continuing). A new dragline/crane is required to replace the existing dragline/crane, which is 21 years old. All major components on the crane are original and are expected to begin failing in the near future. Gears are worn and the drive engine is consuming an excessive amount of fuel. The crane is used with Crane Barge No. 1 at the locks and dams on the Mississippi River for repair work such as placing stone in scour areas, replacing worn out machinery, assisting in miter gate changes, and drift removal at locks and dams and the Service Base. This repair work is often performed under emergency conditions requiring a quick response. The crane is also used at the Service Base for repair work on miter gate locks, the Dredge POTTER and attendant plant, and other floating plant. The economic analysis shows that a new dragline/crane would save 30% annually over the cost of operating and maintaining the existing crane. Total estimated cost: $887,100. Through FY 1999: $837,100 to complete design and substantially complete construction. FY 2000: $50,000 to complete construction.

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(21) Replacement Towboat M/V PEARSON, MDC 2339 - Louisville District (Continuing). The Louisville District's existing towboat, the Motor Vessel PERSON, which was constructed in 1970, is powered with a total of only 1050 horsepower. With this limited amount of horsepower, the vessel is no longer adequate to safely transport the repair fleet. The repair fleet has grown with receipt of a new derrick boat in 1975, a new shop boat in 1981, and a new power barge in 1986. These additional pieces of equipment were added to efficiently work on the highlift locks and dams on the Ohio River. With the increased size of the Louisville Repair Station (LRS) fleet and the acquisition of the new gate lifter, Motor Vessel PERSON will not be able to safely transport the fleet during periods of high water or inclement weather. The feasibility of repowering the existing Motor Vessel PERSON was studied. The findings indicated that the hull dimensions were not large enough; neither did it possess the structural integrity to accommodate a significant increase in horsepower. The proposed 4000 horsepower towboat will be used by the Louisville District to transport the repair fleet on the Ohio and Green Rivers. Total Estimated Cost: $6,839,800. Through FY 1999: $6,719,800 to complete design and initiate construction. FY 2000: $95,000 for construction. FY 2001: $25,000 to complete construction.

(22) Towboat GRAND TOWER Replacement, MDC 2235 - St. Louis District (Continuing): The existing vessel GRAND TOWER is a twin-screw diesel-powered towboat constructed in 1970. The GRAND TOWER is 24 years old and has reached the end of its useful service life. Hull integrity is marginal due to thin plating. Diesel engines are 10 years old and will require major overhaul within the next 3-5 years. The GRAND TOWER is used to tow a crane barge to locks on the Mississippi River for use in miter gate pulls, removal of drift; and repair of gate operating machinery. The existing vessel is also used during repair work to switch floating plant such as the Derrickboat SEWELL, Spare Miter Gate Barge and Crane Barge Number 1. As the fleet service boat, the GRAND TOWER is used to switch boats and barges at the Service Base Fleet into position for repair work, arrival, departure and material handling. At times, the GRAND TOWER is the only vessel available at the Service Base to respond to distress situations such as man overboard, loose barges from upstream, and retrieval of Corps floating plant which sometimes breaks loose. Total estimated cost: $3,040,000. Through FY 1999: $2,920,000 to complete design and to initiate and substantially complete construction. FY 2000: $120,000 to complete construction.

(23) Tug PALMYRA and Launch PAULSBORO Replacement, MDC 2316 - Philadelphia District (Continuing): This proposed project will replace both the PALMYRA (constructed in 1953) and the PAULSBORO (constructed in 1968) with one modern, twin screw, 400 HP, 45 foot, steel hulled motor launch/tugboat. The new vessel will work with the larger Tugboat PILOT (which has also been proposed for replacement) and will be utilized in conjunction with the Crane Barge TITAN in installing and maintaining submerged pipeline for dredging operations in the Delaware River and Chesapeake and Delaware Canal. Due to their age, both the PALMYRA and PAULSBORO require frequent maintenance and their repair parts are difficult to acquire. Both vessels are single screw, which provides limited maneuverability. The twin screw replacement vessel will have an enhanced capability to maneuver the TITAN, other work barges and pipeline rapidly and safely. The replacement vessel will also be capable of transporting crew and equipment to and from work sites within the district. The estimated annual savings of replacing rather than continuing to maintain the PALMYRA and PAULSBORO are more than $50,000. Total estimated cost: $1,483,100. Through FY 1999: $1,453,100 to initiate and substantially complete construction. FY 2000: $30,000 to complete construction.

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(24) Crane Barge 763 Replacement, MDC 2239 - Rock Island District (Continuing): Crane Barge 763 consists of a crawler crane mounted on a spud barge which is used on the Mississippi River for maintenance and repair of wing dams, closure dams, and other dock structures; repair of lock and dam spillways, overflow sections, and non-overflow sections; strike removal; and miscellaneous channel improvements. The barge, which was built in 1955, was surplused because it was determined to be structurally unsound. Currently, the district is using a rental unit, but its availability beyond the end of the current contract period is unlikely because the owner has indicated that he intends to use the barge himself. Our economic analysis indicates that acquisition of a replacement barge would save almost $10,000 annually over the cost of leasing, if a barge could be leased at the current low lease rate. Total estimated cost: $3,038,100. Through FY 1999: $3,028,100 to initiate construction and substantially complete construction. FY 2000: $10,000 to complete construction.

