1011

Y4.Ap6/1:In8/6/982/pt.1

DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR 1982

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

HOUSE OF REPRESENTATIVES

NINETY-SEVENTH CONGRESS

FIRST SESSION

SUBCOMMITTEE ON THE DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES

SIDNEY R. YATES, Illinois, *Chairman*

CLARENCE D. LONG, Maryland
JOHN P. MURTHA, Pennsylvania
NORMAN D. DICKS, Washington
LES AuCOIN, Oregon
JOSEPH M. McDADE, Pennsylvania
RALPH S. REGULA, Ohio
TOM LOEFFLER, Texas

FREDERICK G. MOHRMAN, ROBERT S. KRIPOWICZ, D. NEAL SIGMON, and KATHLEEN R. JOHNSON, *Staff Assistants*

PART 1

Justification of the Budget Estimates

	Page
Bureau of Land Management	1
Office of Water Research and Technology	299
Heritage Conservation and Recreation Service	507
United States Fish and Wildlife Service	809
National Park Service	1163
Geological Survey	1363

Printed for the use of the Committee on Appropriations

DOCUMENTS

APR 13 1981

FARRELL LIBRARY
KANSAS STATE UNIVERSITY

AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR 1982

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

HOUSE OF REPRESENTATIVES

NINETY-SEVENTH CONGRESS

FIRST SESSION

SUBCOMMITTEE ON THE DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES

SIDNEY R. YATES, Illinois, *Chairman*

CLARENCE D. LONG, Maryland
JOHN P. MURTHA, Pennsylvania
NORMAN D. DICKS, Washington
LES AuCOIN, Oregon
JOSEPH M. McDADE, Pennsylvania
RALPH S. REGULA, Ohio
TOM LOEFFLER, Texas

FREDERICK G. MOHRMAN, ROBERT S. KRIPOWICZ, D. NEAL SIGMON, and KATHLEEN R. JOHNSON, *Staff Assistants*

PART 1

Justification of the Budget Estimates

	Page
Bureau of Land Management	**1**
Office of Water Research and Technology	**299**
Heritage Conservation and Recreation Service	**507**
United States Fish and Wildlife Service	**809**
National Park Service	**1163**
Geological Survey	**1363**

Printed for the use of the Committee on Appropriations

U.S. GOVERNMENT PRINTING OFFICE

74-939 O WASHINGTON : 1981

COMMITTEE ON APPROPRIATIONS

JAMIE L. WHITTEN, Mississippi, *Chairman*

EDWARD P. BOLAND, Massachusetts
WILLIAM H. NATCHER, Kentucky
NEAL SMITH, Iowa
JOSEPH P. ADDABBO, New York
CLARENCE D. LONG, Maryland
SIDNEY R. YATES, Illinois
DAVID R. OBEY, Wisconsin
EDWARD R. ROYBAL, California
LOUIS STOKES, Ohio
TOM BEVILL, Alabama
BILL CHAPPELL, Florida
BILL ALEXANDER, Arkansas
JOHN P. MURTHA, Pennsylvania
BOB TRAXLER, Michigan
JOSEPH D. EARLY, Massachusetts
CHARLES WILSON, Texas
LINDY (MRS. HALE) BOGGS, Louisiana
ADAM BENJAMIN, JR., Indiana
NORMAN D. DICKS, Washington
MATTHEW F. McHUGH, New York
BO GINN, Georgia
WILLIAM LEHMAN, Florida
JACK HIGHTOWER, Texas
MARTIN OLAV SABO, Minnesota
JULIAN C. DIXON, California
VIC FAZIO, California
W. G. (BILL) HEFNER, North Carolina
LES AuCOIN, Oregon
DANIEL K. AKAKA, Hawaii
WES WATKINS, Oklahoma
WILLIAM H. GRAY, III, Pennsylvania
BERNARD J. DWYER, New Jersey

SILVIO O. CONTE, Massachusetts
JOSEPH M. McDADE, Pennsylvania
JACK EDWARDS, Alabama
JOHN T. MYERS, Indiana
J. KENNETH ROBINSON, Virginia
CLARENCE E. MILLER, Ohio
LAWRENCE COUGHLIN, Pennsylvania
C. W. BILL YOUNG, Florida
JACK F. KEMP, New York
RALPH S. REGULA, Ohio
CLAIR W. BURGENER, California
GEORGE M. O'BRIEN, Illinois
VIRGINIA SMITH, Nebraska
ELDON RUDD, Arizona
CARL D. PURSELL, Michigan
MICKEY EDWARDS, Oklahoma
BOB LIVINGSTON, Louisiana
BILL GREEN, New York
TOM LOEFFLER, Texas
JERRY LEWIS, California
CARROLL A. CAMPBELL, JR., South Carolina
JOHN EDWARD PORTER, Illinois

KEITH F. MAINLAND, *Clerk and Staff Director*

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

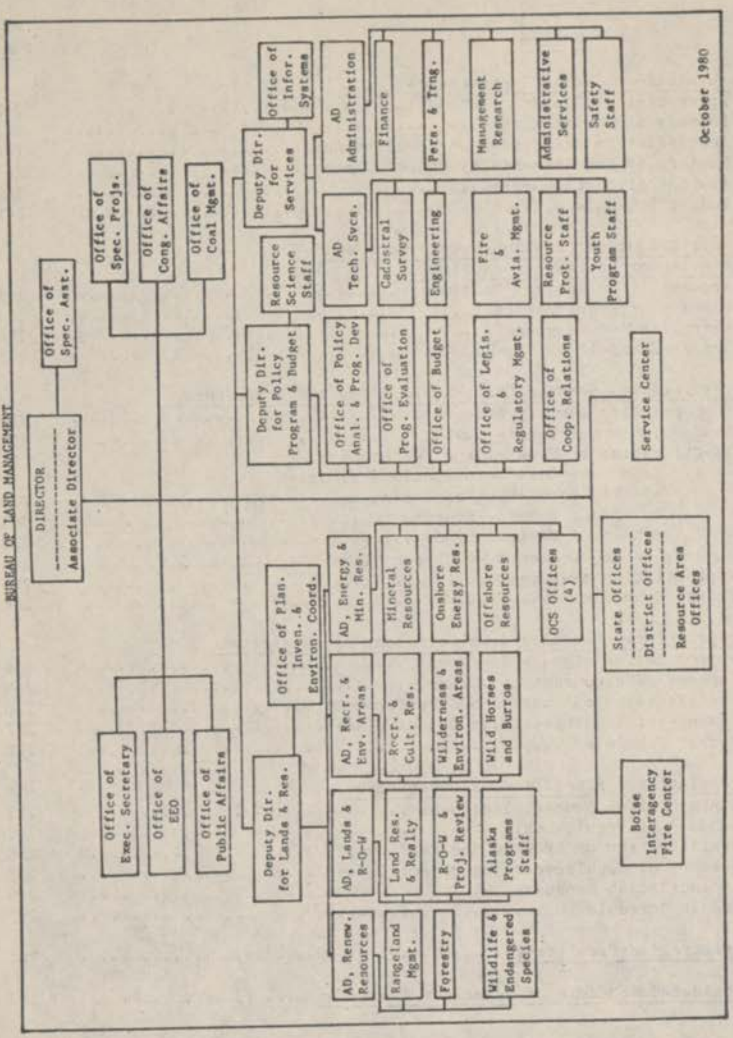
FISCAL YEAR 1982 BUDGET JUSTIFICATIONS

Table of Contents

Item	Page Number
Organization Chart	1
General Statement	2
Statement of Receipts	17
Allocation of Receipts to States	18
Appropriation: Management of Lands and Resources	
Appropriation Summary Statement	19
Summary of Requirements	22
Justification of Changes to Base	23
Justification of Program and Performance	
1. Energy and Minerals Management	
A. Energy Onshore	24
B. Energy Offshore (OCS)	43
C. Nonenergy Onshore	51
2. Lands and Realty Management	60
3. Renewable Resources Management	
A. Range Management	80
B. Wildlife Habitat Management	88
C. Soil, Water, and Air Management	94
D. Forest Management	99
E. Recreation Management	103
F. Fire Management	120
4. Planning and Data Management	
A. Multiple Use Planning	123
B. Data Management	127
5. Cadastral Survey	135
6. Firefighting and Rehabilitation	141
7. Administration and Enforcement	
A. General Administration	144
B. Law Enforcement	149
8. Common Program Services	154
Summary of Requirements by Object Class	162
Appropriation Language	163
Budget Schedules	164

Item	Page Number
Appropriation: Acquisition, Construction and Maintenance	
Appropriation Summary Statement	169
Analysis by Activities	170
1. Construction and Acquisition	171
A. Building Construction	173
B. Recreation Construction	180
C. Transportation Construction	184
D. Acquisition	187
2. Maintenance	188
A. Building Maintenance	190
B. Recreation Maintenance	191
C. Transportation Maintenance	192
D. Other Facilities	193
Appropriation Language	195
Budget Schedules	196
Appropriation: Payments in Lieu of Taxes	
Appropriation Summary Statement	199
Summary of Requirements	200
Justification of Program and Performance	201
Appropriation Language	202
Budget Schedule	203
Appropriation: Oregon and California Grant Lands	
Appropriation Summary Statement	205
Summary of Requirements	207
Analysis by Activities	208
Justification of Program and Performance	209
1. Construction and Acquisition	211
A. Building Construction	213
B. Recreation Construction	214
C. Transportation Construction	215
D. Acquisition	217
2. Maintenance	218
A. Building Maintenance	219
B. Recreation Maintenance	221
C. Transportation Maintenance	222
3. Renewable Resource Management	
A. Timber Management and Protection	223
B. Timber Development	226
C. Other Forest Resources	229
4. Planning and Data Management	
A. Planning	231
B. Data Management	233
Summary of Requirements by Object Class	234
Appropriation Language	235
Budget Schedule	237

Item	Page Number
Appropriation: Range Improvements	
Appropriation Summary Statement	242
Summary of Requirements	243
Justification of Program and Performance	244
Summary of Requirements by Object Class	247
Appropriation Language	248
Budget Schedule	249
Appropriation: Recreation Development and Operation of Recreation Facilities	
Appropriation Summary Statement	252
Summary of Requirements	253
Appropriation Language	254
Budget Schedule	255
Appropriation: Service Charges, Deposits and Forfeitures	
Appropriation Summary Statement	257
Summary of Requirements	258
Justification of Program and Performance	
1. Expenses, Cost Recoverable Activities	
A. Rights-of-Way Processing	259
B. Adopt-a-Horse Program	261
2. Repair of Damaged Lands	263
Summary of Requirements by Object Class	264
Appropriation Language	265
Budget Schedule	266
Appropriation: Miscellaneous Permanent Appropriations	
Appropriation Summary Statement	268
Summary of Requirements	269
Justification of Program and Performance	270
Summary of Requirements by Object Class	277
Budget Schedule	278
Appropriation: Miscellaneous Trust Funds	
Appropriation Summary Statement	281
Summary of Requirements	282
Justification of Program and Performance	283
Summary of Requirements by Object Class	285
Appropriation Language	286
Budget Schedule	287
Administrative Provisions	291
Consolidated Schedule of Permanent Positions	293


BUREAU OF LAND MANAGEMENT
DIRECTOR
Associate Director
Office of Spec. Asst.
Office of Spec. Projs.
Office of Cong. Affairs
Office of Coal Mgmt.
Office of Exec. Secretary
Office of EEO
Office of Public Affairs
Deputy Dir. for Policy Program & Budget
Deputy Dir. for Services
Office of Infor. Systems
Resource Science Staff
AD Tech. Svcs.
AD Administration
Office of Policy Anal. & Prog. Dev
Cadastral Survey
Finance
Office of Prog. Evaluation
Engineering
Pers. & Trng.
Office of Budget
Fire & Avia. Mgmt.
Management Research
Office of Legis. & Regulatory Mgmt.
Resource Prot. Staff
Administrative Services
Office of Coop. Relations
Youth Program Staff
Safety Staff
Service Center
Deputy Dir. for Lands & Res.
Office of Plan. Inven. & Environ. Coord.
AD, Energy & Min. Res.
AD, Recr. & Env. Areas
AD, Lands & R-O-W
Mineral Resources
Recr. & Cult. Res.
Land Res. & Realty
Onshore Energy Res.
Wilderness & Environ. Areas
R-O-W & Proj. Review
Offshore Resources
Wild Horses and Burros
Alaska Programs Staff
OCS Offices (4)
AD, Renew. Resources
Rangeland Mgmt.
Forestry
Wildlife & Endangered Species
Boise Interagency Fire Center
State Offices
District Offices
Resource Area Offices
October 1980

BLM-1

GENERAL STATEMENT

The Bureau of Land Management was created in 1946 when the Congress merged the General Land Office and the Grazing Service to create an agency that could better manage the public lands -- those lands owned by the United States that have not been withdrawn for forest, park, or other special use.

In addition to 341 million acres of these public lands, the Bureau also administers the subsurface mineral rights on other lands and the vast area of the Outer Continental Shelf. Together, these land and water surfaces cover an area equal to roughly half the size of the United States.

The Bureau's activities generate substantial governmental receipts. In Fiscal Year 1982, for each dollar in the Bureau's operating budget, an estimated $22 dollars will be received from Bureau operations. These receipts consist primarily of rents, royalties, and bonuses from OCS oil and gas leases, and lesser amounts from onshore energy and minerals leases, payments for timber sales, and grazing fees.

By law, the public lands must be managed for multiple use based on land use plans developed in consultation with the public. In carrying out this charter, the Bureau must address needs that are national, regional, and local and that are often in conflict with one another.

Emphases of the 1982 Budget

The proposed budget for 1982 responds to the following needs:

- The need to respond to new and emerging priorities as established by Congress and by social and economic needs of the country. For example, this budget includes increases for:
  - energy development, to respond to additional leasing demand for oil and gas, coal, oil shale, and tar sands;
  - implementation of the recently-enacted Alaska National Interest Lands Conservation Act as well as other new legislation; and
  - implementation of the approved land use plan for the management of the California Desert Conservation Area.
- The need to meet statutory deadlines established by the Congress, such as:
  - wilderness review, for which an increase is requested to enable the Bureau to complete the wilderness review process by 1987--four years ahead of the statutory deadline; and

- withdrawal review, for which an increase is sought to assure that the Bureau meets the statutory deadline of 1991.

- The need for more timely service to the public. Additional funds are sought to process more mineral leasing applications, lands cases, withdrawal processing, and other activities in which the public has a right to expect prompt action.

- The continuing need to improve and maintain the productivity and usefulness of public resources. This budget requests additional funds for rangeland management, in keeping with the intent of the Public Rangelands Improvement Act of 1978, and for forestry management in the commercially-valuable Oregon and California grant lands.

- The need for better conservation and protection of public resources. Increases are sought for:

  - increased protection of threatened cultural resource sites;

  - implementation of new surface management regulations, to assure that legitimate use of the public lands is done in a manner that does not unnecessarily harm environmental values;

  - increased assistance and information for those who use the public lands for recreation, particularly in areas that are close to major population centers; and

  - additional cooperative agreements with local governments for law enforcement on the public lands.

While this budget proposes these significant increases, BLM has done much within existing funding levels to improve the public lands, their management, and the sensitivity with which the Bureau responds to national, regional, and local needs.

The recent steps that have been taken include the following:

- Increasing public participation in issues facing BLM. For example, the Bureau established 53 district advisory boards to provide both advice and criticism of BLM actions and proposed actions at the local level.

- Increasing consultation with other Federal agencies to make certain that efforts are coordinated and that the various agencies do not duplicate efforts. Currently, the Bureau is a party to numerous interagency agreements dealing with such activities as environmental studies, mineral assessments, forest management, wildlife management, location of corridors, research, and public participation.

- Streamlining administrative and management processes and eliminating "bottlenecks." The Bureau has, for example,
  - delegated additional responsibilities to State or local BLM managers so that more decisions can be made and implemented without delay; and
  - reduced processing time of lands cases, mineral leasing applications, and other actions.
- Improving management effectiveness, responsiveness, and efficiency through:
  - development of range investment criteria, to ensure that funds put into on-the-ground improvements are used as effectively and efficiently as possible;
  - increased use of cost analysis, including the first cost analysis done as part of an environmental statement (for the California Desert Conservation Area management plan);
  - increased focus throughout the Bureau on the ultimate accomplishments and public benefits of Bureau programs;
  - improved social and economic analysis, to ensure that Bureau decisions and actions take regional and local effects into account more fully;
  - greater use of problem-solving techniques targeted on such special projects as major facilities siting;
  - more rigorous analysis of proposed regulations, such as the recent surface management regulations, to make certain that they do not over-regulate or unnecessarily discourage legitimate use of the public lands;
  - more emphasis on fiscal and economic analysis of policy issues and management decisions; and
  - more contracting for goods and services.

Much of the requested increase in this budget is virtually uncontrollable as both workload and costs have gone up because of factors beyond the Bureau's control. In 1980, for example, the Congress enacted the Alaska National Interest Lands Conservation Act, the Navajo-Hopi Settlement Act, and many other pieces of legislation that increase the Bureau's activities. The Bureau also issued 36 regulations, as required by the Federal Land Policy and Management Act of 1976 and other laws, that will unavoidably increase the Bureau's workload.

At the same time that the Bureau's workload has steadily increased, the costs of operating the Bureau have also been escalating. Examples of non-controllable cost increases in this budget are: employee pay raises ($14.2 million), space costs ($3.6 million), costs of household moves for relocated employees ($1.0 million), and communications costs ($1.5 million).

Budget Summary

The table on the following page summarizes the Bureau's budget request for 1982. It includes:

- o an increase of $80.9 million in operating accounts;
- o a reduction of $103 million in Payments in Lieu of Taxes, for which no appropriation is requested in 1982; and
- o an increase of $121.6 million for permanent appropriations, which primarily are for payment of portions of receipts from minerals and other resources to State and local governments.

BUREAU OF LAND MANAGEMENT

Appropriations and Full Time Permanent Personnel - Fiscal Years 1981 and 1982

(dollar amounts in thousands) (FTPs - authorized)

		1981 a/ Appropriation	1982 Estimates	Inc. (+) or Dec. (-)	Permanent Employment 12/31/80
1. Management of Lands & Resources	($)	343,963	404,043	+60,081	
	(FTP)	(4,849)	(5,026)	(+177)	(4,286)
(Reimbursable Positions)	(FTP)	(242)	(242)	(--)	(150)
2. Acquisition, Construction and Maintenance	($)	14,768	19,626	+4,858	
	(FTP)	(168)	(168)	--	(156)
3. Payments in Lieu of Taxes	($)	103,000	-0-	-103,000	
	(FTP)	(5)	(-0-)	(-5)	(2)
4. Oregon and California Grant Lands (O&C)	($)	57,500	73,105	+15,605	
	(FTP)	(809)	(809)	--	(730)
5. Range Improvements	($)	13,500	13,500	--	
	(FTP)	(80)	(80)	--	(69)
6. Recreation Development & Operation of Recreation Facilities	($)	-0-	-0-	--	
	(FTP)	(-0-)	(-0-)	--	(-0-)
7. Service Charges, Deposits, and Forfeitures	($)	9,600	10,000	+400	
	(FTP)	(93)	(93)	--	(81)
8. Permanent Appropriations	($)	457,200	578,800	+121,600	
	(FTP)	(-0-)	(-0-)	--	(-0-)
9. Working Capital Fund	($)	--	--	--	
	(FTP)	(14)	(21)	(+7)	(14)
10. Miscellaneous Trust Funds	($)	700	700	--	
	(FTP)	(3)	(3)	--	(3)
Allocation Accounts from Other Fed. Agencies	(FTP)	(10)	(30)	--	(28)
Totals	($)	1,000,230	1,099,774	+99,544	(5,519)
	(FTP)	(6,293) b/	(6,472)	(+179)	

a/ Excludes proposed supplementals.

b/ Excludes 142 positions included with supplemental.

Highlights of the 1982 Budget Request

The proposed budget includes increases over 1981 appropriated to date as indicated below. The amounts identified include pay increases; the explanations address the principal programmatic changes that are proposed.

	FTP Position	Amount (thousands)
MANAGEMENT OF LANDS AND RESOURCES:		
Energy and minerals:		
Oil and Gas: for increased leasing activity, implementation of the Alaska National Interest Lands Conservation Act, and support of the continuing investigation into irregularities in the simultaneous oil and gas leasing system.....	+ 48	4,941
Coal: for processing additional coal lease applications and required site-specific environmental impact statements.....	--	+2,387
Geothermal: for issuing additional over-the-counter and simultaneous non-competitive leases and for increasing compliance checks.....	--	+ 373
Oil shale leasing: to establish a permanent leasing program and support the second-year activities related to expanding the prototype oil shale program. This work will lead to issuance of additional prototype oil shale leases in FY 1983 and issuance of leases under the permanent program in FY 1985.....	+ 41	+3,126
Tar sands: to initiate a tar sands leasing program in Utah and Colorado.....	+ 10	+1,059
Offshore Oil and Gas: for environmental studies to provide data needed at critical decision points in the OCS leasing process, and for purchase of ship time formerly provided by the National Oceanic and Atmospheric Administration...	--	+4,705
Mining law administration: to review and conduct compliance checks on plans of operation and notices as required by surface management regulations issued in calendar year 1980.....	--	+ 829

	FTP Position	Amount (thousands)
Mineral leasing: to provide capability to process pending leasing backlogs and to update inventories of mineral resources required for withdrawal review and preparation of grazing environmental statements	+ 2	+ 211
Mineral materials sales: for sand and gravel sales pursuant to Section 1431(i) of the Alaska National Interest Lands Conservation Act	--	+ 197
Lands and Realty:		
Non-Energy related realty: to process additional land use and tenure cases to reduce the backlog to "normal" processing time by 1987, and to implement the Alaska National Interest Lands Conservation Act of 1980 (increase includes positions and funds proposed to be transferred from energy-related realty)	+100	+8,807
Withdrawal processing and review: to enable the Bureau to complete its required review of existing public land withdrawals by the statutory deadline of 1991	+ 1	+1,700
Renewable resource management:		
Forest management: to implement requirements of the Alaska National Interest Lands Conservation Act of 1980	+ 1	+ 988
Rangeland management: to monitor range management practices and supervise allotment management plans, and for wild horse and burro management	--	+5,455
To provide ground water data, precipitation information, and structure maintenance, and to improve the quality and use of soil and water data in resource management plans	+ 1	+3,227

	FTP Position	Amount (thousands)
For increased costs of on-the-ground improvements for wildlife habitat, and to implement the Alaska National Interest Lands Conservation Act of 1980.....	+ 1	+ 1,686
Recreation management		
Wilderness management: to analyze conflicts with energy resources and their development, and to accelerate mineral surveys to assess mineral and energy development potential in areas under study. The overall objective is to complete all wilderness studies by the end of Fiscal Year 1987 -- four years ahead of the statutory deadline...	+ 1	+13,077
Natural and cultural resources management: to protect cultural resources sites, monitor permit use, and evaluate cultural resources.....	+ 6	+ 3,198
Recreation resource management: for assistance to public land visitors in critical recreation use areas such as the California Desert, the Lower Colorado River (AZ), and Little Sahara Sand Dunes (UT).....	+ 1	+ 1,376
Fire Management: for replacement of obsolete firefighting equipment.....	--	+ 405
Planning and data management		
Data management: to increase the support of land and survey activities, coal leasing data system, simultaneous oil and gas leasing, wilderness review in priority areas, and mining claim recordation.....	--	+2,238

	FTP Position	Amount (thousands)
Cadastral Survey		
Cadastral Survey (Alaska): to complete statutory surveys in Alaska for the conveyance of lands under the Alaska Statehood Act, the Alaska Native Claims Settlement Act, and the Alaska National Interest Lands Conservation Act of 1980	--	+1,339
Administration and law enforcement		
General Administration: for Equal Employment Opportunity program	--	+ 489
Law Enforcement: to put additional cooperative agreements into effect and investigate thefts of desert plants, destruction of cultural resources, and violation of wild horse and burro regulations	--	+ 660
The budget also includes the following decreases:		
Energy-related realty: an accounting shift from this subactivity to the non-energy realty subactivity where the actual workload exists	-35	- 834
Cadastral Survey (Lower 48 States): deferral of surveys to address unauthorized occupancy and title settlement issues in New Mexico, California, and Colorado	--	-1,122
Planning: accounting shifts to the coal leasing and wilderness subactivities for required planning amendments	+1	- 436
ACQUISITION, CONSTRUCTION, AND MAINTENANCE		
Building construction	--	+2,223
Recreation facilities construction	--	+ 434
Transportation construction	--	- 792
Acquisition	--	+ 98
Maintenance	--	+2,895
Net increase	--	+4,858

	FTP Position	Amount (thousands)
OREGON AND CALIFORNIA GRANT LANDS		
An appropriation of $73,105,000 is requested for the management and development of the revested Oregon and California grant lands in Western Oregon, an increase of $15,605,000 over the Fiscal Year 1981 appropriation. On an obligation basis, the request proposes an increase of $4,905,000.		
This appropriation is based on estimated receipts for 1982. Because revenues are difficult to project as a result of economic fluctuations in the timber industry, a one-time direct appropriation of $10 million in 1982 is proposed to permit more orderly program planning and management. This would act as a "cushion" in the event receipts fall below the program obligation level.....	--	15,605
SERVICE CHARGES, DEPOSITS, AND FORFEITURES:		
For reimbursed costs of gathering additional animals as part of the Adopt-a-Horse program.....	--	+ 400
PAYMENTS IN LIEU OF TAXES		
No appropriation is requested for FY 1982 as part of a broad policy to reduce Federal expenditures and inflation.....	-5	-103,000

Trends in the BLM budget:

In recent years, the BLM budget has changed considerably as the Bureau has been mandated a broader role in public land management and as it has sought new and more efficient ways of meeting its responsibilities. These changes are germane to understanding the Bureau's budget and the nature of its growth.

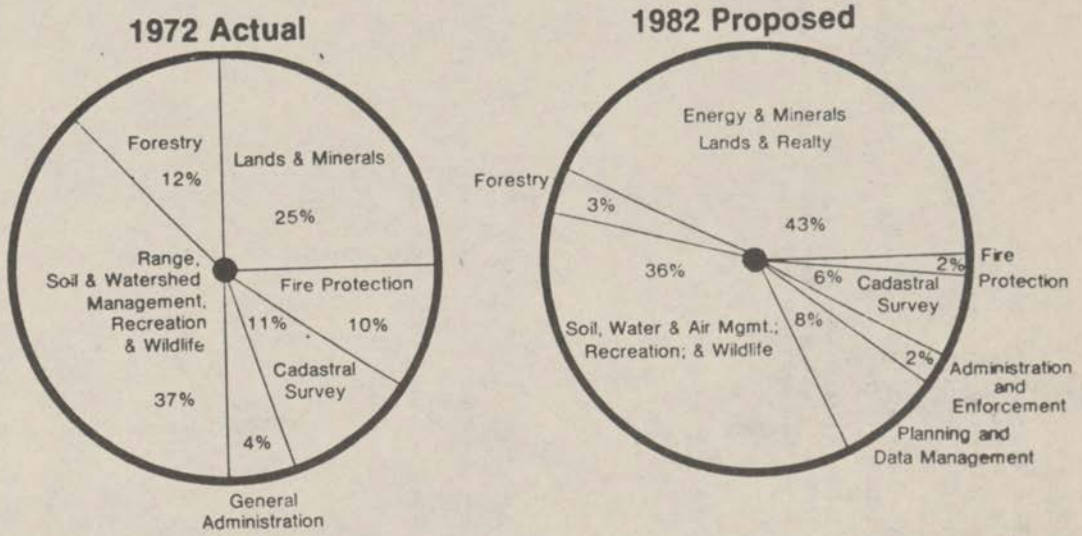
As the charts on the following pages indicate, the Bureau's programs in 1982 will be significantly different than they were ten years ago.

The first chart shows the percentage distribution of the principal operating account (Management of Lands and Resources). It should be noted that, in 1972, planning and data management activities were not centrally funded.

74-939 O—80——2

BLM OPERATING BUDGET

Composition of MLR Obligations by Activity



Note: Excludes emergency firefighting costs, which fluctuate from year to year due to weather and fuel conditions.

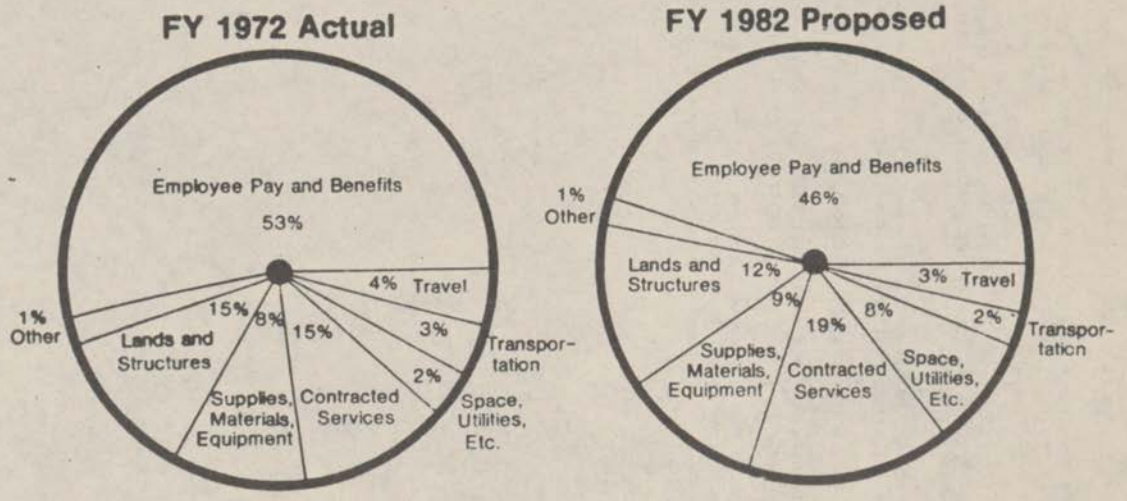
Over the ten-year period, the following changes have occurred:

- Energy, minerals, and lands activities have almost doubled, primarily as a result of greater development of onshore and offshore energy resources.
- The "traditional" BLM activities of forest management, cadastral survey, and fire protection are much less predominant in the Bureau's budget.
- Rangeland management activities and recreation have remained relatively constant as a percentage of the totals.
- A smaller share of costs (about half as much) goes to administration.
- Planning and data management costs are now a substantial part of the Bureau's budget because of statutory requirements.

In addition to the programmatic changes that have occurred, the nature of funding requirements has also changed markedly. Using the same comparison (1972 and 1982), the following chart shows costs by object class.

BLM OPERATING BUDGET

Composition by Object Class



In 1982, as compared with 1972,

- o more of each BLM dollar is spent on
  - o contracted services
  - o space, utilities, and communications (which have quadrupled as a percentage of the total)
  - o supplies, materials, and equipment
- o less of each BLM dollar is spent on
  - o employee pay and benefits
  - o travel
  - o transportation
  - o lands and structures

Planned improvements in BLM's programming and budgeting

Several efforts are currently underway to improve the development and administration of BLM's budget. First, the Bureau's budget process is being thoroughly reviewed. Because the Bureau's budget is developed and implemented by 12 BLM state offices and 55 district and other field offices, it is critical that the decision-making process results in appropriate trade-offs and in decisions that can be efficiently implemented and that are responsive to changing priorities. The review now underway is expected to result in recommendations that will ensure clearly defensible budget priorities and improved targeting of limited funds and personnel to meet the most urgent requirements for managing the public lands.

Second, a review of the Bureau's financial management system is underway to develop more simplified reports that will be more useful to BLM managers at all levels.

Finally, the first steps of automating budget and planning data are being taken. Because the Bureau's programs involve so many subactivities (the funds for each of which must be controlled) and a decentralized field organization, it has become impracticable to manually "track" appropriated funds. Automation of the budget process will result in more accurate and efficient control of funds.

No increases in funds or personnel are requested for these efforts.

Conclusion

This budget responds to the needs that the Bureau must address as the manager of the Nation's largest block of lands -- lands which have both tapped and untapped resources for energy and minerals development; recreation, timber, and forage use; and historical, cultural, and environmental values.

With existing funds and personnel, the Bureau has made significant improvements in its responsiveness to those needs and is exploring other possibilities to make its activities more cost-effective and efficient. At the same time, some of these needs require additional funds, outlined here and explained in more detail in the following justifications.

RECEIPTS BY SOURCE

The following table shows actual receipts of the Bureau of Land Management for Fiscal Years 1978, 1979, 1980, and estimated receipts for Fiscal Years 1981 and 1982.

	Actual 1978	Actual 1979	Actual 1980	Estimated 1981	Estimated 1982
Sales, Public Land & Materials	$1,609,000	$9,240,000	$7,756,000	$7,000,000	$7,000,000
Fees and Commissions	31,814,000	39,730,000	28,594,000	45,000,000	45,000,000
Mineral Leasing a/	402,286,000	453,514,000	682,124,000	824,000,000	1,120,000,000
Mineral Leasing, Outer Continental Shelf	2,259,308,000	3,267,377,000	4,100,871,000	7,801,000,000	9,939,000,000
Grazing Fees	16,317,000	19,877,000	24,602,000	27,850,000	29,952,000
Right-of-Way Leases	862,000	869,000	899,000	800,000	800,000
Timber Sales	195,393,000	218,208,000	216,110,000	255,000,000	343,190,000
Miscellaneous Receipts	16,298,000	10,178,000	18,325,000	15,050,000	15,050,000
TOTAL	$2,923,887,000	$4,018,993,000	$5,079,281,000	$8,975,700,000	$11,499,992,000

a/ Includes Mineral Leasing receipts collected by BLM and transferred to other agencies for distribution

PAYMENT OF BUREAU OF LAND MANAGEMENT RECEIPTS TO STATES
FY 1980

States	Sale of Public Land and Timber	Mineral Leases and Permits	Forage Receipts Inside Taylor Grazing Districts	Forage Receipts Outside Taylor Grazing Districts	Other	Total
Alabama	---	12,142	---	---	---	12,142
Alaska	34,594	1,580,736	---	---	---	1,615,330
Arizona	1,469	1,708,384	133,724	142,370	---	1,985,947
Arkansas	---	161,813	---	---	---	161,813
California	18,125	17,676,362	59,505	143,683	---	17,897,675
Colorado	13,428	20,258,490	89,807	53,260	---	20,414,985
Florida	---	1,976	---	---	---	1,976
Idaho	39,752	2,661,206	245,077	37,317	---	2,983,352
Kansas	---	878,325	---	118	---	878,443
Louisiana	104	800,914	---	---	---	801,018
Michigan	---	34,002	---	---	---	34,002
Mississippi	72	24,115	---	---	---	24,187
Montana	14,653	8,233,983	161,628	141,545	588,871	9,140,680
Nebraska	---	102,987	---	1,241	---	104,228
Nevada	301,836	6,939,325	399,037	42,905	---	7,683,103
New Mexico	5,564	92,138,250	288,811	236,384	18,267	92,687,276
North Dakota	9	2,311,676	---	8,540	---	2,320,225
Oklahoma	---	1,507,737	---	154	23,636	1,531,527
Oregon	473,391	195,785	213,229	50,804	97,297,099	98,230,308
South Dakota	804	657,587	---	67,659	---	726,050
Utah	2,682	14,938,134	177,918	---	1,236	15,119,970
Washington	570	43,282	---	26,319	---	70,171
Wyoming	14,017	95,100,847	250,252	445,467	---	95,810,583
TOTAL	921,070	267,968,058	2,018,988	1,397,766	97,929,109	370,234,991

BLM-18

Appropriation Summary Statement

Appropriation: Management of Lands and Resources

The Management of Lands and Resources appropriation, the largest of BLM's 10 major appropriations, provides for a variety of functions necessary to develop, manage and protect the resources of onshore and offshore lands under BLM's jurisdiction. These functions include energy and minerals management, lands and realty management, renewable resource management, planning and data management, cadastral survey, firefighting and rehabilitation, and administration and law enforcement.

Energy and Minerals Management includes such activities as the leasing of coal, oil and gas, geothermal resources, oil shale, tar sands and nonenergy minerals; the assessment of environmental impacts of proposed energy and mineral developments; and the implementation of lease stipulations and other environmental protection measures to mitigate adverse effects. In FY 1982, the program provides for up to 14,500 onshore oil and gas leases, approximately 550 geothermal leases, seven competitive sales on the Outer Continental Shelf, and administering the various nonenergy minerals activities. In addition, two competitive coal lease sales will be held in calendar year 1982.

Lands and Realty Management includes such activities as use authorization in support of energy production, transmission, and distribution as well as other programs dependent upon the occupancy or transfer of public lands; land classification; processing applications for transfer of public lands for use by other Federal agencies, State and local governments, and private individuals; withdrawal review; withdrawal restorations and revocations processing; maintenance of official land records, including mining claims; and trespass abatement. The program provides for disposal and exchange of land through a variety of mechanisms where there is a demonstrated need or purpose to be served and where the action is clearly in the national interest and consistent with land use planning. Lands and Realty activities in FY 1982 will emphasize processing rights-of-way applications for energy related development, withdrawal review and revocations, State in Lieu Selections, Forest Service/BLM boundary adjustments, Navajo-Hopi land transactions, casework backlog reduction, Native and State land selection in Alaska under the Alaska Native Claims Settlement Act and the Alaska Statehood Act, implementation of various provisions of the Alaska National Interest Lands Conservation Act, and other nonenergy related case processing.

Renewable Resources Management includes range management; soil, water and air management; wildlife habitat management; forest management; recreation management; and fire protection.

Range Management includes such activities as authorizing and supervising grazing uses; preparing environmental impact statements on grazing practices; improving range conditions through on-the-ground improvements and improved management; protecting, controlling, and managing an estimated 65,000 wild horses and burros that get all or a part of their forage requirements on public lands; and adopting excess horses and burros to qualified applicants.

Soil, Water, and Air Management includes such activities as stabilizing soils; improving water and air quality through land treatment or construction stipulations; maintaining structures and facilities; identifying and protecting water rights for public land uses; and gathering soil/vegetative data necessary to meet requirements and commitments for grazing, timber, and energy related environmental assessments and statements.

Forest Management includes activities for sustaining the yield on 2.1 million acres of commercial forest land available for timber production and for protecting, maintaining, and enhancing 22 million acres of woodlands that are a valuable source of other forest products, water, wildlife habitat, forage, and recreation uses. Public services such as providing fuel wood and christmas trees are part of the management program on all 24.1 million acres.

Wildlife Habitat Management includes activities for the protection, management, and improvement of fish and wildlife habitats for all species dependent totally or partially on public lands for food and shelter; for cooperative management with other federal and state wildlife agencies responsible for species management; and the protection and management of habitat for 47 species of endangered fish and wildlife, 22 endangered plant species as well as numerous other sensitive species.

Recreation Management includes activities for the orderly use of public lands for recreation; protection, interpretation, and management of historic and archeological sites; the management of recreational resources in the 12 million acres of the California Desert; the identification of areas that are suitable for wilderness designation, and their management once designated; and the management of 5,000 miles of rivers and 1,000 miles of trails for recreation use, other important recreational resources, and off-road vehicle use.

Fire Management includes activities for developing fire techniques such as prescribed burning as a tool for resource management and for developing methods to prevent and suppress fires to minimize loss of resources from wildfires.

Planning and Data Management includes such activities as data analysis, land use planning, and automated data management. These activities support the development of land use plans to meet schedules for energy and mineral production, rangeland management, timber production, and wilderness studies, as well as resolve conflicts involving wildlife habitat, recreation, cultural resources, and other natural resources. Data management also supports Bureau programs through the development and operation of automated systems for acquiring, storing, using, and disseminating data required for all aspects of the agency's programs, including both financial and natural resource management.

Cadastral Survey includes activities for the identification of land boundaries and legal property descriptions to facilitate the Bureau's land management programs. During the budget year an estimated 7,450,000 acres will be surveyed in Alaska and the Lower 48 States.

In Alaska, surveys are performed on lands selected by the State for transfer under the Alaska Statehood Act; and for Native townsites, Native allotments, and other entitlements under the Alaska Native Claim Settlement Act; and other special purposes. Surveys in the Lower 48 States identify land boundaries that are prerequisite to resource management activities and decisions. This involves both new surveys and resurveys to reestablish obliterated boundary markers.

Firefighting and Rehabilitation includes activities for protecting public lands and their natural resources and other values from loss or depletion due to wildfires. Based on a 10-year annual average of 1.2 million acres burned, fire causes damages averaging $14.0 million each year. Suppression costs average an additional $18.0 million annually.