(25) Towboat TED COOK PINE BLUFF Replacement, MDC 2216 - Little Rock District (Continuing): A replacement towboat is essential for timely response in emergency situations, to increase number of days of maintenance, to operate during periods of high river flows, and to reduce Industrial Delay Cost. The existing

towboat PINE BLUFF is a twin screw boat built in 1970 prior to the opening of the Kerr-McClellen Arkansas River Navigation System and is powered with two 230 horsepower diesel engines. Experience has shown this vessel to be greatly undersized and underpowered to cope with the high river flows and to meet the assigned mission in a safe manner. The Little Rock District has little or no ability to meet emergency situations or to reduce potential damage resulting from marine accidents and flood conditions. The proposed replacement towboat would have rated engine capacity of approximately 1800 horsepower, which would allow operations during times of high flows when most maintenance problems and emergency conditions occur. This would reduce the number of potential nonproductive days from 103 to 12 per year. Based on an economic life of 30 years for the replacement vessel and an annual interest rate of 8.25%, the Benefit to Cost Ratio is 1.81 to 1.0. This replacement is expected to save $1,014,700 in non-productive time, $491,800 in reduced per diem cost, $4,235,600 in industry delay costs, and $85,000 in costs to rehabilitate the present vessel. Total estimated cost: $3,852,300. Through FY 1999: $3,842,300 for construction. FY 2000: $10,000 to complete construction.

(26) Gate Lifter Crane (Derrickboat) - Louisville District (Continuing): The Ohio River and its tributaries provide over 2500 miles of navigable channel. In 1990, about 240 million short tons were moved by barge traffic. The system includes 60 navigation lock and dam facilities ranging from 10 to 150 years old. Since 1960, system-wide tonnage has more than doubled. This increased usage also results in increasing maintenance needs; closure costs have become higher and disruption to lock users is becoming more significant. Repair and maintenance typically involve replacement of miter and quoin contact blocks, replacement of pintles and gate painting. The whole process involves dewatering the chamber, jacking the gate "in-place" with temporary structural support, doing the repairs or maintenance "in-the-dry", and then realigning the whole gate to within 1/8 inch tolerances. Repairing both ends of the lock totals 35-42 days, trimming all time to the bare minimum using specialized equipment. Navigation accidents can require complete replacement of gate leaves. No spares are available and a new gate takes 3-6 months to fabricate. Fourteen options were considered. The selected option changes the whole process. It involves swapping gates and doing gate work away from the lock chamber. To implement this change, each lock requires the following: purchase of one pair of spare gate leaves; design and construction of storage and work areas for spare gates; design and modification of miter and quoin contact blocks and wall quoin contact blocks to quicken repairs and alignments; modification of existing gates to allow lifting by cranes; and, modification of the existing gate anchorage's to allow faster gate removal. To swap the gates, Louisville District will purchase a 700 ton barge-mounted gate-lifter crane to be shared by all locks on the Ohio River or elsewhere as needed. For scheduled major repairs, the closure time savings per lock per event will be 20 to 25 days with the new process. An economic model computed system wide transportation savings from implementation of the selected option. The costs include the crane and all modifications for the gate-change-out capability at the locks. The net benefits are about $13 million annually for a 50-year projected life. The benefit/cost ratio is 4:1. A crane with the versatility and capacity needed cannot be rented. A competitive proposal process with a design/build contract will purchase the crane. This should allow crane manufacturers to propose standard equipment meeting our specifications. Particular emphasis is placed on compatibility with the unique features of the structures served during its 50-year life. To insure this, a team of experienced personnel will develop performance and evaluation criteria. Total estimated cost: $16,398,500. Through FY 1999: $16,008,500 complete design and to initiate construction. FY 2000: $300,000 to substantially complete construction. FY 2001: $90,000.to complete construction.

(27) Replacement Work Layout Barge, MDC 2351 - Rock Island District (Continuing): The work layout barge, which is used by the Mississippi River Structures Maintenance Section for layout and repair of structural components of locks and dams, is one of the most critical pieces of floating plant for restoration of gate and lock operations to normal condition. The existing barge, constructed in the early 1950s by modifying two deck cargo barges and welding them together, has reached the end of its economic life. Its numerous leaking hull cracks must be constantly monitored. It is difficult to tow because it does not have standard dimensions and its draft is irregular. A long-term repair of the hull is not feasible because of the condition of the steel; temporary repairs to keep the barge serviceable are costly and of questionable value because of metal fatigue. A barge of the size and draft needed by the Rock Island District for work layout operations cannot be leased or rented. Our economic analysis indicates that acquisition of a replacement barge would save almost $20,000 annually over the cost of leasing, if a barge could be leased. Total estimated cost: $4,035,000. Through FY 1999: $3,984,000 for design and initiate construction. FY 2000: $41,000 to substantially complete construction. FY 2001: $10,000 to complete construction.

22004

d. Fixed Land Plant

(1) Facilities and Equipment Maintenance (FEM) System- Corpswide (New). Facilities and Equipment Maintenance (FEM) was developed by the Department of Defense (DoD) Joint Logistics Systems Center (JLSC) to meet the needs of DoD organizations with equipment and facilities maintenance responsibilities. Presently the components of the Air Force, the Navy, the Marines, and the Army are in the process of implementing FEM to manage equipment and facility maintenance. FEM has two principal benefits for the Corps. First, it provides a standard system for managing maintenance requirements of Civil Works projects, facilities and equipment. In the absence of a standard system, field offices have either developed their own automated tools or have continued to manage with non-automated paper-based processes. Implementation of FEM will eliminate duplicative software development and maintenance efforts and extend the efficiencies of automated maintenance management to all Corps activities. Automation of maintenance management in general, and FEM in particular will extend equipment/plant service life, reduce maintenance labor costs, and reduce the replacement part inventory requirements. Second, FEM provides the Corps with a proven system based on an commercial off-the-shelf (COTS) application which can integrated with other Corps systems, especially the Corps of Engineers Financial Management System (CEFMS). In addition, FEM will standardize the maintenance business process Corps-wide. Total estimated cost: $5,075,000. FY 2000 Requirement $4,697,000. FY 2001 Requirement $378,000 to complete.

(2) Document Imaging - Corpswide (Continuing): The Corps-wide document imaging program was initiated in FY 97 based on a pilot test and an economic analysis that showed a cost benefit ratio of 1:2. The pilot test demonstrated the feasibility the technology and confirmed the benefits assumed in the economic analysis. The principal benefits are increased productivity due to the savings from ready access to documents and other digitized material, and reduced space requirements due to a reduction in paper storage. During FY 99, the Corps determined to pause in its implementation of document imaging while it evaluated the costs and benefits of an expanded program to include workflow and electronic document management, along with elimination of onsite file storage requirements. The economic analysis for this Electronic Document Management System (EDMS) will be prepared and evaluated during FY 00. Total estimated hardware and software investment costs for document imaging alone: $12,500,000. Through FY 1999: $3,500,000 for a pilot test, and to initiate hardware and software acquisitions. FY 2000, FY 2001, and future years: To be determined based on the results of the economic analysis of the expanded document imaging, workflow and electronic document management program.

2205

(3) Water Control Data Systems (WCDS) Software Development - Corpswide (Continuing): This software modernization effort involves the development of a standardized suite of software which all Corp activities will use to monitor, manage and operate the Corps water control facilities nationwide. This modernized UNIX driven, workstation-based automated information system will utilize the Corps standard database management system, ORACLE, and the Corps of Engineers Automation Plan (CEAP) network for moving data and information within the Corps. This modernization will greatly improve the Corps ability to perform its basic water management mission including water control decision making by improving hydrologic forecasting and making water control data universally available to all Corps users and Corps customers. These improvements will increase all project benefits (flood control, water supply, navigation, irrigation, hydropower, water quality, and recreation). In addition, this effort will save local software development costs, running in the neighborhood of $1 million annually. This effort is being managed in accordance with the requirements of the Army's Life Cycle Management of Information Systems (LCMIS) program. The projected Corps-wide benefit to cost ratio is well in excess of 1:1; a complete economic analysis will be included as part of LCMIS milestone I/II review and approval process. Total estimated software investment cost: $7,603,000. Through FY 1999: $4,050,000. FY 2000 Requirement $1,650,000. FY 2001 Requirement $1,150,000 Future Years: $753,000 to complete.

(4) Information Systems Modernization Program (ISMP) – Corpswide. The ISMP looks at all major software systems used in the U.S. Army Corps of Engineers with the goals of reducing data collection, verification and processing costs; reducing systems design, development and maintenance costs; and improving the accuracy, completeness, availability, timeliness and usefulness of information for operational users and decision makers, at all levels and across all functional USACE boundaries. To meet these goals, the Corps redesigns systems that do not meet current information needs, eliminates redundant and/or unnecessary systems, combines systems with similar functions, and integrates all systems to minimize duplicate data entry and maximize data sharing. The ISMP

draws on the knowledge and experience of functional users and the expertise of information management specialists to provide USACE with a new information systems infrastructure that will support the mission of the Corps well into the next century and is consistent with hardware and communications capabilities of the Corps of Engineers Automation Plan (CEAP).

(a). Project Management Information System (PROMIS) (Continuing). PROMIS was developed to serve as the primary tool for project and technical managers within the Corps to maintain program and project data. Because the system provides a single source of all project-related information for all programs and projects managed by field commands and interfaces with other modernized systems to assure single source data entry it has brought on a major improvement in the Corps project management planning capability. However, because of advances in commercial project management software, wider availability, Web interfaces, and lower costs, the Corps believes that a commercial-off-the-shelf (COTS) may provide a more cost effective alternative to PROMIS as the next generation of program and project management software. During FY 00 a cost/benefit analysis of the COTS program and project management alternative will be prepared and evaluated. The principal benefit of this alternative are the lower future costs to maintain and upgrade COTS software. Total estimated cost of PROMIS: $15,066,000. Through FY 1999: $11,146,000 for development, deployment and for additions and betterments. FY 2000: $300,000 for additions and betterments to PROMIS and up to $700,000 to develop funcitional specification and a business case analysis for the COTS alternative. FY 2001 and future years: To be determined based on the results of the cost/benefit analysis of the COTS program and project management alternative.