Administration and Enforcement includes activities for general administration, equal employment opportunities, and law enforcement on the public lands. Administration includes executive management and general support services such as financial management, personnel management, management analysis, budget and program development, procurement, and property management. The Equal Employment Opportunity Program will integrate a feasible and effective equal employment opportunity program into the entire fabric of BLM's programs. Law enforcement provides for enforcement of laws and regulations governing the management, use, and protection of public lands through cooperative agreements with state, local, and Federal law enforcement agencies; federal special agents; and a uniformed ranger force in the California Desert.

BUREAU OF LAND MANAGEMENT
Summary of Requirements
(Dollar amounts in thousands)

Appropriation: Management of Lands and Resources

Summary of adjustments to base and built-in changes:	FTP	Amount	FTP	Amount
Appropriation enacted to date, 1981			4,849	$343,962
Adjustments to base and built-in changes:				
Adjustments for 1981 pay increases and related costs	--	+$ 14,161		
Transfer to Office of Solicitor	-2	- 109		
Subtotal, adjustments to base and built-in changes			- 2	+ 14,052
1982 Base			4,847	$358,014

Comparison by activities:	1980 Actual FTP	1980 Actual Amount	1981 Appropriation Enacted to Date FTP	1981 Appropriation Enacted to Date Amount	1982 Base FTP	1982 Base Amount	1982 Estimate FTP	1982 Estimate Amount	Inc. (+) or Dec. (-) over 1982 Base FTP	Inc. (+) or Dec. (-) over 1982 Base Amount
1. Energy and Minerals Mgmt.										
A. Energy Onshore	649	36,275	715	47,758	738	50,188	837	59,644	+ 99	+ 9,456
B. Energy Offshore	248	44,964	246	51,146	246	51,731	246	55,851	--	+ 4,120
C. Nonenergy Onshore	193	8,573	192	9,369	192	9,949	194	10,606	+ 2	+ 657
Subtotal	1,090	89,812	1,153	108,273	1,176	111,868	1,277	126,101	+101	+14,233
2. Lands and Realty Mgmt.										
A. Lands & Realty Mgmt. Subtotal	870	36,398	865	34,663	863	36,882	929	44,336	+ 66	+ 7,454
3. Renewable Resource Mgmt.										
A. Range Management	735	40,851	744	50,315	744	52,817	744	55,770	--	+ 2,953
B. Wildlife Habitat Mgmt.	215	16,561	226	19,793	226	20,971	227	21,479	+ 1	+ 508
C. Soil, Water, & Air Mgmt.	202	20,717	225	22,073	225	22,145	226	25,300	+ 1	+ 3,155
D. Forest Management	180	7,851	169	9,164	169	9,903	170	10,152	+ 1	+ 249
E. Recreation Management	323	21,980	325	23,323	325	25,416	333	40,974	+ 8	+15,558
F. Fire Management	136	9,755	140	9,214	140	9,516	140	9,619	--	+ 83
Subtotal	1,791	117,715	1,829	133,882	1,829	140,768	1,840	163,294	+ 11	+22,506
4. Planning and Data Mgmt.										
A. Planning	326	12,999	328	15,600	305	14,895	306	15,164	+ 1	+ 269
B. Data Management	164	15,588	166	16,182	166	16,682	166	18,420	--	+ 1,738
Subtotal	490	28,587	494	31,782	471	31,577	472	33,584	+ 1	+ 2,007
5. Cadastral Survey										
A. Cadastral Survey Subtotal	339	26,663	340	24,122	340	25,202	340	24,339	--	- 863
6. Firefighting & Rehab.										
A. Firefighting & Rehab. Subtotal	--	43,380	--	4,750	--	4,750	--	4,750	--	--
7. Administration & Enforcement										
A. Administration	123	4,824	153	5,283	153	5,672	153	5,772	--	+ 100
B. Enforcement	15	924	15	1,207	15	1,275	15	1,867	--	+ 592
Subtotal	138	5,748	168	6,490	168	6,947	168	7,639	--	+ 692
8. Common Program Services										
A. Services	(1,020)	(60,514)	(990)	(65,064)	(990)	(67,556)	(990)	(74,750)	--	(+ 7,194)
INCREASES									+179	+46,029
TOTAL REQUIREMENTS	4,718	348,303	4,849	343,962	4,847	358,014	5,026	404,043		

JUSTIFICATION OF ADJUSTMENTS TO BASE AND BUILT-IN CHANGES
(Dollar amounts in thousands)

Adjustment for 1981 pay increase and related cost	FTP	Amount
Total cost in FY 1981 for pay increase/anticipated FY 1981 pay increase supplemental	--	10,803
Additional amount in FY 1982 to provide full-year cost of pay increase	--	3,358
Subtotal	--	14,161
Other Base Adjustment		
1. Transfer from planning to coal and wilderness. This transfers the funds for coal leasing amendments and wilderness study amendments out of the planning subactivity into the programs that have generated the needs.		
Planning	-23	- $1,600
Coal	+23	+ $ 600
Wilderness	--	+ $1,000
2. Transfer from Soil, Water, & Air to Wildlife. Beginning in FY 1982 the endangered plant species program will be handled within the wildlife subactivity.		
Soil, Water, & Air	--	-500
Wildlife	--	+500
Subtotal	--	-0-
3. Transfer from Non-Energy Related Realty to Office of Solicitor. Legal Services review.		
Non-Energy Related Realty	- 2	- $ 109
Total Base Adjustment	- 2	+14,052

NOTE: The anticipated supplemental in 1981 of $10,803,000 is for the general schedule pay increase effective October 5, 1980. An additional $3,358,000 is required in 1982 to cover the full-year cost of the pay supplemental.

Justification of Program and Performance

Activity: 1. Energy and Minerals Management
Subactivity: A. Energy Onshore

(Dollar amounts in thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Coal	$	29,700	31,150	32,087	+ 937
	(FTP)	(379)	(402)	(402)	--
Oil and Gas	$	15,054	15,759	19,995	+4,236
	(FTP)	(276)	(276)	(324)	(+48)
Geothermal	$	2,491	2,650	2,864	+ 214
	(FTP)	(56)	(56)	(56)	--
Oil Shale/Tar Sands	$	513	629	4,698	+4,069
	(FTP)	(4)	(4)	(55)	(+51)
(Common Program Services)	($)	(7,851)	(8,151)	(9,019)	(+868)
Total Requirements	$	47,758	50,188	59,644	+9,456
	(FTP)	(715)	(738)	(837)	(+99)

	Estimate ($000)	Authorization
43 U.S.C. 1748 P.L. 94-579 P.L. 95-352	$43,681	Federal Land Policy and Management Act of 1976 (FLPMA), Section 318 (a) and (b), and the Quadrennial Authorization Act of 1978 authorize the appropriation of funds necessary to carry out the purposes and provisions of FLPMA based on a period of four fiscal years.
30 U.S.C. 181 et. seq. 41 Stat. 437 P.L. 66-146		The Mineral Leasing Act of 1920, as amended, provides for classification and leasing of coal, oil, oil shale, natural gas, phosphate, and sodium.
30 U.S.C. 1001 P.L. 91-581		The Geothermal Steam Act of 1970 provides for leasing and development of geothermal energy resources.

P.L. 94-377 90 Stat. 1083	The Federal Coal Leasing Amendments of 1976 require competitive leasing of coal on public lands.
42 U.S.C. 4321, 4331-4335, 4341 - 4347 P.L. 91-190	The National Environmental Policy Act of 1969 requires preparation of environmental impact statements for Federal projects having a significant effect on the environment.
43 U.S.C. 1711 P.L. 94-579	The Federal Land Policy and Management Act of 1976 provides for the preparation and maintenance of inventories of public land resource values.
92 Stat. 2073 P.L. 95-554	This Act amends the Mineral Leasing Act of 1920, and authorizes the Secretary of Interior to exchange Federal coal leases and to encourage recovery of certain coal deposits.
P.L. 96-294	The Defense Production Act Amendment of 1980 establishes a national goal for synthetic fuel production.

Objectives

BLM's onshore energy leasing programs make oil, gas, coal, geothermal, oil shale, and tar sands resources available to meet the growing demand for energy.

The Bureau's objectives in managing the onshore energy leasing programs are to provide for the orderly and timely development of energy resources to meet national needs, giving full consideration to other land and resource values; to minimize adverse environmental impacts from energy development; and to assure a fair return to the public for the resources sold.

Base Program

The public onshore mineral estate includes about 840 million acres which include Federal lands, acquired lands, and lands that have been patented with some or all minerals reserved to the United States.

Coal. The importance of Federal coal to both national and western production has been increasing steadily in recent years. By calendar year 1979, coal production on Federal lands reached 8 percent of the nation's total coal production and 27 percent of western coal production. Over half of coal reserves in the U.S. are in the west, and about 60% of these reserves are owned by the Federal Government. About 20% of western coal reserves that are privately owned depend upon Federal leasing for their development. Estimated receipts to the U.S. Treasury from Federal coal leasing are increasing substantially and in FY 1982 are expected to be more than double the cost of operating the Bureau's coal program.

In June, 1979 the Secretary of Interior made several decisions which resulted in a new Federal Coal Management program. The program's major new leasing initiatives, which incorporate balanced land use and environmental considerations, will make the nation less dependent on foreign energy resources in the future. BLM's FY 1982 request for the coal program ensures that substantial amounts of Federal coal will be offered for leasing between 1982 and 1984.

The program's major short-term goals include:

- holding competitive sales in two coal regions in FY 1982 as well as conducting activity planning in support of these and five other regional coal lease sales;

- responding to emergency short-term lease applications to maintain current operations, to avoid leaving small islands of federal coal that could not be economically mined at a later date, and to meet leasing needs in areas outside coal production regions;

- processing the 178 current preference right lease applications (PRLAs) promptly, with all actions on all PRLAs to be completed by December,1984;

- processing exchanges, modifications, readjustments, and reviews of mining/ reclamation plans for existing leases.

BLM received $1.8 million through a supplemental in FY 1980 to accelerate pre-sale activities for sales in FY 1982 and beyond. This funding level continues into FY 1981 and FY 1982 to accelerate inventories, specific contract work required for Management Framework Plan (MFP) amendments, tract delineation, environmental assessments, and regional EIS preparation related to planning for future sales.

Close coordination between BLM, U.S. Geological Survey, Fish & Wildlife Service, Office of Surface Mining, U.S. Forest Service, Department of Justice, and Department of Energy is critical to meeting program objectives.

First round regional coal lease sale dates and available leasing targets for calendar years 1981 through 1984 have been set as follows:

Coal Region	First Sale Schedule	Leasing Target (million tons)
Green River-Hams Fork	January 1981	520
Appalachian (Alabama)	June 1981	322
Uinta-Southwestern Utah	July 1981	103
Powder River	April 1982	776
Western Interior	Third Quarter FY 1982	1/
Fort Union	First Quarter FY 1983	1/
San Juan River	Fourth Quarter FY 1983	1/

1/ Leasing target not yet established.

Follow-up sales are scheduled for April and October 1981 for the Green River-Hams Fork coal region. In addition, a second round sale is scheduled for March 1984. Second round sales are also scheduled for the Appalachian (July - September 1984), Uinta-Southwestern Utah (October - December 1983) and Powder River (April - June 1984) coal regions.

The anticipated activity planning workload during FY 1982 will specifically support the two FY 1982 regional lease sales as well as an additional five regional sales scheduled for 1983 and beyond.

Where specific information gaps are identified by BLM managers, studies are undertaken to investigate the hydrology, over-burden, soils and vegetation of lease sale areas. The results of these studies provide the manager with a basis for stipulating surface management requirements as part of a coal lease sale.

Processing, follow-up investigations, and settlement proceedings for trespass cases will continue. As of March 20, 1980, 29 cases required further investigation.

Major workload items are shown below.

Workload Measures	Estimated Cost Per Item (1980 Dollars) ($000)	Units FY 1981	Units FY 1982 Base d/
Preference right lease applications	39 a/	56	36
Emergency lease applications	34	21	28
Site-specific EISs	710	13	13
Inventory (million acres)	b/	3.6	4.2
Exchanges	85	2	4
Lease modifications	31	12	11
Lease readjustments	29	33	42
Mining/Reclamation plan reviews	3.4	97	67
Exploration Licenses issued	4.1	43	52
Activity plans underway	c/	7	8

a. Cost per unit is less when PRLAs are grouped.

b. Inventory costs vary with complexity of ownership and geology; costs range from $.10 to $2.00 per acre.

c. Estimated average cost of a representative activity plan (including tract delineation, site-specific analysis, ranking, selection and preparation of regional EIS) is $982,000. Number of activity plans shown represent the total of plans in progress (i.e., in any stage of activity planning process) during the FY.

d. Because of the nature of the coal program the actual workload often shifts between various workload measures from one fiscal year to the next. This shift within base funding is illustrated on the above table.

Increase for 1982

(Dollar amounts in thousands)

		1982 Base	1982 Estimate	Increase
Coal	$	31,150	32,087	+937
	(FTP)	(402)	(402)	--

74-939 O—80——3

Workload Measures (units)	FY 1982 Base	FY 1982 Estimate	Change
Preference right lease applications	36	36	--
Emergency lease applications	28	28	--
Site-specific EISs	13	14	+ 1
Inventory (million acres)	4.2	4.2	--
Exchanges	4	4	--
Lease modifications	11	11	--
Lease readjustments	42	42	--
Mining/Reclamation plan reviews	67	67	--
Exploration Licenses issued	52	52	--
Activity Plans underway	8	8	--

The $937,000 increase over the FY 1982 base will fund one additional site-specific EIS as well as the cost of contract work during FY 1982 which will support regional coal lease sales during FY 1983 and 1984. These contracts involve the study of socio-economic effects which would result from anticipated coal development, particularly focusing on the assessment of agricultural values. Contracts funded by the coal program during FY 1982 will be required as part of the land use or activity planning decision-making process in three coal regions (Ft. Union, Powder River and San Juan River).

Object Classification Distribution

The object class detail for the proposed $937,000 increase is as follows:

Other services	$937,000

Oil and Gas. As a percent of total U.S. domestic production, oil and natural gas produced from the public lands in 1980 was about the same as in 1979: 5 percent of domestic oil production and 5.4 percent of domestic gas production. Existing onshore Federal leases contain about 3.7 percent of oil reserves and 6.1 percent of gas reserves in the United States.

Receipts to the U.S. Treasury from onshore oil and gas rents, bonuses, and royalties amounted to $418 million in FY 1979 and about $609 million in FY 1980. They are estimated to be $721 million in FY 1981 and $982 million in FY 1982. Oil and gas receipts from 1974 to the 1982 projection show an increase of 517 percent.

In FY 1979, 11,356 leases were issued, covering about 13 million acres. This represents a 10 percent increase over the number of leases issued in 1978. About 97 percent of all oil and gas leases are noncompetitive. In FY 1980 approximately 9,000 leases were issued covering about 10 million acres. This substantial decrease in leasing was the result of a moratorium on noncompetitive leasing which was in effect from February 29, 1980 to June 16, 1980. The moratorium began when fraud and abuses were identified in the noncompetitive simultaneous oil and gas leasing system. It was lifted in June after the implementation of administrative and regulatory measures to prevent such abuses. BLM is assisting the U.S. attorney in Denver in the fraud investigation. The investigation may last four years or more. Leasing has now resumed at its normal rate. However, because the average lease size has increased from 850 acres to over 1,000 acres, leasing at the previous rate results in leasing more acreage than ever before. The increase in the average lease size resulted from increasing the maximum size of a noncompetitive lease from 2,560 to 10,240 acres and from scheduling simultaneous oil and gas drawings bi-monthly rather than monthly.

Major activities in the onshore oil and gas leasing program include preparing environmental assessments, issuing leases, processing assignments and applications for permits to drill, reviewing development plans, operating agreements and unit agreements, and making compliance inspections. We plan to continue producing and updating areawide environmental assessments. This will cut workload and response time to keep up with increasing public interest in Federal oil and gas.

The base program also contains funds for the holding of one competitive lease sale within the National Petroleum Reserve-Alaska (NPR-A) during FY 82.

Base Program

Work Measures	1980	1981	1982 Base
Leases Issued	9,000	12,600	12,600
Development Plans Reviewed	3,600	4,500	4,500
Compliance Checks	11,300	12,500	12,500
SOG Filings (Millions)	2.0	4.5	4.5
Assignments	31,200	34,300	34,300

Increase for 1982
(Dollar amounts in thousands)

		1982 Base	1982 Estimate	Increase
Oil and Gas	$	15,759	19,995	+4,236
	(FTP)	(276)	(324)	+48

This increase would be used for investigative support ($84,150), implementation of revised simultaneous leasing procedures ($897,600), responding to increasing industry interest in leasing ($1,771,250) and implementing four sections of the Alaska National Interest Lands Conservation Act ($1,483,000).

1. Support of the Simultaneous Leasing Investigation: $84,150

A moratorium on leasing was in effect from February 29, 1980 until June 16, 1980. The moratorium resulted from the discovery of fraud and abuses in the noncompetitive leasing system. The investigative team will be funded primarily by the Office of Inspector General. However, the investigation requires existing staff in each BLM State Office to provide extensive support to the team. BLM must provide source materials to the investigative team, return filing fees for drawings not held, and coordinate each lease application and assignment request with the investigative team's review.

2. Administrative and Regulatory Revisions Which Will Impact the FY 82 Budget: $897,600

Regulatory changes recently put into effect in the simultaneous oil and gas leasing system include: holding bi-monthly rather than monthly drawings; extending from 5 to 15 working days the time allowed for filing applcations; increasing the size of individual leases; requiring personal signatures on critical documents; requiring statements setting forth qualifications of filing services; requiring additional evidence of qualifications from corporations and partnerships; and establishing a new system for the assignment of record title. Administrative changes include: serializing each assignment request, monitoring "public rooms", providing greater security for files and documents, maintaining the confidentiality of other parties in interest on over the counter lease applications, and checking the current results of the ongoing criminal investigation before clearing applications.

While these regulatory and administrative changes greatly improve the integrity of the leasing program, they also add significantly to BLM's workload. One effort to minimize this workload is the automation of the Simultaneous Oil and Gas (SOG) program. Automation will also enhance BLM's ability to identify and eliminate fraudulent participation. Bureauwide automation will be completed during FY 82.

3. New Leasing and Exploration: $1,771,250

As of November 15, 1979, the total number of competitive and noncompetitive lease applications which BLM had on hand but which were not yet processed to completion was about 18,000. As of October 15, 1980, that number had increased to over 27,000 -- a 50 percent increase in pending lease applications in only 11 months. A minor portion of the increase resulted from the suspension of noncompetitive leasing (no applications were accepted during the suspension). The primary cause for the increase is BLM's inability to keep pace with the unprecedented rise in industry interest in leasing, exploration, and development caused by dramatic price increases for oil and gas on the world market and the decontrol of domestic oil prices.

This increased activity has exceeded the capability of those BLM offices which normally handle significant volumes of oil and gas activity and it threatens to overwhelm those offices which previously experienced little or no oil and gas activity. For one example:

- The Arizona State Office (Arizona has no producing Federal leases) administers what is thought to be a significant portion of the "Overthrust Belt". A recent exploratory deep hole found sediment layers which are typically oil-bearing, beneath a thick layer of other rock formations. This discovery has sparked the filing of over 400 lease applications during the first two weeks in September 1980.

The processing of assignments and operating agreements necessary to allow industry to consolidate suitable exploration and development units, is another workload factor that is beginning to soar as a result of increased interest in oil and gas production. For the last several years, BLM has processed approximately 30,000 assignments each year. This number may double in FY 81. All BLM offices report a higher-than-normal volume of assignments. The Arizona State Office, which processed a total of 850 assignments in FY 80, received more than 1,000 assignment applications in the first week of FY 81.

USGS is now reporting a significantly greater number of Known Geological Structures (KGSs) to BLM. Since competitive lease sales are held in KGSs, the number of such sales is expected to increase. For the last several years, BLM has issued approximately 300 competitive leases each year. We anticipate that the number of competitive leases issued will double from 300 leases to 600 leases in FY 81 and will continue to increase in FY 1982.

Another factor that is increasing BLM's workload is the completion of the Forest Service's (FS) RARE II wilderness review program. The Forest Service is now turning over to BLM environmental reports for some 3,500 lease applications pending on FS lands which BLM will begin to process. The associated workload for BLM will increase in FY 81.

All of the above new leasing and development activity will lead directly to increased oil and gas production within a relatively short timeframe. It is expected that industry interest will continue to increase as the Nation attempts to decrease its dependence on foreign energy resources and as oil and gas pricing controls are eliminated. Accordingly, a major emphasis of the FY 82 budget will be to reduce the backlog and keep pace with the present, and expected future levels of industry interest.

4. Alaska National Interst Lands Conservation Act: $1,483,000

Implementing sections 903(c), 906, 1001, and 1008 of the Alaska National Interest Lands Conservation Act, requires the following actions by BLM:

Section	Action Required
903	Reject all oil and gas lease offers in conflict with Native Conveyances.
906	Develop cooperative procedures with State of Alaska to handle mineral leases, licenses, and contracts on lands pending tentative approval or patent to State.
1001	Lead interdisciplinary study of oil and gas resources, wilderness, wildlife, and the impact of oil and gas development and oil and gas transportation in Central Arctic Areas.
1008	Develop an oil and gas leasing program outside NPRA and the Central Arctic Area.

Oil and Gas Workload Measures

	1982 Base	1982 Proposed	Increase
Leases Issued	12,600	14,500	+1,900
Development Plans Reviewed	4,500	4,950	+ 450
Compliance Checks	12,500	14,050	+1,550
SOG Filings (Million)	4.5	5.0	+ 0.5
Assignments	34,300	37,700	+3,400
NPRA Lease Sales	1	1	--
NPRA Studies	ongoing	ongoing	ongoing
Alaska Lands Study	---	implement	implement

Object Classification Distribution

Position Title	GS Grade	No.	Actual Salary
Team Leader	12	1	$ 30,600
Natural Resource Specialist	11	3	76,500
Mineral Specialist	11	2	51,000
Mineral Adjudicators	11	1	25,500
Mineral Adjudicators	11	19	484,500
Mineral Adjudicators	9	6	126,600
Mineral Adjudicators	7	4	60,800
Clerk-Typist	5	6	73,800
Docket Clerk	5	6	73,800
Permanent Positions		48	1,003,100
Positions Other Than Permanent			1,298,700
Total Personnel Compensation			2,301,800
Civilian Benefits			325,000
Travel and Transportation of Persons			400,000
Transportation of Things			135,000
Standard Level User Charges			300,000
Printing and Reproduction			145,000
Other Services			139,000
Supplies and Materials			420,800
Equipment			69,400
Total			$4,236,000

Geothermal. BLM is authorized to lease geothermal resources on 638 million acres of federal lands located primarily in the 11 western States. These lands contain approximately 60 percent of the known or potential geothermal resource areas in the U.S. The Department of Energy estimates that annual electrical generation from geothermal resources can be 20,000 megawatts by the year 2000. Approximately 700,000 barrels of oil per day would be necessary to generate that amount of electricity. In addition, it is estimated that direct thermal use applications (space heating, crop drying, gasohol production, etc.) could save the equivalent of 350,000 barrels of oil per day by the year 2000.

Through FY 1980, BLM had issued over 2,000 leases for more than 3.4 million acres. However, more than four million additional acres have been applied for and the lease application backlog has been growing since 1978. Exploration has included over 400 temperature gradient holes and about 85 deep tests. Locations for many more temperature gradient holes and deep tests have been approved by the U.S. Geological Survey and will soon be drilled. By late 1981, Federal geothermal wells are or will be contributing to five power plants that are sited on private lands and have a total electrical generating capacity of 520 megawatts. Another four power plants with a total capacity of 178 megawatts will be supplied entirely by Federal geothermal wells.

BLM's principal workload in this program involves completing prelease environmental reviews, issuing geothermal leases, processing applications for power plant licenses, conducting compliance checks to assure conformance with lease stipulations and establishing surface protection requirements, and providing administrative actions on existing leases. The base program provides for the following activities.

Workload Measures	1980	1981	1982 Base
Competitive Sales	4	9	9
Competitive Leases	19	55	55
Noncompetitive Leases			
Over-the-counter	297	200	200
Simultaneous	0	100	100
Direct Thermal Use Licenses	0	3	3
Compliance Checks (surface disturbing activities approved)	125	150	150

Increase for 1982

(Dollar amounts in thousands)

		1982 Base	1982 Estimate	Increase
Geothermal	$	2,650	2,864	+214
	(FTP)	(56)	(56)	--

In FY 1981 the Bureau anticipates initiating a simultaneous leasing program which will account for the issuance of an estimated 100 leases. Additional funds requested for FY 82 will be used to increase by 100 each the number of over-the-counter and simultaneous noncompetitive leases issued, and increase the number of compliance actions in response to the anticipated increase in exploration and development activities. The following table indicates the growing noncompetitive lease application backlog.

Year (to June)	New Applications	Leases Issued	Application Backlog
1978	628	177	1,902
1979	716	231	2,007
1980	739	297	2,111

With the requested increase the following workload measure increases are projected.

Workload Measures	1982 Base	1982 Proposed	1982 Increase
Compet. sales	9	9	---
Compet. leases issued	55	55	---
Noncompet. Leases issued			
Over-the-counter	200	300	100
Simultaneous	100	200	100
Direct Thermal Use licenses issued	3	3	---
Compliance checks (surface disturbing activities reviewed)	150	200	50

Object Classification Distribution

The object class detail for the proposed $214,000 increase is as follows:

Positions other than permanent	$100,000
Total compensation	$100,000
Personnel benefits	15,000
Travel and transportation of persons	8,000
Standard level user charges	5,000
Other services	68,000
Supplies and materials	8,000
Equipment	10,000
Total	+$214,000

Oil Shale. About 80 percent of oil shale resources in the U.S. are located on public land. The equivalent of almost two trillion barrels of shale oil is in the Green River formation located in northwestern Colorado, northeastern Utah, and southwestern Wyoming. The deposits are contained in a 25,000 square mile area, 17,000 square miles of which are believed to contain oil shale with the potential for commercial development.

Existing Prototype Leasing Program

Under the Department of the Interior's Prototype Oil Shale Program, four of six tracts offered were leased in 1974, two each in Colorado and Utah. The tracts offered in Wyoming did not receive any bids. Development has begun on the two tracts in Colorado; development of the two Utah tracts was stalled by a legal challenge from the State of Utah. In May, the Supreme Court held that the United States was authorized to reject in-lieu selections filed by the State of Utah. This decision should resolve one of the factors that led to the delays in developing the Utah Tracts.

The goals of this prototype program include:

- stimulating private sector development of commercial oil shale technology;
- assuring an equitable return to all parties in the development of the public resource;
- testing different extraction and retorting technologies;
- developing management expertise in leasing and supervision of oil shale development; and
- protecting the environmental integrity of affected areas while developing a full range of environmental safeguards and restoration techniques.

In the FY 1982 base program, BLM will continue to assure that the Colorado leasees conform to the strict environmental requirements stipulated in the leases, as well as to state and federal pollution control and environmental quality laws. Facilities on both Colorado tracts should be in full commercial operation by 1986. The Department of Energy has recently projected 1990 production from tract C-a at 60,000 barrels per day and 40,000 barrels per day from tract C-b.

New Leasing Program Initiatives

The President's Import Reduction Program set a production goal for oil shale of 400,000 barrels per day by 1990. This led to a recent Departmental decision both to expand the prototype oil shale program by leasing up to four new tracts and to develop a permanent leasing program.

A FY 1981 budget supplemental for $4,782,000 has been submitted to initiate these new programs. This supplemental will enable BLM to offer up to four prototype leases in FY 1983 and to complete regulations for and prepare a programmatic environmental impact statement on the permanent leasing program by the end of 1983 with the first permanent lease sale in FY 1985. The FY 1981 actions for the prototype program include: development of land use

planning criteria, tract delineation, inventory, and site specific analyses. All of these FY 1981 actions support preliminary ranking of tracts and the Management Framework Plan Amendment/EIS in FY 1982 and the lease sales in FY 1983.

The FY 1981 actions for the permanent program include: scoping the permanent program EIS and regulations, drafting of regulations, and initiation of data collection to support the EIS which will be prepared in FY 1982.

These new leasing initiatives in the prototype and permanent leasing program provide the basis for our FY 1981 oil shale supplemental.

Tar Sands. There are an estimated 30 billion barrels of tar sand oil with a proven recoverable reserve estimated at 1 to 2 billion barrels. Over 90 percent of tar sands are in five deposits in Utah. Federal control of the tar sands is estimated at 90 percent. The deposits cover an estimated 700,000 acres, including acreage in and adjacent to national parks and national recreation areas.

Since 1965 there has been a moratorium on the leasing of tar sands due to the inability of geologists to physically distinguish tar sand from conventional oil prior to well completion. Under present law each resource is leased separately under Sections 21 and 17 respectively of the Mineral Leasing Act of 1920 (MLA). On August 26, 1980, the Under Secretary announced that the Department would undertake a leasing program under Section 21 of the MLA in the event that legislation establishing a combined hydrocarbon lease is not enacted.

The decision to undertake a tar sands leasing assumes that the program will be instituted in 1982 with the first lease sale in FY 1983; therefore, there is no base program.

Workload Measure

	1980	1981	1982 Base
Oil Shale:			
Compliance checks	11	11	13
Acres inventoried	0	750,000 1/	0
MFP amendments	0	0	0
Environmental assessments completed	0	0	0
Tar Sands:			
Acres inventoried	0	0	0

1/ This workload is not being covered in the FY 1981 base funding but will be accomplished through FY 1981 supplemental funds. This workload does not become part of the FY 1982 base since the supplemental is not considered a part of that base.

Increase for 1982

(Dollar amounts in thousands)

		1982 Base	1982 Estimate	Increase
Oil Shale/Tar Sands	$	629	4,698	+4,069
	(FTP)	(4)	(55)	(+51)

Prototype Oil Shale Program

Part of the increase ($1,402,000) will support the second year of actions leading to issuance of up to four additional prototype oil shale leases in FY 1983. Actions for the ptototype program in FY 1982 will include:

- completion of site specific analyses which will identify resource conflicts and be part of the MFP Amendment;

- preliminary tract ranking based on planning criteria developed under the planning regulations;

- preliminary cumulative analysis which evaluates the impacts of various leasing scenarios and continues the formulation of alternatives for consideration in the EIS and;

- preparation of Management Framework Plan Amendment/EIS.

Permanent Oil Shale Program

Another portion of the increase ($1,608,000) will support the second year of activities required to have the permanent program in place by early 1983. These actions include completion of final regulations for operating the program, completion of data collection related to resource considerations and preparation of the environmental statement. By the end of FY 1982, the program will be in place pending final public comment.

Tar Sands

It has been decided that early leasing will be confined to two or three areas due to the uncertainties regarding the environmental consequences of tar sand development. The decision as to which areas to include in tar sand leasing will be made on the basis of both resource quality and environmental risks. In addition, leasing will be designed to encourage the use of various recovery technologies. Early employment of various technologies will hasten tar sand development and provide us with the understanding of the environmental impacts before going into a full scale leasing program.

The tar sands increase ($1,059,000) will support work leading up to preparation of an environmental impact statement in FY 1983 for tar sand leasing. The FY 1982 activities include: preplanning, development of planning criteria, tract delineation, and collection of baseline data. Various data will be collected to include socio-economics, air and water quality, cultural resources, wildlife, threatened and endangered species and mining claims.

Workload Measures

	1982 Base	FY 1982 Proposed	Increase
Oil Shale:			
Compliance checks	13	13	--
Acres inventoried	--	--	--
MFP Amendments	--	2	2
Environmental Assessments Completed	--	1	1
Tar Sands:			
Acres inventoried	--	750,000	750,000

Object Classification Distribution

Position Title	GS Grade	No.	Actual Salary
Team Leader	14	1	$ 37,900
Assistant Team Leader	13	1	32,100
Environmental/Planning Coord.	12	1	30,600
Air Quality Spec./Toxic Sub.	12	1	30,600
Air Quality/Toxic Substances	11	1	25,500
Recreation Spec.	11	1	25,500
Range Conservationist	11	1	25,500
Cultural Resource Spec.	11	2	51,000
Socio-Economist	11	2	51,000
Geologist	11	1	25,500
Writer-Editor	9	1	21,100
Natural Resource Spec.	9	1	21,100
Office Manager	7	1	15,200
Clerk-Typist	6	1	13,700
Clerk-Typist	5	1	12,300
Geologist/Soils	11	1	25,500
Botanist	11	1	25,500
Wildlife Biologist (Fisheries)	11	1	25,500
Technical Coordinator	12	1	30,600
Technical Coordinators	11	3	76,500
Writer-Editor	11	1	25,500
Illustrator	11	1	25,500
Transportation Engineer	11	1	25,500
Departmental/St. Gov. Coord.	14	1	37,900
ADP Programmer	12	2	61,200
Electronic Technician	11	1	25,500
ADP Processor	11	4	102,000
Team Leader	13	2	64,200
Wildlife Biologist	11	2	51,000
Hydrologist	11	1	25,500
Soils Specialist	11	2	51,000
Recreation Planner	11	2	51,000
Archeologist	11	1	25,500
Land Use Planner	11	1	25,500
Natural Resource Spec.	9	3	63,300
Writer-Editor	9	1	21,100
Clerk-Typist	6	1	$ 13,700
Permanent positions		51	$1,297,100
Positions other than permanent			293,900
Total personnel compensation			$1,591,000
Civilian benefits			113,000
Travel and transportation of persons			60,000
Transportation of things			120,000
Standard level user charges			620,000
Contracts			756,000
Supplies			99,000
Equipment			710,000
Total			$4,069,000

Justification of Program and Performance

Activity: 1. Energy and Minerals Management
Subactivity: B. Energy Offshore

(Dollar amounts in thousands)

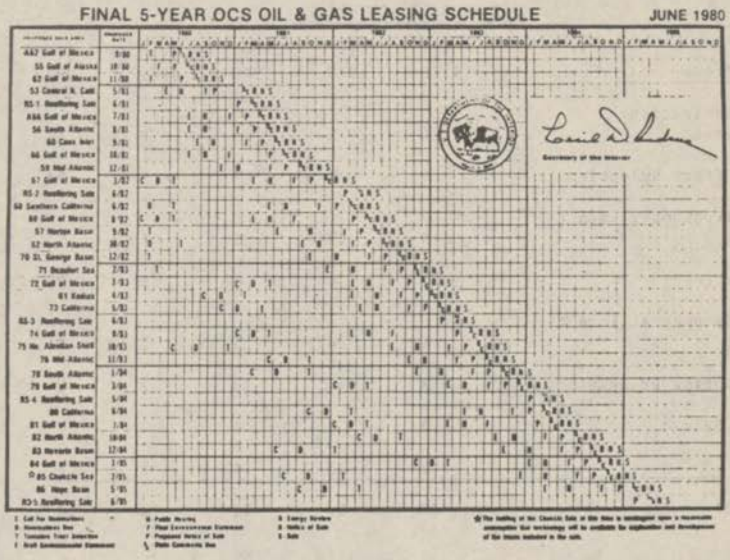
		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Energy Offshore	$	51,146	51,731	55,851	+4,120
	(FTP)	(246)	(246)	(246)	--
(Common Program Services)	($)	(5,446)	(5,655)	(6,257)	(+ 602)
Total Requirements	$	51,146	51,731	55,851	+4,120
	(FTP)	(246)	(246)	(246)	--

	Estimate ($000)	Authorization
43 U.S.C. 1748 P.L. 94-579 P.L. 95-352	$80,475	Federal Land Policy and Management Act of 1976 (FLPMA), sections 318(a) and (b), and the Quadrennial Authorization Act of 1978 authorize the appropriation of such sums as are necessary to carry out the purposes and provisions of FLPMA based on a period of four fiscal years.
43 U.S.C. 1331-1343 67 Stat. 462 P.L. 83-212		The Outer Continental Shelf Lands Act of 1953, as amended, extended the jurisdiction of the United States to the Outer Continental Shelf and authorized the Secretary to lease to develop offshore energy and minerals.
43 U.S.C. 4321, 4331-4335, 4341-4347 P.L. 91-190		The National Environmental Policy Act of 1969 requires the preparation of environmental impact statements for Federal projects having a significant effect on the environment.
43 U.S.C. 1801 92 Stat. 629 P.L. 95-372		The Outer Continental Shelf Lands Act Amendments of 1978 establish policies for managing oil and gas resources in the Outer Continental Shelf and require revision of bidding and lease administration, coordination and consultation with affected state and local governments, environmental studies for lease sale areas, and development of a five-year leasing program.

Base Program

The oil and natural gas resources of the Outer Continental Shelf, particularly those in frontier areas being leased for the first time, are potentially vital and significant sources of increased domestic oil and gas production. FY 1979 oil production from Federal OCS leases was approximately nine percent of national oil production while OCS gas production provided approximately 23 percent of national gas production. Although OCS oil production has declined about 29 percent since 1974, OCS gas production has increased 41 percent during the same time period. These trends are expected to continue through 1982.

The Secretary's final Five-Year OCS Oil and Gas Leasing Schedule issued in June 1980 increases the number of annual OCS sales and includes sales in most frontier OCS areas. This current leasing schedule is presented below. It illustrates the workload which the energy offshore program will complete in FY 1982. Because preliminary work must begin as much as three and one-half years in advance of a sale, preleasing activities will be underway on 24 scheduled sales in FY 1981 and 24 scheduled sales in FY 1982. This current five-year OCS leasing schedule has significantly increased the workload in the energy offshore program.



BLM-44

Principal activities of the OCS leasing program are the presale steps leading to official lease sales to meet the Five-Year OCS Oil and Gas Leasing Schedule; post sale activities associated with the issuance of leases, administering existing leases, and maintaining up-to-date lease records; and conducting the environmental studies program to provide decisionmakers with necessary environmental and socio-economic data for use at specific decision points in the OCS leasing and development process.

Presale/Sale Leasing Activities

Preleasing activities include the following steps: call for nominations and comments, tentative tract selection, draft environmental impact statement, public hearing, final environmental impact statement, proposed notice of sale, and final notice of sale. The Bureau also administers the competitive lease sales. Each of these steps involves in-depth coordination with affected States and the various affected publics. Each step represents sizeable workload for the Bureau Headquarters and Field Offices to comply with regulations and to ensure that the leasing process is carried out in accordance with current policy. The table presented below illustrates the magnitude of increase in the workload for the period FY 1978 through FY 1982 by depicting the number of steps in the prelease sale process which will be completed in FY 1982. This number has almost doubled from 1978 to 1982.

OCS PRESALE ACTIVITIES

Prelease Steps	FY 1978	FY 1979	FY 1980	FY 1981	FY 1982
Call for Nominations and Comments	4	5	5	8	4*
Tentative Tract Selection	4	5	7	5	9*
Draft Environmental Impact Statement	5	3	6	6	7
Public Hearing	3	4	6	5	8
Final Environmental Impact Statement	4	4	3	7	8
Proposed Notice of Sale	3	4	3	7	8
Notice of Sale	3	4	4	7	7
Sale	3	5	4	7	7
Total	29	34	38	52	58

* Figures do not reflect phases of activity which must be initated in FY 1982 for lease sales in the outyear period (late FY 1985 and FY 1986).

The prelease workload increased in 1978 when the OCS Advisory Board was reorganized into a Policy Committee, a Scientific Committee and six Regional Technical Working Group Committees (RTWG). The Scientific Committee and the RTWGs were chartered to provide information and recommendations on the offshore program and are funded and administratively supported by BLM. The Scientific Committee gives advice on the appropriateness, feasibility, and scientific values of BLM's environmental studies program. The RTWGs are composed of representatives of coastal States, industry, interest groups, and Federal agencies and provide for field level coordination.

Post Sale Leasing Activities

Once OCS leases have been awarded a number of labor intensive record maintenance, review, and permitting activities must be carried out by regional OCS offices and supported by headquarters. These activities are not shown on the 5-year leasing schedule.

During the post lease period lease owners frequently make detailed lease assignments and submit documentation to the appropriate OCS office on terminations and related record title actions. These actions must all be adjudicated, approved or disapproved and documented in official record title books. In addition, corporations regularly submit copies of legal actions (mergers, name changes, powers of attorney, and board resolutions) which are also recorded and maintained.

The OCS workload was again increased in 1978 when U.S. Geological Survey regulations required lessees to submit additional post sale reports and planning documents. Each document, including exploration and development plans and environmental reports, is evaluated and commented on by BLM staff. The number of pipeline right-of-way applications and interagency coordination activities during the exploration and development phase has also increased.