(b). Corps of Engineers Financial Management System (CEFMS) (Continuing). CEFMS is a SQL-based, fourth generation language, financial management system that features a relational database. The system will provide DOD and Non-DOD funds accounting, commercial-type cost accounting and a full range of revolving fund accounting. CEFMS is a optimum blend of interactive online and batch processing capable of satisfying the needs of project managers for accurate and timely data. It will also provide management with the required resource management information. CEFMS will operate at Corps headquarters, MSC Districts, Laboratories, and separate field operating activities, allowing all business processes to interact with each other. CEFMS benefits all Corps projects. Without its use, the Corps will be unable to provide external management with timely and accurate financial data. Total estimated cost: $39,079,400. Through FY 1999: $33,979,400 for development, deployment Corps-wide and additions and betterments. FY 2000: $4,300,000 for additions and betterments. FY 2001: $800,000 to complete additions and betterments.

2206

(5) Corps of Engineers Automation Plan (CEAP) (Continuing): The capital acquisition portion of CEAP was created to replace the Corps mainframe computing hardware consisting of leased Honeywell's at the division level and Corps-owned Harris computers at the district level. The Corps awarded a contract to the Control Data Systems, Inc., in October 1989 for hardware/software acquisition and support services. The contract was structured for maximum flexibility, not committing the Corps beyond the first year but providing the Corps with 10 annual renewal options. The contract also provided for a pilot test at the Southwestern Division, the Waterways Experiment Station, and the former Headquarters' Engineer Automation Support Activity. Based on pilot and stress test results and a cost comparison of various deployment scenarios, the Corps redeployed pilot test equipment to two large regional processing sites, one in Portland, Oregon and the other in Vicksburg, Mississippi. To maintain a viable corporate-wide system at these two regional sites, the Corps has invested in additional mainframe processing capacity, operating software, additional storage capacity, communications devices, and associated processors to link all Corps sites to the two regional centers. Total estimated cost: $80,910,200. Through FY 1999: $69,610,000. FY 2000: $2,000,000. FY 2001: $2,500,000. Future Years: $4,000,000.

(6) Recurring ADPE Requirements Corps-wide (Continuing): This grouped item includes general purpose microcomputers, graphics display terminals, interactive terminals, plotters, remote job entry devices, digital communications equipment supporting Corps ADPE. Also included are dedicated word processing centers, microcomputers used for such office functions as word processing, electronic mail, spread sheet applications, small data base applications, Headquarters Local Area Networks centralization, and communications with main frame computers for storage and retrieval of management information. Recurring ADPE is utilized to improve the interfaces between separate computer configurations, to improve the communications transmission capability, and to replace ADPE that has reached the end of its useful life. Microcomputers are justified on a cost benefit basis to support both management and business, and scientific applications. The

demand for quick access to accurate information at operational levels has generated requirements for ADPE in functional areas where it was previously absent or in functional areas where modern upgrade is required. All recurring ADPE requirements will be reviewed for consistency with the Corps of Engineers Information Systems Management Plan. FY 1999 requirement: $4,000,000. FY 2000 Requirement $4,400,000. FY 2001 Requirement $4,200,000.

2207

e. Tools, Office Furniture and Equipment

(1) Headquarters Relocation (Continuing): The Corps proposes to relocate its Headquarters four blocks northwest from the Pulaski Building to the 3rd floor of the General Accounting Office (GAO) Headquarters building at 441 G St. NW. The GSA lease on the Pulaski was temporary, until the Corps could be relocated to the Southeast Federal Center. The Corps will leave commercially leased space (the Pulaski Building) for underutilized Federally owned space. The close proximity to the Pulaski Building will minimize the relocation's impact on Corps employees; the workplace will not be disrupted by the space modernization required if the Corps were to remain in the Pulaski. GAO has offered favorable terms to the Corps. The GAO has requested that the Corps pay advance rent of approximately $4,600,000 to support renovation of the 6th floor for GAO's use, to be credited against rent due during the first three years. It enables GAO to move the remaining employees in unrenovated space sooner and at less cost. In addition, the GAO has proposed that the Corps pay $5,700,000 advance rent to cover costs of renovating the 3rd floor. This advance rent would spread over the first ten years as an annual credit of $570,000. Corps relocation costs will be limited to a share of the design costs, phone and local area network wiring costs, additional construction costs to provided for an emergency operations center and secure message send and receive facility, systems furniture, and physical move to the new building. Total estimated cost: $28,440,000. Through FY 1999: $18,287,607,000 to complete design and initiate construction. FY 2000: $10,152,393,000 to complete construction and relocation.