Currently only the New Orleans OCS regional office is staffed to support increased post lease activity although the other OCS offices are now devoting more resources and staff to this aspect of the leasing process. The Alaska OCS office in particular will be affected by a substantially increased workload during 1982-85 resulting from eight potential offshore sales.

Environmental Studies Program

The Environmental Studies Program provides data to OCS decisionmakers at 14 critical decision points in the overall leasing and development process. The data are gathered under contracts with universities, private industry, and other government agencies.

The Bureau of Land Management (BLM) and U.S. Geological Survey (USGS) coordinate in developing research efforts to satisfy their information needs. The three units involved (BLM, USGS Geologic Division, and USGS Conservation Division) have reviewed areas of potential duplication of effort in their

respective programs. These reviews have produced an understanding of the appropriate research to be supported by each of the units. This understanding is the basis for BLM's support of studies by the USGS Geologic Division. In addition to this understanding, BLM technically evaluates the statement of work in each of its interagency agreements with USGS. Research which is not relevant to BLM's mission is removed from these agreements.

In an effort to systematically approach study priorities, BLM devised a set of criteria to rank information needs. That system divides information needs into 12 categories, and funds are distributed from the most important and immediate needs to those of lower priority. Studies of long-term effects of OCS activities are assigned to priorities lower than those studies which are designed to provide information on prelease decisions.

In addition, new or expanded demands have been placed on the studies program in several areas. Local interests in post-sale activities and transportation impacts have increased dramatically in most OCS Regions and are frequently accompanied by requests for additional studies information. Post-sale evaluations are included in the Alaska studies program for some lease areas and in the Mid-Atlantic. Studies have been requested for the North Atlantic, South Atlantic, and California lease areas. The program also is supporting long-term monitoring of the effects of OCS activities. This requirement of the OCS Lands Act Amendments has not created a significant demand on funds in the past. However, Biological Task Forces, such as that for the Georges Bank, will increase this demand.

Finally, the number of large reconnaissance studies has increased substantially due to potentially large lease areas. These studies are designed to provide a broad overview of such topics as geohazards, pollutant transport, and endangered species. Although the number of these studies has remained relatively constant, their costs have increased rapidly. During FY 1979, only one such study had a projected cost greater than $1 million. These costs result from the need to encompass large areas and from the logistical costs of supporting this research.

The workload for the sale, post sale, and environmental studies activities are as follows:

Workload Measures	1980	1981	1982 Base
Leases Administered	2,214	2,915	2,915
Draft and Final Environmental Impact Statements completed	9	13	13
Competitive Lease Sales Held/Scheduled	4	7	7
Planned Sales Requiring Actions During the Fiscal Year	21	24	24
Environmental Studies Funded by Region:			
North and Mid-Atlantic	9	9	9
South Atlantic and Gulf of Mexico	18	14	14
California	12	11	11
Alaska	42	49	49
Generic Studies	5	7	7

Increase for 1982

(Dollar amounts in thousands)

		1982 Base	1982 Estimate	Increase
Energy Offshore				
Leasing and Management	$	15,413	15,584	+ 171
Environmental Studies	$	36,318	40,267	+3,949
Total	$	51,731	55,851	+4,120
	(FTP)	(246)	(246)	--

The $171,000 increase will be used to offset program services costs in the leasing activity.

Of the $3,949,000 increase in environmental studies $1,530,000 million will be used to contract for a vessel to replace either the Discover or the Surveyor. This additional appropriation is based on BLM's estimate of its FY 1982 requirements. BLM is currently negotiating with the National Science Foundation to arrange for appropriate vessel support in Alaska during FY 1982.

Additional funding for environmental studies accounts for $2,419,000 of the $3,949,000 increase. These funds will be used for high priority studies that will provide information categorized as critical to prelease and post lease decisions.

Since FY 1979, the base appropriation for the OCS Environmental Studies has increased. However, the effects of inflation, the additional issues identified for study, and the costs of the studies required to provide needed information have also increased dramatically during the past two years.

The most apparent cost increases result from higher prices for fuel as the Bureau currently pays between $5,000 and $12,000 for each ship-day of support. The studies program is heavily dependent upon ships and aircraft; therefore, fuel costs are a significant portion of the studies budget. In Alaska, approximately 20 percent of the NOAA/OCS Environmental Assessment Program (EAP) is devoted to fuel. In FY 1980 NOAA/OCSEAP received approximately $3.0 million for logistics, principally fuel. During June 1980 OCSEAP requested an additional $0.5 million to purchase fuel because its original allocation was insufficient for summer operations. OCSEAP has projected a shortfall of $1.0 million in FY 1981. Similar cost increases have occurred in the Lower 48 States. These increased costs result in a larger number of studies costing more than $1.0 million and fewer studies being performed each year.

Studies costs will escalate further in FY 1982 since NOAA will decommission either the R.V. Discover or the R.V. Surveyor. Both of these ships are used extensively to support BLM studies sponsored by NOAA/OCSEAP.

The significant increase in information needs began in FY 1981 as the result of the Secretary's June 1980 leasing schedule. That schedule included new sales, such as the Hope Basin and the Chukchi Sea, and potentially large sales in California.

This increase in the number of study issues and their related costs as described above has now resulted in a decline in the program's ability to respond to issues identified as important for resolution for further decisionmaking.

In FY 1982, a total of about 50 environmental studies will be undertaken. Twenty-eight are continuations of studies initiated prior to FY 1982. Most of the remaining 22 studies represent initiatives to support forthcoming California sales (#73 and #80) and sales in the Bering Sea and the Arctic Ocean. The majority of the Alaskan initiatives are socio-economic studies required to support the impact analysis and post-sale monitoring. Of the 50 studies, eighteen will occur in Alaska, 27 will be in OCS areas in the Lower 48 States, and five are generic studies.

Of the total studies budget, approximately $7.5 million will be used for studies related to endangered whales in Alaska, various analyses in the Georges Banks, and air quality analyses related to California sales. For example, about $3.7 million of studies budget will be devoted to assessing the impacts of sales on endangered whales in the Arctic Ocean and the Bering Sea. These studies will include analyses of migration routes; areas of importance for feeding, mating, and calving; effects of noise and other potential disturbances from OCS activities, and other ecological components of importance to these species. An additional $2.7 million of studies will be directed toward the Georges Bank. These studies will include a continuing

evaluation of geohazards, an analysis of the biota of the submarine canyons bordering the Bank, and a study of the effects of oil and operational discharges on finfish and shellfish of the Bank. Finally, the Pacific OCS Office will spend about $1.1 million in air quality analysis for sales in northern and southern California. An additional investment of $1.5 million is scheduled for a series of studies to determine the impacts associated with platform emplacement and operation.

Approximately $800,000 of the total studies budget will fund the salaries of 20 Bureau personnel who are engaged in management, planning, and contract administration of the Environmental Studies Program. In prior years, the leasing activities funds have supported personnel salaries for this program. The appropriation for environmental studies was devoted exclusively to procurement of contracts.

Workload Measures

	1982 Base	1982 Proposed	Increase or Decrease
Leases Administered	2,915	3,360	+445
Draft and Final Environmental Impact Statements Completed	13	15	+2
Competitive Lease Sale Held/Scheduled	7	7	---
Planned Sales Requiring Actions During the Fiscal Year	24	24	---
Environmental Studies Funded by Region:			
North and Mid-Atlantic	9	5	-4
South Atlantic & Gulf of Mexico	14	15	+1
California	11	7	-4
Alaska	49	18	-31
Generic Studies	7	5	-2

Object Classification Distribution

The object class detail for the proposed $4,120,000 increase is as follows:

Other services	$4,120,000

Justification of Program and Performance

Activity: 1. Energy and Minerals Management
Subactivity: C. Nonenergy Onshore

(Dollar amounts in thousands)

		1981 Appropriation Enacted to Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Mineral Material Sales	$	2,197	2,356	2,408	+52
	(FTP)	(70)	(70)	(70)	--
Mining Law Administration	$	5,000	5,372	5,829	+457
	(FTP)	(100)	(100)	(102)	(+2)
Mineral Leasing	$	2,172	2,221	2,369	+148
	(FTP)	(22)	(22)	(22)	--
(Common Program Services)	($)	(2,142)	(2,224)	(2,461)	(+237)
Total Requirements	$	9,369	9,949	10,606	+657
	(FTP)	(192)	(192)	(194)	(+2)

Authorization

	($000)	
43 U.S.C. 1748 P.L. 94-579 P.L. 95-352	$13,544	Federal Land Policy and Management Act of 1976 (FLPMA), Sections 318(a) and (b); and the Quadrennial Authorization Act of 1978 authorize the appropriation of funds necessary to carry out the purposes and provisions of FLPMA based on a period of four fiscal years.
30 U.S.C. 22 17 Stat. 91		The Mining Law of 1872, as amended, provides for classification and patenting of locatable minerals.
30 U.S.C. 181 et. seq. 41 Stat. 437 P.L. 66-146		The Mineral Leasing Act of 1920, as amended, provides for classification and leasing of coal, oil, oil shale, natural gas, phosphate, and sodium.
30 U.S.C. 601, 602 61 Stat. 681 P.L. 80-291		The Material Sales Act of 1947, as amended, provides for disposal of common variety materials for commercial or industrial uses, and free use for governmental entities.

42 U.S.C. 4321, 4331-4335, 4341-4347 P.L. 91-190	The National Environmental Policy Act of 1969 requires the preparation of environmental impact statements for Federal projects having a significant effect on the environment.
43 U.S.C. 1711 P.L. 94-579	The Federal Land Policy and Management Act of 1976 provides for the preparation and maintenance of inventories of public land resource values (Section 201a).
30 U.S.C. 21a P.L. 91-361	The Mining and Minerals Policy Act of 1970 establishes Federal policy to foster and encourage private enterprise to develop domestic mineral resources in an orderly and economic manner.
P.L. 96-487	The Alaska National Interest Lands Conservation Act of 1980 (ANILCA) provides for the designation and conservation of certain public lands in the State of Alaska, including the designation of units of the National Park, National Wildlife Refuge, National Forest, National Wild and Scenic Rivers, and National Wilderness Preservation Systems, and for other purposes.

Objectives

The objectives of BLM's onshore nonenergy minerals management program are to: ensure the orderly and timely development of nonenergy mineral resources to meet national needs, giving adequate consideration to other land and resource values; minimize adverse environmental impacts from mineral development; and assure a fair return to the public for the resources sold.

Base Program

BLM's nonenergy minerals management encompasses three individual programs: (1) The material sales program supplies such mineral materials as sand and gravel through competitive and noncompetitive sales or through free use permits to qualified government agencies for public projects. (2) The mining law administration program makes such minerals as gold, uranium, bentonite, and copper available for domestic production through mining claims and mineral patents. (3) The minerals leasing program makes such minerals as sodium, potassium, sulphur, phosphate, and potash available to the public through prospecting permits and competitive and noncompetitive leases.

Mineral Material Sales - Base Program

Public lands are an important local source of building stone, sand, gravel, and common barrow. BLM may sell such materials to a qualified individual or company, and BLM may give a free use permit to a qualified governmental agency for its public projects. Environmental assessments covering one or more use areas are conducted before authorizations are given. The Bureau establishes community pits and common use areas to provide a convenient source of saleable minerals to meet local needs, minimize administrative work in processing sales, and concentrate use in limited areas. Stipulations covering minimum safety standards and restoration requirements are included in sales contracts. Site checks are necessary to assure compliance with these stipulations, collection of appropriate payments, and to prevent or take action on trespass cases.

The disposal of mineral materials is discretionary, however, it is Bureau policy to meet the public demand for such materials.

Workload Data

	Units		
Base:	1980	1981	1982 Base
Mineral material use authorization			
Sales contracts issued	1,100	1,100	1,100
Free use permits issued	1,000	1,000	1,000
Trespass cases processed	50	50	50
Compliance checks conducted	1,100	1,100	1,100
Environmental assessments completed	560	560	560

Increase for 1982

	(Dollars in thousands)		
Mineral Material Sales	1982 Base	1982 Estimate	Increase
$	2,356	2,408	+52
FTP	(70)	(70)	--

An increase of $52,000 is requested to make sand and gravel resources available principally for the Arctic Slope Regional Corporation pursuant to Section 1431 (j) of the Alaska National Interest Lands Conservation Act. Those sand and gravel resources are necessary for the construction, operation, and maintenance of an oil and gas pipeline right-of-way and related transportation facilities.

Workload Data

Workload Measures	1982 Base	Units 1982 Estimate	Increase
Mineral material use authorization			
Sales contract issued	1,100	1,118	18
Free use permits issued	1,000	1,016	16
Trespass cases processed	50	51	1
Compliance checks amended	1,100	1,118	18
Environmental assessments completed	560	569	9

Object Classification Distribution

The object class detail for this proposed $52,000 increase is as follows:

Position Title	GS Grade	No.	Actual Salary
Positions other-than-permanent	--	--	$ 43,000
Total personnel compensation			43,000
Standard level user charges			2,000
Other services			5,000
Supplies and materials			1,000
Equipment			1,000
Total			$ 52,000

Mining Law Administration - Base Program

Under this program, BLM determines the validity of mining claims; issues mineral patents; prepares mineral character reports for withdrawals, land exchanges and sales, and other land disposal actions; and administers new surface management regulations.

BLM is working to reduce the backlog (as of March 31, 1980) of 399 mineral patent applications by the end of FY 1981. While Congress provided additional funds for this purpose in FY 1979, difficulty in recruiting and retaining personnel has slowed progress. Processing mineral patent applications involves three principal actions - adjudication, mineral field evaluations, and patent issuance or contest proceedings. These actions cannot be contracted out, although non-BLM expert witnesses may be used during contest actions.

Workload in this program will increase significantly in FY 1981 and FY 1982 as the result of two new sets of surface management regulations designed to prevent unnecessary damage to the public lands from operations under the mining laws. The first set of regulations ("3802") was implemented in April, 1980 and addresses surface management of mining claims on areas under wilderness review. The 3802 regulations prevent impairment of wilderness values in these areas; recognize valid existing rights and allow grandfathered activities to continue; and allow continued location and operations under the mining laws. During FY 1980 about 100 mining plans were processed under these regulations. The second set of regulations ("3809") applying to public lands not under wilderness review, was implemented January 1, 1981. The 3809 regulations are designed to prevent undue or unnecessary degradation from operations under the mining laws as mandated by Section 302(b) of FLPMA.

Over 1.2 million mining claims have been filed as of June, 1980. Each claim will be reviewed under either the "3802" or the "3809" regulations. A mining plan will be done for each claim or group of claims within wilderness study areas and other sensitive areas outlined in the 3809 regulations. In other areas, all mining claim operations except those of "casual use" are expected to have a "notice" or a "plan of operations", depending on the extent of surface disturbance. For activities of 5 acres or less, a notice must be filed with the authorized officer 15 calendar days prior to the commencement of the activity. This notice requires no approval or bonding. Activities causing surface disturbance on areas greater than 5 acres will require a plan of operation.

BLM review of plans and notices will considerably increase our workload in FY 1981 and FY 1982. About 65 percent (or 780,000) of the 1.2 million claims are on BLM managed lands. We expect that mining claim assessment work will be done on an average group of 25 claims. As a result, about 31,200 groups of claims could require either a notice or a plan describing the assessment work unless they are areas of casual use. Our Districts estimate that some of this assessment work will be done under "casual use" and in other cases more than 25 claims will be grouped. As a result, we anticipate receiving 5,400 notices and 390 plans in FY 1981.

BLM's original proposed 3809 regulations required a mining plan on each group of claims. Thus, 5,900 mining plans were expected in FY 1981. This would have been a major workload. Since originally proposing them, BLM has redesigned the regulations in an effort to fully accomplish their environmental objectives more efficiently. BLM's redrafted regulations, by considering not only plans but also casual use and notices, would cost BLM about $8,000,000 less to implement in FY 1981 than estimated originally.

Under the regulations, BLM has 30 days to review a plan and 15 days to review a notice. Field examinations, inventories and preparation of environmental analyses may be required prior to approval of plans. Monitoring and compliance checks on each notice and plan are expected to take one-half day. By monitoring, BLM can assure that project work is being done as planned, environmental stipulations are being complied with, and resource management objectives are being achieved. Base funding provides for monitoring of 1,850 of the estimated 5,790 projects.

Workload Data

		Units		
		($ in thousands)		
Base	Cost per Unit ($)	1980	1981	1982 Base
Mineral patent applications processed	7,200	190	190	190
Contest actions completed	250	300	300	300
Field exams completed	--	800	800	800
Validity determinations	5,100	150	150	150
Mineral character determinations	2,000	100	100	100
Plans of operation processed	1,600	100	390	390
Notices processed	160	--	5,400	5,400
Monitoring (Plans and Notices)	80	--	1,850	1,850

Increase for 1982

	(Dollars in thousands)		
Mining Law Administration	1982 Base	1982 Estimate	Increase
$	$5,372	$5,829	$457
FTP	(100)	(102)	(+2)

The $294,000 increase for FY 1982 will enable BLM to review an additional 60 plans of operations and 600 notices filed under the 43 CFR 3809 regulations. In addition the Bureau will be capable of performing an additional 1,275 compliance checks on activities being conducted under plans of operations and notices. In practice, BLM will conduct compliance checks only on those projects which are most likely to substantially impact the environment and other sensitive resources.

As a result of the Alaska Lands Act $163,000 and 2 additional positions are being requested for Mining Law Administration to implement various sections of the Act. One position and $58,000 of this increase will be used to implement Sections 402/404 of the Act and will provide for inventories to be used in the Bureau's land use planning system, compliance checks under 43 C.F.R. 3809 and recordation of mining claims under 43 C.F.R. 3833. Procurement of aerial photographs to monitor mining activities will be a major cost item. $13,000 will be used to implement Section 605 of the Act. This will provide funds for mining claim adjudication. $92,000 and one position will be used to implement Section 905(a) of the Act. This will enable the Bureau to conduct mineral in character examinations and prepare appropriate reports on 50 native allotments.

Workload Measures:	1982 Base	1982 Estimate	Increase
Plans of operations processed	390	450	+ 60
Notices processed	5,400	6,000	+ 600
Monitoring (Plans and Notices)	1,850	3,125	+1,275
Mineral in character examinations	0	50	+ 50

Object Classification Distribution

The object class detail for this proposed $457,000 increase is as follows:

Position Title	GS Grades	No.	Amount
Minerals Specialists	9-11	2	$ 80,000
Permanent Positions			80,000
Positions other than permanent			268,000
Total Personnel Compensation			$348,000
Civilian Benefits			30,000
Travel and transportation of persons			32,000
Transportation of things			7,000
Printing and reproduction			20,000
Supplies and materials			15,000
Equipment			5,000
Total			$457,000

Mineral Leasing - Base Program

The nation relies on Federal lands for 40 percent of domestic sodium production, 12 percent of domestic phosphate production, and 86 percent of domestic potash production. However, significant mineral imports are still needed to meet national demand. For example, 60 percent of the potash consumed in the United States annually is now imported.

BLM administers approximately 480 existing non-energy mineral leases and 244 permits. The program provides for processing applications, making field exams, preparing necessary environmental analyses, and conducting compliance checks to assure proper application of protective stipulations in the leases or permits. This program also provides mineral expertise to support other BLM resource management activities such as withdrawals, exchanges, and grazing environmental impact statements.

In FY 1979 receipts from nonenergy mineral leases amounted to $40 million; and they are estimated to be $45 million in FY 1980, $50 million in FY 1981, and $55 million in FY 1982. The majority of receipts are royalties from production.

The backlog of 150 leases which were overdue for renewal or readjustment at the beginning of FY 1981 is expected to increase by 10 by the beginning of FY 1982.

FY 1982 base program will include the following:

	Units			
Workload Measures	1979	1980	1982	1982 Base
Lease applications processed	34	40	40	40
Prospecting permits processed	200	220	220	220
Environmental Analyses and field exams completed	100	100	100	100
Compliance checks conducted	50	75	75	75

Increase for 1982

(Dollars in thousands)

		1982 Base	1982 Estimate	Increase
Mineral Leasing	$	2,221	2,369	+148
	(FTP)	(22)	(22)	---

Delay in issuing minimum royalty regulations for nonenergy minerals has resulted in a backlog of approximately 160 leases awaiting renewal for readjustment of terms. The regulations are intended to encourage production and to insure a fair return to the Treasury for disposition of mineral rights. Less than 20% of existing leases are currently in production. Since the regulations are now final, BLM needs added capability to process the pending backlog expeditiously, and clear the way for production. The requested increase includes $148,000 to enable the Bureau to address the pending actions on 150 additional leases in FY 1982, leaving only 10 holdover actions pending.

Workload Measures	1982 Base	1982 Estimate	Increase
Lease applications processed	40	190	+150
Prospecting Permits processed	220	220	---
Environmental analyses and field exams	100	100	---
Compliance Checks	75	75	---

Object Classification Distribution

The object class detail for this proposed $148,000 increase is as follows:

Position Title	GS Grade	No.	Actual Salary
Position Other-than-Permanent	--	--	$ 51,000
Total Personnel Compensation			51,000
Personnel Benefits			5,700
Rent, Communications and Utilities			2,800
Other Services			83,000
Supplies and Materials			1,600
Equipment			3,900
Total			$148,000

Justification of Program and Performance

Activity: 2. Lands and Realty Management

(Dollar amounts in thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Energy Related Realty	$	9,361	9,668	8,527	-1,141
	(FTP)	(146)	(146)	(111)	(-35)
Nonenergy Related Realty	$	21,371	23,005	30,178	+7,173
	(FTP)	(647)	(645)	(745)	(+100)
Withdrawal Processing and Review	$	3,931	4,209	5,631	+1,422
	(FTP)	(72)	(72)	(73)	(+1)
(Common Program Services)	($)	(10,024)	(10,408)	(11,517)	(+1,109)
Total Requirements	$	34,663	36,882	44,336	+7,454
	(FTP)	(865)	(863)	(929)	(+66)

	Estimate ($000)	Authorization
43 U.S.C. 1748 P.L. 94-579 P.L. 95-352	$43,264	The Federal Land Policy and Management Act of 1976 (FLPMA), Section 318 (a) and (b), and the Quadrennial Authorization Act of 1978 authorize the appropriation of such sums as are necessary to carry out the purposes and provisions of FLPMA based on a period of four fiscal years.
43 U.S.C. 1713 P.L. 94-579		The Federal Land Policy and Management Act of 1976 (FLPMA), authorizes the Secretary:
		- to sell a tract of public land if the sale of such tract meets certain disposal criteria;
43 U.S.C. 1714		- to review, over fifteen years, certain withdrawals existing as of October 21, 1976, to determine whether, and for how long, the existing withdrawal should be continued;
43 U.S.C. 1716		- to exchange public lands if the public interest will be well-served by making that exchange;
43 U.S.C. 1721		- to convey omitted public lands to a qualified occupant if it is in the public interest to do so;

74-939 O—80——5

43 U.S.C. 1722	- to process by October 21, 1981 all applications for unintentional trespass filed under the Act of September 26, 1968 and sale of those lands as appropriate;
43 U.S.C. 1732	- to manage the use, occupancy, and development of the public lands through leases and permits;
43 U.S.C. 1744	- to record mining claims that have been filed;
43 U.S.C. 1761-1771	- to determine whether public lands are suitable for right-of-way purposes (other than those for oil and gas pipelines) and to specify the boundaries of each right-of-way; and
43 U.S.C. 1711	- to prepare and maintain inventories of all public lands.
30 U.S.C. 185 P.L. 66-146	Section 28 of the Mineral Leasing Act of 1920, as amended, authorizes the Secretary to determine whether public lands are suitable for oil and gas pipeline rights-of-way.
43 U.S.C. 315 48 Stat. 1269 P.L. 73-482	Section 7 of the Taylor Grazing Act authorizes the Secretary to classify lands within grazing districts or withdrawn or reserved by Executive Orders 6910 and 6964 1/, and to open lands as appropriate to entry, selection, or disposal after classification. Disposal, settlement, or occupation of such lands are not permitted before classification and opening.
43 U.S.C. 1616	Section 17(d) of the Alaska Native Claims Settlement Act authorizes the Secretary to classify or reclassify lands in Alaska and to withdraw 2/ or open such lands as appropriate after classification.

1/ Executive Order 6910 (November 26, 1934) and Executive Order 6964 (February 5, 1935) withdrew all public lands, with certain exceptions (including Alaska), from settlement, location, sale or entry under the nonmineral public land laws.

2/ Under various Public Land Orders, public lands in Alaska are subject to classification and reclassification and have been withdrawn from all forms of appropriation under the public land laws, with some exceptions, including State selections, location and entry under the mining laws, except locations for metalliferous minerals (30 U.S.C. 2); and leasing under the Mineral Leasing Act of February 25, 1920, as amended (30 U.S.C. Sections 181-287 (1970)).

43 U.S.C. 869	The Recreation and Public Purposes Act of 1926, as amended, authorizes the Secretary to classify public lands for lease or sale for recreation or public purposes. Lands withdrawn for use by a Federal agency may be leased or sold with the consent of the head of that agency.
43 U.S.C. 687b	The Act of August 30, 1949, as amended, authorizes the Secretary to dispose of public lands and certain withdrawn Federal lands in Alaska that are classified as suitable for housing and industrial or commercial purposes.
16 U.S.C. 1277	Section 6(d) of the Wild and Scenic Rivers Act authorizes the Secretary to exchange or dispose of suitable Federally-owned properties for non-Federal property within the authorized boundaries of any Federally administered component of the National Wild and Scenic Rivers System.
43 U.S.C. 641	Section 4 of the Carey Act of August 18, 1894 authorizes the Secretary, with the approval of the President, to patent to States, desert lands which are reclaimed, cultivated, and settled.
43 U.S.C. 4321, 4331-4335, and 4341-4347 P.L. 91-190	The National Environmental Policy Act of 1969 requires the preparation of environmental impact statements for Federal projects that will have a significant effect on the environment.
16 U.S.C. 4601 84 Stat. 1067 P.L. 91-476	The King Range Act of 1970 authorizes the acquisition and exchange of lands in the King Range National Conservation Area.
43 U.S.C. 1181 50 Stat. 874 P.L. 75-405	The Conservation of Timber Act of 1937 provides for classification of lands more suitable for purposes other than forestry.
30 U.S.C. 621 P.L. 84-359	Provides for mineral entry of lands withdrawn for power development.
43 U.S.C. 932 14 Stat. 253	The Federal Aid Highway Act of 1966 provides for the granting of rights-of-way on public lands for highways.
P.L. 96-487	The Alaska National Interest Lands Conservation Act of 1980 (ANILCA) provides for the designation and conservation of certain public lands in the State of Alaska, including the designation of units of the National Park, National Wildlife Refuge, National Forest, National Wild and Scenic Rivers, and National Wilderness Preservation Systems, and for other purposes.

Objectives

The objectives of the Lands and Realty Management Program are to:

- provide the means to expedite action on right-of-way requests, with emphasis on energy-related cases;
- expedite in-lieu selection by states;
- make public lands available to other agencies or the private sector through lease, permit, sale, exchange, or direct conveyance where consistent with land use plans or specific legislation;
- utilize exchanges to acquire critical resource values and improve manageability;
- review all existing withdrawals and open maximum public land acreage to the operation of the general land laws, including especially the mining and mineral leasing laws;
- reduce casework processing time and reduce casework backlogs on a scheduled basis;
- maintain and improve land records;
- integrate right-of-way planning and management into the transportation and land management planning processes;
- provide for an interagency coordinated program in:
  - BLM - USFS boundary adjustments to improve management efficiency
  - support Air Force MX Missile Project
  - application processing
  - corridor planning and management
  - cost reimbursement and accountability
  - right-of-way appraisal procedures
- implement the Alaska National Interest Lands Conservation Act;
- expedite the Alaska Native Claims Settlement Act;
- expedite conveyances to the State of Alaska; and
- implement trespass abatement.

Base Program

Energy Related Realty. Energy related casework includes all actions necessary to process applications for rights-of-way and associated land use authorizations for public demand oil and gas pipelines, power transmission lines, and other energy development and distribution facilities, energy related land exchanges, and other miscellaneous energy related cases.

An estimated 3,500 energy related cases will be processed under this account in the FY 1982 base program, the same level as in FY 1981. Processing these cases includes preliminary investigations which consider alternate site analysis, preparation of environmental analysis reports, appraisal, development of special permit stipulations, issuance of right-of-way grants and construction compliance supervision.

Work on these 3,500 applications and projects is nonreimbursable as long as costs are less than $5,000 per case because the scope of the project does not warrant the keeping of detailed cost records. A nonreturnable filing fee is required and specified in regulations. Costs for processing these cases are estimated to be $2,300/case in FY 1982.

Other nonreimbursable cost projects include assisting Federal, State and other public agencies in energy related land use environmental statements and processing right-of-way applications for bonified public utilities operated by municipalities or local governments. The costs of these activities in FY 1982 are estimated at $350,000.

In addition to these 3,500 nonreimbursable cases, BLM will process approximately 20 major energy related rights-of-way, including those for the Alaska Natural Gas Transportation Systems, The Northern Tier Pipeline, and the ETSI Coal Slurry Pipeline. Because the costs for processing these cases exceeds $5,000 each, work on these projects is reimbursed by the applicant or permittee under authority of the Federal Land Policy and Management Act and of the Mineral Leasing Act of 1920 as amended. They are funded by deposits made into the "Service Charges, Deposits and Forfeitures" appropriation. BLM will invest about 110 work years in processing these major energy rights-of-way in FY 1982.

BLM will also process 100 applications under Title I of the Mineral Leasing Act of 1920, as amended, where jurisdiction exists in two or more federal agencies. Except for management overhead costs, which under Section 304 of FLPMA are not subject to cost recovery, costs for these projects are also reimbursed by the applicant through the "Service Charges, Deposits, and Forfeitures" appropriation. The management overhead costs of about $80,000 are absorbed in the Lands and Realty Management Program (Energy Related Realty). Workloads remain essentially constant through fiscal year 1982, and we are essentially on a pipeline basis in processing cases. Costs of BLM's participation in the MX Missile Project, which will include participation in the EIS and issuance of R/W permits and withdrawals, are reimbursed by the U.S. Air Force. Further discussion concerning MX Missile project is presented in the section entitled Nonenergy Related Realty.

Decrease for 1982

		1982 Base	1982 Estimate	Decrease
Energy Related Realty	$	9,668	8,527	-1,141
	(FTP)	(146)	(111)	(-35)

This decrease of $1,141,000 is an accounting shift of $1,388,000 from the energy related realty subactivity to the nonenergy realty subactivity to accommodate the actual workload; it is offset by a $247,000 increase in support of the Alaska Lands legislation.

Object Classification Distribution

The object class detail for this proposed $1,388,000 decrease (shift) is as follows:

Position Title	GS Grade	No.	Actual Salary
Land Law Examiner	GS-7 thru 11	4	$ 132,000
Soil Scientist	GS 9 thru 12	2	60,000
Contracting Specialist	GS 9 thru 12	1	30,000
Botanist	GS 9 thru 12	2	60,000
Realty Specialist	GS 9 thru 12	9	300,000
Archaeologist	GS 7 thru 11	1	30,000
Hydrologist	GS 9 thru 12	2	63,000
Mining Engineer	GS 9 thru 12	2	63,000
Geologist	GS 9 thru 12	2	60,000
Economist	GS 9 thru 12	2	60,000
Sociologist	GS 9 thru 12	1	30,000
Environmental Specialist	GS 9 thru 12	2	60,000
Air Quality Specialist	GS 9 thru 12	2	60,000
Clerk/Typist	GS 4 thru 5	4	74,000
		36	$1,082,000
Permanent Positions			1,082,000
Positions other than permanent			--
Total personnel compensation			1,082,000
Personnel benefits			108,000
Travel and transportation of persons			100,000
Transportation of things			74,000
Supplies and materials			24,000
Total			$1,388,000

Increase for 1982

Alaska Lands

		1982 Base	1982 Estimate	Increase
Energy Related Realty	$	--	247	+ 247
	(FTP)	--	(1)	(+1)

This increase of $247,000 is to:

- Assess transportation alternatives for oil and gas from the Central Arctic area.

- Identify access routes to sand and gravel sources for use by the Arctic Slope Regional Corporation in accordance with legislative mandates.

Object Classification Distribution

The object class detail for this proposed $247,000 increase is as follows:

Position Title	GS Grade	No.	Actual Salary
Realty Specialist	GS-11	1	$ 30,000
Permanent Positions			30,000
Positions other than permanent			33,000
Total personnel compensation		1	$ 63,000
Personnel benefits			6,000
Travel and transportation			10,000
Transportation of things			10,000
Standard level user charges			24,000
Other rental communications and utilities			2,000
Printing and reproduction			5,000
Other services			100,000
Supplies and materials			25,000
Equipment			2,000
Total			$ 247,000

Base Program

Nonenergy Related Realty. This program provides public service by issuance of use authorizations and land tenure adjustments for nonenergy related actions referred to as casework. Use authorization is the granting of a lease or permit for the use of public land for rights-of-way, recreation and public purposes, and other non-mineral uses. Ownership of the land rests with the Federal Government. Land tenure adjustment is the granting of a patent through sale, exchange, or conveyance. The ownership of the land is transferred from the Federal Government.

Also included in this program are:

- The preservation, improvement and maintenance of public land records.
- The recordation and processing of mining claims.
- Response to public inquiries.

The 1982 base program will include the following:

Lower 48 States

- Processing 1,340 use authorizations.
- Processing 2,220 Land Tenure Adjustments.
- Recording 190,000 new unpatented mining claims.
- Handling 100,000 public inquiries.
- Maintaining 10,000,000 basic land records and related documents.

Included in the above are:

- Non-energy rights-of-way made up of applications from individuals, corporations, utility companies, associations and local and State governments for use of public land to construct and use small rural powerlines, canals, ditches, small farm irrigation and stock reservoirs, water pipelines, roads, etc. In some cases the requests are made to legalize an unauthorized use.

- Desert Land Entries: Nevada and Idaho have received numerous applications for agricultural land under the Desert Land Act of March 3, 1877, as amended. Approximately 5,400 applications for in excess of one million acres are on file. In 1982 approximately 300 cases involving an estimated 100,000 acres will be processed.

- Other casework backlog reduction: BLM expects to receive approximately 3,350 applications in FY 1982 for use of public land for nonenergy purposes. Over the past ten years the case numbers pending has increased from 4,000 to 6,000. This backlog of applications will be reduced in 1982 by 210 cases using base funding.

- Unauthorized Use: There are thousands of unauthorized uses on the public lands (houses, buildings, corrals, powerlines, telephone lines, pipelines, ditches, agricultural, etc.). An inventory of these uses has been ongoing. In FY 1982 approximately 12 million acres will be inventoried. Once inventoried, this unauthorized use, on a scheduled basis, will be legalized or terminated.

The following table illustrates work flow which will be accomplished in the FY 1982 base program.

	Est. Cases Pend. end of FY 1981	Anticipated New Cases FY 1982	FY 1982 Cases Processed w/Base	Estimated Cases Pend. end of FY 1982
Land Use Authorizations (permits, leases, R/Ws)	1,000	1,500	1,340	1,160
Land Tenure Adjustments (sales, exchanges, state indemnity selections)	5,000	1,850	2,220	4,630
Total	6,000	3,350	3,560	5,790

The cost of processing an estimated 3,560 nonenergy related cases will be about $2,700/case in FY 1982, or $9.6 million.

Alaska

Complete field examinations and reports on 463 parcels of land for purposes of (1) making navigability determination related to State and Native conveyances, (2) appraising Cook Inlet Region pool lands and (3) processing sensitive public demand cases.

Process 4.5 million acres to interim conveyance or patents under ANCSA.

Process 33 million acres of State selected lands in order to issue tentative approvals or patents to the State on 10 million acres under the Alaska Statehood Act.

Process to conveyance a few sensitive cases and cases which would create a severe hardship if not promptly processed (e.g., Native allotments, Homesteads, trade and manufacturing sites, townsites).

Process and issue 100 use authorizations (nonenergy) for rights-of-way permits, and temporary use permits.

Receive and review 10,000 filings of annual assessment work for unpatented mining claims.

Conveyed as of the end of Fiscal Year

	Thru FY 1980	FY 1981	FY 1982	FY 1983	FY 1984	FY 1985
ANCSA increase		4,500	4,500	4,500	4,500	4,500
(44,000) cumulative	16,950	21,450	25,950	30,450	34,950	39,450
State increase		10,000	10,000	10,000	10,000	10,000
(104,500) cumulative	45,500	55,500	65,500	75,500	85,500	95,500

As a result of concentrating the effort in Alaska on the ANCSA and State conveyances the number of other lands cases (Native allotments, homesteads, home and townsites, recreation and public purposes, non-mineral leases and permits and rights-of-way) is building at an annual rate of 1-2 percent. These cases will be reduced to a manageable level after FY 1986 when capability currently existing for ANCSA and State conveyances will be shifted to Native allotments and other casework.

Increase for 1982

		(Dollar amounts in thousands) 1982 Base	1982 Estimate	Increase
Nonenergy Related Realty	$	23,005	30,178	+ 7,173
	(FTP)	(645)	(745)	(+100)

Of the $7,173,000 increase, $1,388,000 and 36 FTP's is an accounting shift from the energy related realty subactivity.

An additional $2,805,000 of the increase and 2 FTP's directly supports the policy of public service and BLM's ability to improve its responsiveness to the public's needs. The remaining $2,980,000 and 62 FTP's is for implementation of the Alaska National Interest Lands Conversation Act of 1980.

The accounting shift and the non-Alaska increase for public service will be used for:

- The processing of 560 backlog cases at an average cost of $2,700 per case. The cost to process these 560 cases will be $1,513,000. Processing these cases will enable BLM to reduce the backlog from 6,000 in 1981 to 5,230 in 1982, which is almost a 15% reduction. At that rate the backlog of cases could be eliminated by FY 1989, and nonenergy realty work would be on a "pipeline" basis. This type of responsiveness to public demand is a cornerstone to the good neighbor policies espoused by the Secretary. Inability to respond to such demands can create frustration and hardship for residents and public lands users in the West who, because of vast Federal land holdings, have no alternative but to utilize public land to satisfy their needs.

- Approximately 170,000 acres of public land will be conveyed to the Western States. The Secretary of the Interior at the Western States Governors Conference held in 1980 committed BLM to promptly process indemnity (in lieu) land selections in close cooperation with State governments. The Director recently signed a memorandum of agreement with the Western States Lands Commissioners outlining a cooperative program to dispose of the remaining entitlements expeditiously. This program will cost $500,000.

- Approximately 3 million acres of public land will be transferred between the National Forest Service and BLM to more effectively and economically administer lands administered by both agencies. In 1980 an agreement signed between the Forest Service and BLM established criteria and procedures to conduct boundary adjustments between the two agencies. An additional $300,000 is programmed for this program.

- Approximately 250,000 acres of public lands are involved in the Navajo-Hopi land transaction in New Mexico and Arizona. This extremely complex lands transaction was enacted into law in 1980 for settlement. BLM will be assisting the Bureau of Indian Affairs and the tribes in carrying out this settlement. To conduct this program, $500,000 is required.

- An estimated 400 various use authorizations and/or land tenure adjustments (rights-of-way, temporary land use permits, recreation and public purpose grants, and community expansion authorizations) will be issued to State and local government agencies in Federally impacted areas for community expansion needs. The "Overthrust Belt" in Wyoming, Utah, Colorado, and Montana, and the MX project in Utah and Nevada, and power site projects in most of the Western States are creating a substantial need for local uses of public land for community purposes (i.e., water, sewer, recreation, housing, etc.). These required lands actions will not be reimbursed by the initiating and/or causing agency, company or applicant. The increase request for this program is $1,380,000.

Performance of these new activities, as well as continuance of existing programs (ongoing sales, exchanges, and rights-of-way actions), are central to the attainment of the Secretary's goal that BLM handle the requests of the public in a manner that demonstrates the Department's objective of providing tangible public services.

Workload Measure	1982 Base	1982 Proposed	1982 Increase
Land Use Authorizations (cases)	1,340	1,700	+ 360*
Land Tenure Adjustments (cases)	2,220	2,820	+ 600*
Navajo-Hopi Land Transactions (acres)	0	25,000	+ 25,000
State In Lieu Selections (acres)	80,000	250,000	+170,000

* Includes cases for State and local governments to meet community expansion needs in Federally impacted areas.