22208

PROGRAM TITLE: Support for Others, FY 2001

JUSTIFICATION:

Support for others (SFO), the manpower for which is separately resourced by the Office of Management and Budget, is reimbursable work performed by the Army Corps of Engineers and funded by various Federal agencies, states, political subdivisions of states, and other entities, under applicable Federal law. The program fills a void for many agencies, which do not have adequate capability to execute the engineering related needs; of their missions or manage the engineering or construction contracts with private firms. The reimbursable assistance the Army Corps of Engineers provides is typically related to technical oversight and contract management.

In FY 2001, the Army Corps of Engineers estimates support will be provided to approximately 60 various Federal agencies. The estimated dollar value of our efforts including construction is estimated to be $750 million. The actual program size will depend on several factors: the requesting agency's appropriation which is often not known until the first quarter of the fiscal year, final agency decisions made on how and when the appropriated funds will be dispersed for projects, and the magnitude of natural emergencies.

MAJOR FEATURES OF THE FY 2001 PROGRAM:

The work consists of one large (~$265 million) reimbursable program [Superfund program for the Environmental Protection Agency (EPA)] and support to 60 other Federal agencies and state/local governments ranging in size from a few thousand to approximately $100 million. The Corps supports EPA on its Superfund and Construction Grants programs as well as performing review and coordination of the planning, design and construction of EPA facilities.

Examples of work for other Federal agencies in FY 2001 include environmental assistance to DOE; environmental compliance assessments for the Natural Oceanic and Atmospheric Administration (NOAA); construction grant monitoring for the Department of Housing and Urban Development; design and construction of facilities for the Immigration and Naturalization Service; and study, design, engineering, and construction assistance for various Department of Interior subagencies such as the National Park Service, the Fish and Wildlife Service, and the Bureau of Indian Affairs.

22209

One potentially large and unpredictable program is that of the Federal Emergency Management Agency (FEMA). The largest component support to FEMA occurs as a result of natural disasters where the type and magnitude of support is unpredictable. The Corps also performs flood insurance studies and related technical assistance to support the Federal Emergency Insurance Program and

hurricane evacuation studies and underground storage tank removal at Emergency Broadcast System sites throughout the United States.

ACCOMPLISHMENTS IN FY 2000:

The Corps executed approximately $725 million in support of other agencies programs in FY 2000 which includes the following examples: Environmental Restoration related work - $270 million of work related to the EPA's programs and $82 million of environmental restoration work for other agencies and Facilities and Infrastructure related work - $373 million of work related to engineering, design and construction such as the design and construction of dormitories, administration and detention facilities for the Immigration and Naturalization Service, emergency management in support of FEMA and housing and control tower construction for the Federal Aviation Agency.

General: The Army Corps of Engineers utilizes automated information systems in all phases and aspects of its operations from the planning and design of Corps projects through their operation and maintenance; from the collection and analysis of hydrographic data to control flows in the nation's rivers to the management of fiscal and human resources; and from the search for legal precedents to the review of construction contractor performance histories. Expenditures for automated information systems include acquisition of commercial software packages and the design and development of applications to meet unique engineering requirements; the acquisition of personal computers for use on engineers' desks and of mainframes for processing centers used by thousands of employees; and the leasing of long distance lines for E-mail and high speed transfer of engineering and other data between Corps sites.

Projected Fiscal Year 2001 automation costs are displayed under three main categories: acquisition of hardware and associated commercial off-the-shelf software (COTS), automated information systems (AIS), and personnel.

Hardware. Table A shows projected hardware and associated COTS acquisition costs for FY 01. Approximately 20% the costs for the acquisition of hardware which supports Civil Works programs are included in the Revolving Fund Plant Replacement and Improvement Program (PRIP) under two items of Fixed Land Plant: Corps of Engineers Automation Plan (CEAP), and Recurring ADPE Requirements. For FY 01 the Corps has programmed $6.7 million of Revolving Fund resources for these two items as shown in the Revolving Fund PRIP section of the Remaining Items justification sheets. In addition to the $2.5 million identified for additional capital acquisitions under CEAP, approximately $6.0 million will be required in FY 01 to operate and maintain the two data processing centers and for the communications network linking Corps sites with these centers.

The remaining Civil Works requirements for automation hardware are for items such as engineering work stations, file servers, personal computers, printers and other peripheral equipment costing less than $25,000 or items which will be utilized only in support of a single project, including research and development activities at Corps laboratories, and will be acquired with project funds. Such items are not eligible for Revolving Fund PRIP financing since they do not meet the threshold for capitalization, or do not support more than one project. The estimated FY 01 Civil Works requirement for engineering work stations, printers and other peripheral equipment to support technical, scientific and engineering staff is $12.9 million; for personal computers, printers and other peripheral equipment to support office automation and other general purpose office automation requirements is $8.4 million; for file servers, printers and other peripheral equipment which support data communications is $7.0 million; and for engineering work stations, file servers, personal computers, printers and other peripheral equipment to support automated information systems is $3.1 million. Funding for these items will be either through the General Expenses appropriation, district or laboratory overhead accounts, or specific Civil Works programs or projects.