Object Classification Distribution

The object class detail for the proposed $1,388,000 shift is as follows:

Position Title	GS Grade	No.	Actual Salary
Land Law Examiner	GS 7 thru 11	4	$ 132,000
Soil Scientist	GS 9 thru 12	2	60,000
Contracting Specialist	GS 9 thru 12	1	30,000
Botanist	GS 9 thru 12	2	60,000
Realty Specialist	GS 9 thru 12	9	300,000
Archaeologist	GS 7 thru 11	1	30,000
Hydrologist	GS 9 thru 12	2	63,000
Mining Engineer	GS 9 thru 12	2	63,000
Geologist	GS 9 thru 12	2	60,000
Economist	GS 9 thru 12	2	60,000
Sociologist	GS 9 thru 12	1	30,000
Environmental Specialist	GS 9 thru 12	2	60,000
Air Quality Specialist	GS 9 thru 12	2	60,000
Clerk/Typist	GS 4 thru 5	4	74,000
		36	$1,082,000

Permanent Positions	$1,082,000
Positions other than permanent	--
Total Personnel Compensation	$1,082,000
Personnel Benefits	108,000
Travel and Transportation of persons	100,000
Transportation of things	74,000
Supplies and materials	24,000
Total	$1,388,000

The object class detail of the proposed $2,805,000 increase is as follows:

Position Title	GS Grade	No.	Actual Salary
Realty Specialist	GS-9	2	$41,000
Permanent Positions		2	41,000
Positions other than permanent			1,800,000
Total personnel compensation			1,841,000
Personnel Benefits			184,000
Travel and transportation of persons			94,000
Standard level user charges			90,000
Printing and reproduction			60,000
Other services			386,000
Supplies and materials			80,000
Equipment			70,000
Total			$2,805,000

Alaska Lands

		1982 Base	1982 Increase	Increase
Nonenergy Related Realty	$	0	2,980	+ 2,980
	(FTP)	0	(62)	(+62)

Brief Description of Program

The Alaska National Interest Lands Conservation Act of 1980 increased the Nonenergy workload in Alaska significantly. About 50% of this workload centers around the requirement for studies, analyses and planning for transportation, access and rights-of-way. A complete revision of the Master Title Plats and Historical Index Sheets to reflect the new land status created as a result of the Act must be made and will be ongoing in future years. An accelerated State Selection program will result in an increased adjudication workload.

Land exchanges will be initiated for private inholdings within conservation units. Natives will have an opportunity to exchange submerged land for land elsewhere. Field examinations and adjudication of Native allotments to resolve conflicting encumbrances, easement management, and programs dealing with existing cabins and occupancy are required by the Act. Some of these programs have extremely tight deadlines for completion.

This increase of $2,980,000 is to:

- Note Master Title Plats and Historical Indexes of change in management of more than 100 million acres and provide technical support to National Park Service, Fish and Wildlife Service and Forest Service in preparing maps and legal descriptions for Congress and publication in Federal Register and in minor boundary adjustments.

- Prepare environmental and economic analysis of transportation route across Gates of the Arctic National Park from Ambler Mining District to the TAPS haul road.

- Develop an automated system for precise acreage control of Native conveyances; digitize hydrography on State and Native lands; establish water boundaries and acreage for lakes and streams; accept reconveyances of submerged lands and review State and Native agreements.

- Identification of needed public access to public lands and resources and the negotiation for easement exchanges or purchases.

- Conveyance processing of Native allotments (an additional 120 per year). Determine Native allotments that receive legislative approval. Process remaining applications and resolve conflicts.

- Field exam of 326 allotments to determine legal description for survey and prepare 366 field reports. Adjudicate and issue 99 Native allotment conveyances.

- Adjudicate an additional 75,000 acres of State Selection entitlement.

- Inventory inholdings, processing of rights-of-way applications and provide reasonable access to inholdings.

- Complete and review 1,500 state selections to identify and deposit funds to escrow account.

- Land exchanges with Doyon Regional Corporation which includes acceptance of relinquishment of selected lands, new selections and conveyance of selected new lands.

- Exchange of selection rights of Koniag Corporation on the Alaska Peninsula for lands on Afognak Island.

- Study of the land ownership and use patterns in the Chugach Region to identify areas which can be made available for conveyance to Chugach Natives, Inc.

Workload Measure	1982 Base	1982 Proposed	1982 Increase
Note MTP's & HI's for NPS, FWS, FS land (acres)	0	100,000,000	+100,000,000
State selections (acres)	10,000,000	10,075,000	+ 75,000
Review state selections for escrow account (cases)	0	1,500	+ 1,500
Native allotments	0	120	+ 120

Object Classification Distribution

The object class detail for this proposed $2,980,000 increase is as follows:

Position Title	GS Grade	No.	Actual Salary
Realty Specialists	GS-9 thru 12	30	$ 900,000
Land Law Examiners	GS-7 thru 11	21	630,000
Contracting Specialist	GS-9 thru 12	1	30,000
Clerk/Typists	GS-4 thru 5	10	200,000
		62	$1,760,000

Permanent positions	$1,760,000
Positions other than permanent	60,000
Total personnel compensation	$1,820,000
Personnel Benefits	140,000
Travel and transportation of persons	150,000
Transporation of things	100,000
Standard level user charges	200,000
Other rent, communication and utilities	30,000
Printing and reproduction	75,000
Other Services	200,000
Supplies and material	165,000
Equipment	100,000
Total	$2,980,000

Withdrawal Review and Processing: Section 204 of FLPMA requires a comprehensive 15-year review of past withdrawals of public lands in the 11 Western States, exclusive of Alaska. An inventory identified 6,125 withdrawals covering 51.9 million acres affected by this section.

FLPMA also requires that all withdrawal, restoration and revocation applications existing as of October 21, 1976, be processed by 1991. All new applications will be processed within two years from receipt. As of December 31, 1980, there were approximately 650 withdrawal and revocation applications pending. It is estimated that 150 to 200 new applications will be received each year.

With the President's and Congress' emphasis on energy exploration and development, it is essential that we conduct withdrawal reviews systematically and expeditiously to revoke unneeded withdrawals and to make maximum lands available for multiple use purposes. To meet this goal, the following schedule was established.

1979 - Withdrawal Review Inventory
1980 - Review of Overthrust Belt withdrawals
1981 - Process all pending revocations/withdrawals relinquishment
1982 - Review of all BLM withdrawals
1982-91 - Through the BLM planning system, complete reviews of all classifications.
1983 - Initiation of 9-year, other-agency withdrawal review program (other agencies to fund their own efforts)
1991 - Completion of all reviews and attendant withdrawal revocation processing in the field

The 1982 base program will include:

- Processing to completion all pre-FLPMA withdrawal applications (approximately 270 applications).

- Processing to completion all post-FLPMA withdrawal applications and relinquishments received between October 21, 1976, and September 1980 (approximately 65 applications).

- Complete field processing of other-agency relinquishments within 180 days of receipt (approximately 100 in 1982).

- Complete field review of 1,200 BLM withdrawals.

Acres Withdrawn from Operation of The General Mining Laws and/or Minerals Leasing Acts (by Holding Agency)

Holding Agency	Acres (Millions)
Land Management	30.4
Dept. of Defense	11.9
Water & Power Resources Serv.	9.1
Forest Service	2.0
Nuclear Reg. Comm.	1.4
Dept. of Energy	.6
Indian Affairs	.3
Park Service	.1
Other	.9
	*56.7

* This includes 51.9 million acres mandated for review by Section 204(e) of FLPMA prior to Oct. 21, 1991 and 4.8 million intermingled acres which, though not mandated for review, will be a part of the overall review effort.

Increase for 1982

	(Dollar amounts in thousands) 1982 Base	1982 Estimate	Increase
Withdrawal Review and Processing	$ 4,209	5,631	+1,422
	(FTP) (72)	(73)	(+1)

The proposed FY 1982 increase provides the capability to process an additional 170 existing pre-FLPMA withdrawals and 22 pending applications at an average cost of $7,000 per case. This increase is necessary to meet the 1991 deadline. In-house mineral survey costs (estimated at $100,000) are included in the FY 1982 request.

Object Classification Distribution

The object class detail for this proposed $1,334,000 increase is as follows:

Position Title	GS Grade	No.	Actual Salary
Positions other than permanent			$ 840,000
Total personnel compensation			840,000
Personnel Benefits			84,000
Travel and transportation of persons			50,000
Transportation of things			40,000
Standard level user changes			120,000
Printing and reproduction			10,000
Other services			80,000
Supplies and materials			50,000
Equipment			60,000
			$1,334,000

74-939 O—80——6

Alaska Lands

		1982 Base	1982 Estimate	Increase
Withdrawal Review & Processing	$	--	88	+ 88
	(FTP)	--	(1)	(+1)

This increase of $88,000 is to:

- Evaluate the effect of all proposed withdrawals on subsistence uses and needs.

- Make minor boundary adjustments of wild and scenic rivers, NCA's and NRA's. Includes mapping, legal descriptions and noting of Master Title Plats and Historical Indexes.

Object Classification Distribution

The object class detail for this proposed $88,000 increase is as follows:

Position Title	GS Grade	No.	Actual Salary
Draftsman	GS-5 thru 11	1	$ 30,000
Permanent Positions		1	$ 30,000
Positions other than permanent			29,000
Total personnel compensation		1	$ 59,000
Personnel benefits			6,000
Travel and transportation of persons			2,000
Transportation of things			---
Standard level user charges			3,000
Other rent, communication and utilities			2,000
Printing and reproduction			10,000
Other services			2,000
Supplies and materials			3,000
Equipment			1,000
Total			$ 88,000

Justification of Program and Performance

Activity: 3. Renewable Resources Management
Composite Subactivity: Rangeland Management

The Renewable Resources Management activity includes three subactivities that make up BLM's rangeland management program: Range Management; Soil, Water, and Air Management; and Wildlife Habitat Management. In addition, the Range Improvement appropriation, funded from grazing fees, also supports on-the-ground rangeland improvements. The Range Improvement fund is included below to reflect the total rangeland management program but is described in the Range Improvement appropriation section.

RANGELAND MANAGEMENT

(Dollar amounts in thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Range Management					
Wild Horse and Burro Management	$	6,660	6,840	6,890	+ 50
	(FTP)	(56)	(56)	(56)	(--)
Grazing Management	$	43,655	45,977	48,880	+ 2,903
	(FTP)	(688)	(688)	(688)	(--)
Wildlife Habitat Management	$	19,793	20,971	21,479	+ 508
	(FTP)	(226)	(226)	(227)	(+1)
Soil, Water and Air Management	$	22,073	22,145	25,300	+ 3,155
	(FTP)	(225)	(225)	(226)	(+1)
Range Improvement	$	13,500	13,500	13,500	+ --
	(FTP)	(80)	(80)	(80)	(--)
(Common Program Services)	($)	(18,116)	(18,810)	(20,813)	(+2,003)
Total Requirements	$	105,681	109,433	116,049	+ 6,616
	(FTP)	(1,275)	(1,275)	(1,277)	(+ 2)

Objectives

The long-term objectives for the Rangeland Management Program to be accomplished by 1999 are to:

- improve the condition of rangeland vegetation and maintain it at desired levels of quality, quantity, and diversity;
  (Target: Improve 135 million acres of vegetation currently in poor or fair condition to higher classes.)

- reduce erosion, minimize sedimentation and siltation, promote infiltration and ensure the stability and productivity of rangeland soils;
  (Target: Reduce erosion occurring on 68 million acres currently in severe, critical, or moderate condition and stabilize 80 million acres now in slight erosion condition.)

- ensure that water of sufficient quantity and quality is available to provide for the basic needs of the vegetation, protect ground water recharge, meet Federal and State water quality standards, and provide for recognized uses;

- through cooperation in management, minimize short-term disruption and ensure the long-term growth of the Western livestock industry and the economies of many Western communities dependent upon the public lands;

- increase forage supplies for livestock, wild horses and burros, and wildlife as a principal output of improving the rangeland ecosystem;
  (Target: Double the current annual forage production from 5.6 million tons to 11.2 million tons per year.)

- ensure the protection of threatened or endangered plant and animal species and their habitats;
  (Target: Manage 54 million acres of potential habitat for six endangered species presently identified in recovery plans until further information on the location of and kinds of habitat protection needed is more precisely determined.)

- provide and protect habitat for fish and wildlife to ensure stability and natural diversity; enhance streamside, shoreline, emergent, and submergent vegetation; and provide water of a quantity and quality necessary for fish, other aquatic organisms, and waterfowl;
  (Target: Protect and enhance 155 million acres of terrestrial habitat; improve and protect 6,500 miles of streams.)

- regulate and manage flood plains and wetlands to ensure protection of lives and property and to improve and conserve riparian systems.

Justification of Program and Performance

Activity: 3. Renewable Resources Management
Subactivity: A. Range Management

(Dollar amounts in thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Wild Horse and Burro Management	$	6,660	6,840	6,890	+ 50
	(FTP)	(56)	(56)	(56)	--
Grazing Management	$	43,655	45,977	48,880	+ 2,903
	(FTP)	(688)	(688)	(688)	--
(Common Program Services)	($)	(9,939)	(10,319)	(11,419)	(+1,100)
Total Requirements	$	50,315	52,817	55,770	+ 2,953
	(FTP)	(744)	(744)	(744)	--

	Estimate ($000)	Authorization
43 U.S.C. 1748 P.L. 94-579 P.L. 95-352	$42,406	Federal Land Policy and Management Act of 1976 (FLPMA), sections 318 (a) and (b), and the Quadrennial Authorization Act of 1978 authorize the appropriation of such sums as are necessary to carry out the purposes and provisions of FLPMA based on a period of four fiscal years.
43 U.S.C. 1711, 1732, 1751, 1753 90 Stat. 277 P.L. 94-579		The Federal Land Policy and Management Act of 1976 authorizes range management, rehabilitation, protection, improvement, planning, and administration on the basis of sustained yield. It also provides for the preparation and maintenance of an inventory of public land resources on a continuing basis.
43 U.S.C. 1901 92 Stat. 1803 P.L. 95-514	$ 7,000	The Public Rangeland Improvement Act of 1978 requires the improvement of range conditions on public rangelands, research on horse and burro population dynamics, and other range management practices.

43 U.S.C. 315 48 Stat. 1269	The Taylor Grazing Act of 1934, as amended, provides for the P.L. 73-482 regulation of livestock grazing, improvement of the productive capacity of the public range, and stabilization of the livestock industry.
42 U.S.C. 4321, 4331-4335, and 4341-4347 P.L. 91-190	The National Environmental Policy Act of 1969 requires the preparation of an environmental impact statement for any federal project which has a significant effect on the environment.
7 U.S.C. 1012-1013A 50 Stat. 522 P.L. 75-210	The Farm Tenant Act of 1937 ("Bankhead-Jones Act") provides for management of acquired farm tenant lands.
16 U.S.C. 1331-1340 P.L. 92-195	The Wild Free-Roaming Horse and Burro Act of 1971, as amended by PRIA, provides for management and protection of wild horses and burros.

Objectives

The objectives of BLM's Range Management Program are to:

- improve the condition of rangeland vegetation and maintain it at desired levels of quality, quantity, and diversity;
- minimize short-term disruption and ensure the long-term growth of the Western livestock industry and the economies of many Western communities dependent upon the public lands;
- increase forage supplies for livestock, wild horses and burros, and wildlife as a major output of improving the rangeland ecosystem;
- ensure viable populations of healthy free-roaming wild horses and burros in equilibrium with their habitat and other resource values under the principles of multiple use;
- control wild horse and burro populations; and
- provide for the humane care and proper treatment of wild horses and burros.

Base Program

BLM administers approximately 174 million acres of public lands in the 16 Western states of which 170 million acres are classified as rangelands. These lands provide a portion of the forage consumed by an estimated 2.9 million cattle, 3.7 million sheep and goats, 16,000 domestic horses, and approximately 65,000 wild horses and burros. There are also 15,000 reindeer authorized to graze on public lands in Alaska. BLM's Range Management Program includes the wild horse and burro and grazing management components. The grazing management component generates receipts for grazing use estimated at $27.8 million in 1981 and $30.0 million in 1982.

Wild Horse and Burro Management. When the Wild Free-Roaming Horse and Burro Act of 1971 was passed, BLM was given the responsibility to protect and manage these animals as an integral part of the public land's natural system. As of January 1980, an estimated 65,000 wild horses and burros grazed on the public lands. At that time, more than 19,500 animals had been identified as excess and had been removed and placed under adoption. Because of the protection under the Act, the wild horse and burro herds have increased at various rates depending upon weather and rangeland conditions and other environmental factors. BLM's primary goal in this program is to maintain healthy herds at manageable population levels. The removal of excess animals has not kept pace with reproduction rates; population levels are now higher than they were when the Act was passed in 1971. BLM estimates the wild horse and burro population has increased about 10 percent between 1974 and 1980 in spite of its removal program.

As part of the management decisionmaking process during land use planning, the appropriate wild horse and burro population levels are determined based on the amount of forage available for all competing uses. Once these management numbers have been determined, the objective is to maintain the herds at those levels.

Approximately one-third of BLM's wild horse and burro management capability is required to gather and transport excess animals from the public rangelands to centrally located adoption facilities where they are processed for adoption. Another one-third is required to support the adoption of these animals. The average costs for capture and the subsequent adoption of excess animals is $525 per animal.

The current BLM adoption fee ranges from no cost in Arizona to about $150 at the Cross Plains, Tennessee, adoption facility. This fee includes transportation costs from a holding facility to the adoption facility, adoption center service fees, and costs associated with obtaining medical certificates. It does not include capture, handling, or other administrative costs.

BLM is now undertaking a study of the feasibility of passing more or all costs along to the adopter. Also under consideration is the establishment of a nonrefundable adoption application fee, to help in determining adoption demand.

BLM is developing guidance on the destruction of excess animals for which there is no adoption demand by qualified individuals, as required by the Wild Free-Roaming Horse and Burro Act. Such destruction of course will incur certain expenses.

The 1978 amendments to the Wild Free-Roaming Horse and Burro Act (Public Rangelands Improvement Act) require BLM to undertake studies necessary to determine appropriate wild horse and burro management levels and to contract for research that will improve the knowledge of population dynamics and the interrelationships of wild horses and burros with other competing range animals.

Research is now underway to identify the best methods to determine reproduction rates and the environmental impacts of wild horse and burro populations.

These research studies were started in FY 1980 and will continue through FY 1982. A report on this research will be submitted to the Congress by January 1, 1983. Current and projected units of accomplishments in the Wild Horse and Burro Base Program are described below:

Workload Measure	1979	1980	1981	1982 Base
Millions of acres inventoried	14.4	20.8	20.3	20.3
Number of BLM-owned and leased adoption facilities	9	12	12	12
Number of adoption facilities under contract to BLM	4	4	5	5
Number of animals adopted	5,000	7,770	9,900	9,900
Number of Herd Management Area Plans developed	11	14	8	8
Number of excess animals removed from public lands	6,071	9,610	10,500	10,500
Number of WH&B compliance checks after adoption (adopters)	518	1,465	1,000	1,000

Increase for FY 1982

(Dollar amounts in thousands)

		1982 Base	1982 Estimate	Increase
Wild Horse and Burro Management	$	6,840	6,890	+50
	(FTP)	(56)	(56)	--

Increased funding will provide capability for:

- Carrying out PRIA mandated research to meet the congressional reporting date of January 1, 1983.

The entire $50,000 will be used to increase funding to $650,000 in FY 1982 for wild horse and burro research. This research was mandated by Congress in the Public Rangeland Improvement Act. A report is to be submitted to Congress by January 1, 1983. The law specifies that the research is to be conducted by individuals recommended by the National Academy of Science (NAS). The NAS has estimated costs of this research at $1,500,000 annually for three years. Including the $650,000 in FY 1982, the BLM will have provided total funds of $1,650,000 over three years or about one-third the amount estimated by NAS as needed to fulfill the objectives of the research specifed in the law. The intent of the study is to further the knowledge of wild horse and burro population dynamics and their interrelationship with

wildlife, forage and water resources, and to assist in determining what constitutes excess animals. To accomplish these Congressionally-mandated goals, the studies will provide essential data on habital preference and use, grazing impact on plant communities, food consumption rates and nutrition, blood assay, and hydrologic impact. Removal of excess animals will enhance wildlife habitat and increase forage for domestic livestock and remaining herds of wild horses and burros. It will also be useful for determining needed on-the-ground improvements beginning in FY 1983.