Software: Table B shows estimated FY 01 Civil Works funding requirements to support automated information systems (AIS). These AIS have been grouped by whether they are in use Corps-wide or were developed to meet local requirements. Corps-wide AIS have also been grouped by their role in the design, construction, operation and maintenance of Corps projects, and management of the Civil Works program. Included among the AIS are the Water Control Data System standardization and modernization effort, currently under development, the Facilities and Equipment Maintenance System (FEM), a standard Department of Defense (DoD) system, that the Corps is acquiring from the Department of the Navy which is the DoD proponent, and the Program and Project Management Information System (PROMIS) and Corps of Engineers Financial Management System (CEFMS), being improved after deployment Corps-wide, which are in the FY 01 Revolving Fund PRIP request. Any difference between the FY 01 requirements for these systems reflected in Table B and the amounts shown in the Revolving Fund PRIP portion of the Remaining Items justifications are headquarters management or maintenance costs during deployment which should not be capitalized in the PRIP.

2210

Personnel. Table C is an estimate, by activity, of the direct labor costs for the professional Computer Specialists, Computer Scientists, Programmers, Systems Analysts, Programmer Analysts, Information Management Planners, Telecommunications Specialists, and the Computer Technicians and Assistants which are charged to Civil Works projects and appropriations, based on actual direct labor costs in FY 00. Not included are the costs of visual information specialists, photographers, print specialists, librarians, mail clerks, or the budget analysts and other support personnel who comprise a typical Corps information management office.

TABLE A
HARDWARE ACQUISITION

Item	PRIP Funded	FY 2001 Civil Works Requirement
Corps of Engineers Automation Plan (CEAP)	X	$2,500,000
Document Imaging	X	TBD
Miscellaneous Automatic Data Processing Equipment (costing more than $25,000 and capitalized through the Plant Replacement and Improvement Program)		
Great Lakes and Ohio River Division		$425,000
Mississippi Valley Division		$605,000
North Atlantic Division		$735,000
Northwestern Division		$60,000
South Atlantic Division		$125,000
South Pacific Division		$100,000
Southwestern Division		$116,000
Laboratories		$800,000
Headquarters		$1,234,000
Subtotal Miscellaneous ADPE	X	$4,200,000
Engineering work stations, file servers, personal computers, and other peripheral equipment costing less than $25,000 and therefore not capitalized:		
–scientific, technical and engineering		$12,872,000
–office automation and other general purpose		$8,413,000
–data communications		$6,964,000
–automated information systems support		$3,527,000
Subtotal		$31,776,000
Total		$38,476,000

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TABLE B
AUTOMATED INFORMATION SYSTEMS

CORPS-WIDE SYSTEMS	STATUS	FY 2001 Civil Works Requirement
Engineering		
Architect-Engineer Contract Admin Support System (ACASS)	Maintenance	$197,000
Computer-Aided Design and Drafting Support Center	Maintenance	$650,000
Equipment Manual	Maintenance	$118,000
Cost Engineering Support Systems (CACES)	Maintenance	$360,000
Numerical Models	Maintenance	$1,900,000
Pavement-Transportation Computer Assist Struc Eng (PCASE)	Maintenance	$40,000
Construction Criteria Base/Spec Intact (SPECSINTACT)	Maintenance	$112,850
GIS Viewer for Corporate Datasets	New	$400,000
Construction		
Resident Management System (RMS)	Maintenance	$388,000
Construction Contractor Appraisal Support System (CCASS)	Maintenance	$97,000
Operations and maintenance		
Bridge Information System (BIS)	Maintenance	$55,000
Water Control Data System (WCDS)	Upgrade	$1,147,000
Operation and Maintenance Business Information Link PLUS (OMBIL PLUS)	Consolidation	$3,904,000
Waterborne Commerce Statistics	Maintenance	$1,766,000
ENGLINK	Maintenance	$661,000
NSDI Clearing House Web Site	New	$105,000
Deployable Tactical Operations Systems	Maintenance	$670,000
QUADRANT--Prioritizing O&M Projects	Maintenance	$700,000
Facility and Equipment Maintenance System (FEM)	New	$881,000
Project/program management		
Project and Program Management Information Sys (PROMIS)	Maintenance	$1,260,000
Real Estate Management Information System (REMIS)	Maintenance	$954,000
Project and Resource Information Sys for Managers (PRISM)	Maintenance	$352,000
Civil Work O&M Automated Budget System (CWOMABS)	Maintenance	$200,000
Force Configuration (FORCON)	Maintenance	$72,000
Corps of Engineers Manpower Requirements System (CERMS)	Replacement	$207,000

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TABLE B
AUTOMATED INFORMATION SYSTEMS

	STATUS	FY 2001 Civil Works Requirement
Finance and Accounting		
Corps of Engineers Financial Management System (CEFMS)	Upgrade	$3,600,000
Corps of Engineers Enterprise Management Info System (CEEMIS)	Maintenance	$192,000
Other		
Automated Personal Property Management System (APPMS)	Maintenance	$88,000
Vehicle Information Management System (VIMS)	Maintenance	$76,000
Electronic Mail MCX	Maintenance	$234,000
Corps of Engineers Automated Legal System (CEALS)	Maintenance	$124,000
Engineer and Scientist Career Program	Maintenance	$20,000
R and E Career Program Database	Maintenance	$25,000
Research and Development Management Information System (RDMIS)	Maintenance	$37,000
Laboratory Inforation System	Maintenance	$26,000
Finacial Administration Management Information System (FAMIS)	Maintenance	$20,000
Accident Experience and Analysis System (AEAS)	New	$40,000
Internet Center of Expertise	Maintenance	$123,000
COE Electronic Record Keeping and Information System (CEERIS)	Upgrade	$374,000
Frequency Management System (FMS)	Maintenance	$52,000
Corps of Engineers Data Standardization	Maintenance	$576,000
Information Technology Investment Portfolio System (ITIPS)	Replacement	$80,000
Virtual Library Program	Maintenance	$166,000
Electronic Publications	Maintenance	$102,000
Small Business Information System	Maintenance	$30,000
Digital Visual Library	Maintenance	$24,000
Business Information Integration Technology	Maintenance	$292,000
Defense Message System	New	$506,000
Information Architecture 2000	New	$150,000
Video Teleconferencing	Maintenance	$70,000
Information System Modernization Program	Restart	$100,000
Standard Procurement System (SPS)	Maintenance	$60,000

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TABLE B
AUTOMATED INFORMATION SYSTEMS

CORPS LOCAL SYSTEMS	STATUS	FY 2001 Civil Works Requirement
Mississippi Valley Division		
River Engineering-Environmental Geographic Information System	Maintenance	$142,000
Crane Barge Program (New Orleans)	Maintenance	$25,000
South Louisiana Hurricane Model (New Orleans)	Maintenance	$124,000
North Atlantic Division		
Production Resource Operating System (Baltimore)	Maintenance	$9,000
Cadastre Information System (Baltimore)	Maintenance	$12,000
Automated Hydrographic Surveying System (Baltimore)	Maintenance	$170,000
Automated Topographic Survey System (New England)	Maintenance	$195,000
Automated Hydrographic Surveying System (New England)	Maintenance	$235,000
Northwestern Division		
Missouri River Automated Data System (Division-wide)	Maintenance	$184,000
Construction Management System (Omaha)	Maintenance	$18,000
Computerized Maintenance Management System (Omaha)	Maintenance	$120,000
Power Plant Control System (Omaha)	Maintenance	$88,000
Hydro System Seasonal Regulation (Division-wide)	Replacement	$13,000
Oahe Dam Safety Instrumentation Automation (Omaha)	Maintenance	$50,000
Quality Management System (Omaha)	Maintenance	$14,000
South Atlantic Division		
Project Related Data Systems (Savannah)	Maintenance	$12,000
Lessons Learned System (Savannah)	Maintenance	$4,000
TOTAL		$25,796,850

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TABLE C
AUTOMATION PERSONNEL COSTS

ACTIVITY	CIVIL WORKS AUTOMATION PERSONNEL COSTS
HUNTSVILLE ENGINEERING AND SUPPORT CENTER	$63,000
TOPOGRAPHIC ENGINEERING CENTER	$124,000
GREAT LAKES AND OHIO RIVER DIVISION	
HUNTINGTON DISTRICT	$581,000
LOUISVILLE DISTRICT	$757,000
NASHVILLE DISTRICT	$667,000
PITTSBURGH DISTRICT	$673,000
BUFFALO DISTRICT	$337,000
CHICAGO DISTRICT	$381,000
DETROIT DISTRICT	$309,000
DIVISION OFFICE	$126,000
DIVISION TOTAL	$3,831,000
MISSISSIPPI VALLEY DIVISION	
MEMPHIS DISTRICT	$340,000
NEW ORLEANS DISTRICT	$875,000
ST. LOUIS	$620,000
VICKSBURG DISTRICT	$584,000
ROCK ISLAND DISTRICT	$541,000
ST PAUL DISTRICT	$849,000
DIVISION OFFICE	$340,000
DIVISION TOTAL	$4,149,000
NORTH ATLANTIC DIVISION	
BALTIMORE DISTRICT	$788,000
NEW YORK DISTRICT	$345,000
NORFOLK DISTRICT	$389,000
PHILADELPHIA DISTRICT	$477,000
NEW ENGLAND DISTRICT	$372,000
DIVISION OFFICE	$31,000

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TABLE C
AUTOMATION PERSONNEL COSTS

ACTIVITY	CIVIL WORKS AUTOMATION PERSONNEL COSTS
DIVISION TOTAL	$2,402,000
NORTH PACIFIC DIVISION	
PORTLAND DISTRICT (Includes Western Regional Processing Center.)	$2,477,000
SEATTLE DISTRICT	$539,000
WALLA WALLA DISTRICT	$441,000
KANSAS CITY DISTRICT	$617,000
OMAHA DISTRICT	$389,000
DIVISION OFFICE	$312,000
DIVISION TOTAL	$4,775,000
PACIFIC OCEAN DIVISION	
ALASKA DISTRICT	$189,000
DIVISION OFFICE	$92,000
DIVISION TOTAL	$281,000
SOUTH ATLANTIC DIVISION	
CHARLESTON DISTRICT	$227,000
JACKSONVILLE DISTRICT	$617,000
MOBILE DISTRICT	$1,095,000
SAVANNAH DISTRICT	$228,000
WILMINGTON DISTRICT	$570,000
DIVISION OFFICE	$242,000
DIVISION TOTAL	$2,978,000
SOUTH PACIFIC DIVISION	
LOS ANGELES DISTRICT	$1,158,000
SACRAMENTO DISTRICT	$1,210,000
SAN FRANCISCO DISTRICT	$1,077,000
ALBUQUERQUE DISTRICT	$491,000
DIVISION OFFICE	$176,000

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TABLE C
AUTOMATION PERSONNEL COSTS

ACTIVITY	CIVIL WORKS AUTOMATION PERSONNEL COSTS
DIVISION TOTAL	$4,113,000
SOUTHWESTERN DIVISION	
FORT WORTH DISTRICT	$466,000
GALVESTON DISTRICT	$587,000
LITTLE ROCK DISTRICT	$527,000
TULSA DISTRICT	$735,000
DIVISION OFFICE	$306,000
DIVISION TOTAL	$2,621,000
LABORATORIES	
COLD REGIONS RESEARCH ENGINEERING LABORATORY	$37,000
CONSTRUCTION ENGINEERING RESEARCH LABORATORY	$51,000
WATERWAYS EXPERIMENT STATION (Includes Central Regional Processing Center.)	$2,830,000
TOTAL	$2,918,000
HEADQUARTERS/HUMPHREYS ENG SUPP CENT/WATER RES SUPP CENTER	$4,417,000
USACE FINANCE CENTER	$170,000
GRAND TOTAL	$32,842,000

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Summary of Budget Request for Inland Waterway Trust Fund Projects

Project Name	Construction, General Appropriation $	Inland Waterways Trust Fund $	Total $
Construction			
Inner Harbor Canal Lock, LA	2,267,000	12,082,000	14,349,000
Kentucky Lock and Dam, Tennessee River, KY	7,450,000	7,450,000	14,900,000
Locks & Dams 2, 3 & 4, Monoghela River, PA	17,500,000	17,500,000	35,000,000
Marmet Lock, Kanawha, River, WV	3,250,000	3,250,000	6,500,000
McAlpine Locks & Dams, IN & KY	7,000,000	7,000,000	14,000,000
Olmsted Locks and Dam, IL & KY	19,071,000	19,071,000	38,142,000
Robert C. Byrd Locks and Dam, WV & OH	1,350,000	1,350,000	2,700,000
(Locks)	(572,000)	(573,000)	(1,145,000)
(Dam Rehabilitation)	(778,000)	(777,000)	(1,555,000)
Winfield Locks and Dam, WV	150,000	150,000	300,000
Total - Construction	58,038,000	67,853,000	125,891,000

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Summary of Budget Request for Inland Waterway Trust Fund Projects

Project Name	Construction, General Appropriation $	Inland Waterways Trust Fund $	Total $
Rehabilitation			
Lock and Dam 3, Mississippi River, MN (Rehab)	2,500,000	2,500,000	5,000,000
Lock and Dam 11, Mississippi River, IA (Rehab)	1,605,000	1,605,000	3,210,000
Lock and Dam 12, Mississippi River, IA (Rehab)	2,630,000	2,630,000	5,260,000
Lock and Dam 24, Mississippi River, IL & MO (Rehab)	2,875,000	2,875,000	5,750,000
London Locks and Dam, Kanawha River, WV (Rehab)	900,000	900,000	1,800,000
Total - Rehabilitation	10,510,000	10,510,000	21,020,000
Gross Total - Construction and Rehabilitation	68,548,000	78,363,000	146,911,000
Reduction for Anticipated Savings and Slippage	6,800,000	4,363,000	11,163,000
Net Total	61,748,000	74,000,000	135,748,000

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SUMMARY OF APPROPRIATIONS

APPROPRIATION TITLE	FY 2000 Appropriation 1/	FY 2001 Request	Increase (Decrease)
General Investigations	$ 161,994,000	$ 138,000,000	$ (23,994,000)
Construction, General	1,400,722,000	1,335,000,000	(65,722,000)
Operation and Maintenance, General	1,853,618,000	1,854,000,000	382,000
Flood Control Mississippi River and Tributaries	309,416,000	309,000,000	(416,000)
Regulatory Program	117,000,000	125,000,000	8,000,000
Flood Control and Coastal Emergencies	0	0	0
General Expenses	149,500,000	150,000,000	500,000
Revolving Fund	0	0	0
FUSRAP	150,000,000	140,000,000	(10,000,000)
Permanent Appropriations	15,529,644	15,600,000	70,356
Total	$ 4,157,779,644	$ 4,066,600,000	$ (91,179,644)

1/Energy and Water Development Appropriations Act, 2000, P.L. 106-60 (113 Stat. 483). Doesn't include rescission or supplemental appropriations.

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