Object Classification Distribution

The object class detail for the proposed $50,000 increase is as follows:

Position Title	GS Grade	No.	Actual Salary
Other Services			+$ 50,000
TOTAL			+$ 50,000

Grazing Management - Approximately 6.7 million cattle, sheep, goats, or horses depend upon the public rangelands for all or part of their yearly forage requirement. BLM issues 25,000 grazing permits annually to authorize grazing use on 170 million acres.

Administering grazing on the public lands requires sufficient capability for: determining the amount of vegetation available for livestock, developing proper methods of grazing, implementing grazing management systems, conducting studies to determine management effectiveness, supervising grazing for compliance with management systems, monitoring and revising management systems and methods, and maintaining rangeland improvement projects.

In the mid-1960s, BLM initiated an intensive grazing management program to improve rangelands that were considered to be in less than satisfactory condition. Studies indicate that, with proper management the productivity of the public rangelands can be doubled. By 1975 there had been 1,158 separate management systems called allotment management plans (AMPs) implemented on 25 million acres, and the rangelands covered by these plans have shown improvement. In 1975, BLM's AMP program was delayed pending completion of grazing environmental impact statements (EISs). The EISs are being prepared under a schedule resulting from a court ruling on the Natural Resources Defense Council (NRDC) v. Morton et. al. case. BLM was required to prepare 212 EISs by the end of 1988. In April of 1978, the court ruling was amended to require a total of 144 EISs on the same acreage within the same time frame. Currently, BLM has completed 37 EISs on 49.6 million acres of public lands. An additional 17 EISs are scheduled for completion during FY 1981 and another 17 in 1982.

With completion of the first grazing EISs, BLM resumed implementation of AMPs; 60 AMPs in 9 grazing EIS areas in 1979, 103 in 22 completed EIS areas in FY 1980, and 270 in 47 completed EIS areas in FY 1981. Implementation includes making rangeland improvements such as fences, water facilities, and land treatments so the proposed grazing system can succeed.

Meeting the grazing EIS schedule and the new Resource Management Planning (RMP) schedule with a product that would be useful, informative, and defensible required an up-to-date inventory. Vegetation, soil, wildlife, and, to a lesser extent, all other natural resource inventory was accelerated in FY 1979, to provide information necessary to develop meaningful land use plans and grazing and RMP EISs. Inventory will continue at various levels based on pre-inventory analysis until an adequate data base is developed for the public rangelands. 1/ These inventories, costing an average of 50 cents per acre, also provide the information necessary to prepare grazing management plans for protection and improvement of rangeland resources and support for other programs including forestry, recreation, watershed, wildlife, and energy.

AMPs are the Bureau's basic tools for protecting and improving public rangeland conditions. The results of these plans must be monitored carefully to assure that: improvements are effective (or if future improvements can be developed more efficiently), vegetation allocations are equitable and correct, and rangeland conditions are improving as expected.

Adequate monitoring programs must be developed to protect the multi-million dollar AMP investment and to ensure that the Bureau is meeting its obligation to the land and the resource users. Adequate monitoring is central to implementing the grazing use adjustment program which clearly states that the results of monitoring will be used to sustain or, when appropriate, to modify grazing use decisions. This reliance on monitoring data as the basis for assuring that decisions are equitable and reflect the actual conditions of the rangeland mandates that monitoring studies be conducted regularly and intensively.

There are thousands of improvement projects on the public lands. Most of these projects are maintained by the users. However, many have multiple use values, so the maintenance responsibilities rest with BLM. Because proper functioning of these projects is central to the protection or improvement of the rangeland conditions, it is necessary that these projects be at least minimally maintained.

1/ Statement of Policy for the Rangeland Renewable Resources Planning Act of 1974 as revised and modified by the FY 1981 Appropriations Act P.L. 96-514 states that inventory will be done to develop an adequate data base on all rangelands by 1990.

Accomplishments in the Grazing Management Base Program are as follows:

Workload Measure	1979	1980	1981	1982 Base
Grazing EISs completed ($250,000/EIS)	13	15	17	17
Millions of acres inventoried ($.50/acre)	20.6	22	21.6	21.6
AMPs implemented ($50,000/AMP)	60	103	270	270
AMPs supervised ($370/AMP)	1,218	1,321	1,591	1,591
AMPs monitored	720	780	941	941
Grazing permits issued	25,520	26,332	25,000	25,000

Increase for FY 1982

(Dollar amounts in thousands)

		1982 Base	1982 Estimate	Increase
Grazing Management	$	45,977	48,880	+ 2,903
	(FTP)	(688)	(688)	--

- Supervising 270 additional AMPs and providing monitoring capability for 920 existing grazing management plans to ensure that the goals and objectives for protection and improvement of rangeland conditions are being reached.

- Implement Section 404 of the Alaska National Interest Lands Conservaton Act.

The additional accomplishments from this increase will be as follows:

Workload Measure	1982 Base	1982 Proposed	1982 Increase
AMPs supervised	1,591	1,861	+270
AMPs monitored	941	1,861	+920

Once an allotment management plan (AMP) is implemented, it must be supervised and monitored to determine if the goals are being achieved, if the improvements are effective, if future improvements can be developed more efficiently, if the plan is being followed, and if vegetation allocations are equitable. By the end of FY 1982, 703 AMPs will have been implemented since the court ordered moratorium in 1975. These 703 plans together with 1,158 implemented before the moratorium, will make a total of 1,861 AMPs implemented on public lands. Supervision and monitoring costs average about $3,300/AMP/ year. The proposed $2.9 million increase will make a total of about $6 million for this program, or 98 percent of estimated needs compared to 59% in 1981. An adequate supervision and monitoring program should be developed to protect the multi-million dollar AMP investment and ensure protection or improvement of rangeland conditions; it is central to implementing grazing use adjustments equitably and efficiently and to gaining user acceptance.

Object Classification Distribution

The object class detail for the proposed $2,903,000 increase is as follows:

Position Title	GS Grade	No.	Actual Salary
Positions Other Than Permanent			600,000
Total Personnel Compensation			600,000
Personnel Benefits			60,000
Travel and Transportation of Persons			20,000
Transportation of Things			30,000
Standard Level User Charges			160,000
Printing and Reproduction			30,000
Other Services			750,000
Supplies and Materials			353,000
Equipment			20,000
Lands and Structures			880,000
TOTAL			+$2,903,000

Justification of Program and Performance

Activity: 3. Renewable Resources Management
Subactivity: B. Wildlife Habitat Management

(Dollar amounts in thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Wildlife Habitat Management	$	19,793	20,971	21,479	+508
	(FTP)	(226)	(226)	(227)	(+ 1)
(Common Program Services)	($)	(4,158)	(4,318)	(4,777)	(+459)
Total Requirements	$	19,793	20,971	21,479	+508
	(FTP)	(226)	(226)	(227)	(+ 1)

	Estimate ($000)	Authorization
43 U.S.C. 1748 P.L. 94-579 P.L. 95-352	$25,827	Federal Land Policy and Management Act of 1976 (FLPMA), Section 318(a) and (b); and the Quadrennial Authorization Act of 1978 authorize the appropriation of such sums as are necessary to carry out the purposes and provisions of FLPMA based on a period of four fiscal years.
43 U.S.C. 1701, 1711 90 Stat. 2762 P.L. 94-579		The Federal Land Policy and Management Act of 1976 directs that the public lands be managed in a manner that will provide food and habitat for fish and wildlife. Section 201(a) provides for the preparation and maintenance of an inventory of public land resources on a continuing basis.
16 U.S.C. 715 P.L. 70-770		The Migratory Bird Conservation Act of 1929, as amended, provides for the designation of certain areas of lands and water for migratory birds.
16 U.S.C. 1531 et. seq. P.L. 93-205		The Endangered Species Act of 1973 provides for the protection of endangered species and their habitats.

16 U.S.C. 670 A-F P.L. 93-452	The Sikes Act of 1974 provides for the conservation, restoration, and management of species and their habitats in cooperation with state wildlife agencies.
43 U.S.C. 1181 P.L. 75-405	The Conservation of Timber on Certain Lands in Oregon Act of 1937, as amended, provides for multiple-use management of the revested Oregon and California Railroad grant lands.
43 U.S.C. 315 48 Stat. 1269 P.L. 73-482	The Taylor Grazing Act of 1934, as amended, provides for wildlife management on public lands.
16 U.S.C. 673 90 Stat. 1190 P.L. 94-389	Joint Resolution for Federal Participation in Preserving the Tule Elk Population in California, provides for the protection and management of the Tule Elk herds in California.
43 U.S.C. 1901 92 Stat. 1803 P.L. 95-514	The Public Rangeland Improvement Act of 1978 directs that condition of the public rangelands be improved.
42 Federal Register 26961 EO 11990	Executive Order 11990, Protection of Wetlands (May 24, 1977) directs that wetland and riparian habitats on the public lands be identified, protected, enhanced, and managed.
42 Federal Register 26951 EO 11988	Executive Order 11988, Floodplain Management (May 25, 1977) provides for the restoration and preservation of national and beneficial floodplain values on the public lands.
P.L. 96-487	The Alaska National Interest Lands Conservation Act of 1980 (ANILCA) provides for the designation and conservation of certain public lands in the State of Alaska, including the designation of units of the National Park, National Wildlife Refuge, National Forest, National Wild and Scenic Rivers, and National Wilderness Preservation Systems, and for other purposes.

Objectives

The objectives of the Wildlife Habitat Management Program are to:

- maintain and/or improve the wildlife habitat aspects of rangeland resources (i.e., food, cover, water, living space, and their proper mixture) at desired levels of quality, quantity, and diversity through ecosystem management principles;

- ensure the protection of threatened, endangered, and sensitive plant and animal species and provide for their ultimate recovery;
- ensure the full consideration of wildlife resources by other programs and their uses;
- maintain and/or improve aquatic habitat within streams, lakes, and reservoirs for anadromous and resident fish and other aquatic organisms;
- provide opportunities for consumptive and nonconsumptive public uses of wildlife commensurate with the well-being of the plants and animals involved and the habitat on which they depend;
- protect wetland and riparian habitats in compliance with Executive Order 11990 and
- ensure effective and efficient planning, implementation, maintenance, and monitoring programs for wildlife habitat management on the public lands.

Base Program

All of the 341 million acres administered by BLM provide habitat for some species of wildlife. This includes: 248 million acres of big game habitat; 278 million acres of small game habitat; 69 million acres of waterfowl habitat; 80,000 miles of fishable streams; 3.7 million surface acres of lakes and reservoirs; 67 million acres of riparian/wetlands; and over 20 million acres and 6,300 miles of habitat for 366 threatened, endangered, and sensitive species of plants and animals.

Wildlife values produced by the public lands and sustained by BLM habitat management include: 473 million pounds of commercial fish; 2 million big game animals; over 725,000 upland game harvested; over 172,000 waterfowl harvested; and some 5 million cold water and warm water sport fish harvested.

BLM's Wildlife Habitat Management Program protects, manages, and enhances terrestrial, aquatic, wetland, and threatened and endangered species habitats on public lands by:

- providing expertise for collecting and analyzing habitat and species information for land use decisions;
- carrying out statutes, mandates, and Executive Orders for fish and wildlife habitat and species on public lands and the Outer Continental Shelf;
- coordinating with State and Federal agencies concerning wildlife and their habitats; and
- incorporating public demands and interests into the management of all fish and wildlife habitats on areas administered by BLM.

Wildlife habitat inventory, planning, environmental assessment, on-the-ground actions, and followup evaluations are combined and carefully scheduled to accomplish a balanced program during each fiscal year (FY). In FY 1980, 39 million acres of inventory, 400 environmental assessments, the completion of 32 new wildlife Habitat Management Plans (HMPs) and the implementation of 140 existing HMPs were used to physically improve and maintain 803,000 acres and 740 stream miles of habitat and establish BLM habitat management guidance on a cumulative total of 47 million acres and 130,000 miles of stream. The overall projected strategy is to gradually decrease wildlife inventory while increasing habitat improvement and maintenance efforts on-the-ground. Approximately 45 million acres and 2,600 miles of wildlife inventory for Resource Management Plans, environmental impact statements, and threatened and endangered plants and animals will be completed in FY 1981. Energy development, particularly for coal, is the major driving force for these planned accomplishments.

Since the HMP program was initiated in 1966, 221 plans have been prepared and implemented to some degree on over 30 million acres of public land. Of these, 170 (77 percent) are being developed jointly with State wildlife agencies under Sikes Act authority. These plans are also coordinated closely with other Federal agencies, particularly the Forest Service and Fish and Wildlife Service, to improve cost effectiveness and ensure that common objectives are met.

Currently, 50 federally listed, threatened, and endangered wildlife species and 22 threatened and endangered plant species are found on public lands. The wildlife program provides the protection and management necessary to sustain healthy populations and meet the requirements of the Endangered Species Act. The endangered plant program has been transferred from the Soil, Water and Air Program as a base adjustment. This program is closely associated with endangered wildlife.

Accomplishments of the wildlife habitat management base program are as follows:

Workload Measure	1980	1981	1982 Base
INVENTORY:			
Terrestrial (000's Acres)	26,000	29,000	26,000
Wetland (000's Acres)	2,500	100	200
Aquatic (000's Miles)	3,400	2,600	3,000
HMPs:			
Total No. Implemented	140	170	200
No. New HMPs Prepared	32	36	40
No. Sikes Act HMPs Implemented	110	120	150
Millions Acres Under Management	23	30	40
Miles Stream Under Management	9,000	11,000	14,000
Acres Habitat Improved (000's)	591	700	900
Acres Habitat Maintained (000's)	212	300	400
Miles Stream Improved	348	400	500
Miles Stream Maintained	100	300	500

THREATENED/ENDANGERED SPECIES:

Thousands Acres Inventory	10,300	16,200	18,000
Essential Animal Habitat Identified (000's Acres)	8,700	10,000	12,000
Essential Plant Habitat Identified (000's Acres)	100	500	1,000
No. Animals Species Under Management/Protection	50	50	100
No. Plant Species Under Management/Protection	20	20	50

Wildlife habitat inventory costs average $0.30/acre of terrestrial habitat, $320 per mile aquatic habitat, $1.00/acre and $150/mile for wetland/riparian habitat, and $2.85/acre and $370/mile for threatened and endangered habitat. Fiscal Year 1982 costs are expected to increase by an estimated 7 percent because of increases in the costs of transportation and procurement.

Implementation of HMPs costs an average of about $217,000 per plan, and takes about five years to complete. Implementation of these plans has a wide-cost range. The average cost per plan in 1982 is expected to increase by $3,000. The Bureau will conduct habitat development work within approximately 150 HMPs on 20 million acres and 900 miles of habitat for an estimated $5 million. This represents on-the-ground work for 75% of the total HMPs available for implementation.

Increase for FY 1982

(Dollar amounts in thousands)

		1982 Base	1982 Estimate	Increase
Wildlife Habitat Management	$	20,971	21,479	+508
	(FTP)	(226)	(227)	(+1)

The total wildlife habitat management program increase request for FY 1982 is $508,000. Increased funding of $408,000 and one full-time position will be used to support the White Mountains management plan, barren-ground caribou study, subsistence, and other wildlife program responsibilities for the Alaska National Interest Lands Conservation Act. Increased funding of $100,000 will provide for the slightly higher cost of implementing 30 HMPs in FY 1982. The average cost per plan is expected to increase by about $3,000 in FY 1982. This money will be utilized for on-the-ground implementation, on-site treatments, project maintenance, project design, and studies. Maximum habitat development work will be in grazing EIS areas for cost efficiency and effectiveness.

74-939 O—80——7

OBJECT CLASSIFICATION DISTRIBUTION

The object class detail for the proposed $508,000 increase is as follows:

Position Title	GS Grade	No.	Actual Salary
Wildlife Biologist	9 thru 11	1	$ 28,000
		1	28,000
Lapse			-3,000
Permanent Positions			25,000
Positions Other Than Permanent 1/			225,000
Total Personnel Compensation			250,000
Personnel Benefits			25,000
Travel and Transportation of Persons			30,000
Standard Level User Charges			8,000
Communications, Utilities and Other Rent			30,000
Printing and Reproduction			30,000
Other Services			95,000
Supplies and Materials			20,000
Equipment			20,000
TOTAL			$508,000

1/ Based upon hiring an estimated 20 botanists and 10 wildlife biologists, six months each, GS-5/7, at an annual salary of $15,000.

Justification of Program and Performance

Activity: 3. Renewable Resource Management
Subactivity: C. Soil, Water and Air Management

(Dollar amounts in thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Soil, Water and Air Management	$	21,053	21,153	24,308	+3,155
	(FTP)	(225)	(225)	(226)	(+1)
Employee Compensation Fund	$	1,020	992	992	--
	(FTP)	--	--	--	--
(Common Program Services)	($)	(4,019)	(4,173)	(4,617)	(+444)
Total Requirements	$	22,073	22,145	25,300	+3,155
	(FTP)	(225)	(225)	(226)	(+1)

	Estimate ($000)	Authorization
43 U.S.C. 1748 P.L. 94-579 P.L. 95-352	$ 28,691	Federal Land Policy and Management Act of 1976 (FLPMA), Section 318(a) and (b), and the Quadrennial Authorization Act of 1978 authorize the appropriation of funds necessary to carry out the purposes and provisions of FLPMA based on a period of four fiscal years.
43 U.S.C. 1701, 1711 P.L. 94-579		The Federal Land Policy and Management Act of 1976 provides for management of public lands in a manner that will protect ecological, environmental, air and atmospheric, and water resource values. It also provides for the preparation and maintenance of an inventory of public land resources and other values on a continuing basis.
43 U.S.C. 315 48 Stat. 1269 P.L. 73-482		The Taylor Grazing Act of 1934, as amended, provides for the study of erosion control and development of improvements necessary to maintain and increase water supply.

43 U.S.C. 4321, 4331-4335, and 4341-4347 P.L. 91-190	The National Environmental Policy Act of 1969 requires preparation of environmental impact statements for Federal projects having a significant effect on the environment.
16 U.S.C. 590a et. seq. P.L. 74-46	The Soil Conservation and Domestic Allotment Act of 1935, as amended, provides for the prevention and control of erosion on grazing and forest lands.
33 U.S.C. 404 P.L. 95-217	The Clean Water Act, as amended, requires BLM to comply with State and Federal water quality and permitting activities and water resource planning.
43 U.S.C. 1901 92 Stat. 1803 P.L. 95-514	The Public Rangeland Improvement Act of 1978 provides for improving the condition of the public rangelands.
42 U.S.C. 201 91 Stat. 1393 P.L. 95-190	The Safe Drinking Water Amendments of 1977 amended Section 2 of the Safe Drinking Water Act requiring compliance with all Federal, State, or local statutes for safe drinking water.
16 U.S.C. 2001 91 Stat. 1407 P.L. 95-192	The Soil and Water Resources Conservation Act of 1977 provides for the conservation, protection, and enhancement of the nation's soil, water, and related resources for sustained use.
42 U.S.C. 1857 77 Stat. 392 P.L. 88-206	The Air Quality Control Act of 1963, as amended, requires BLM to meet air quality standards designated by state governments.
P.L. 96-487	The Alaska National Interest Lands Conservation Act of 1980 (ANILCA) provides for the designation and conservation of certain public lands in the State of Alaska, including the designation of units of the National Park, National Wildlife Refuge, National Forest, National Wild and Scenic Rivers, and National Wilderness Preservation Systems, and for other purposes.

Objectives

The objectives of the Soil, Water, and Air Resources Management Program are to:

- reduce erosion, minimize sedimentation and siltation, promote infiltration, and ensure the stability and productivity of rangeland soils;
- ensure that water of sufficient quantity and quality is available for basic vegetation needs;
- meet Federal and State water-quality standards;
- protect ground water recharge areas and preserve groundwater quality from indiscriminate contamination;

- regulate and manage floodplains and wetlands to protect lives and property and to improve and conserve riparian systems;

- ensure that public land uses comply with air quality standards; and

- give full consideration to air quality in decisions on the public land resources such as mineral development and wilderness designation.

Base Program

The Soil, Water, and Air Management Program supports other BLM resource programs, primarily through basic inventory and management recommendations for soil, water, and air resources. The program also controls accelerated erosion of soil resources. Because common soil, water, and air information is used by all resource programs, the inventory is centralized in this program to prevent fragmentation and to streamline the coordination and consolidation of information. Soil inventory costs are currently averaging about $0.40 per acre.

The base program conducts studies and research necessary to determine the effectiveness of applied management practices, water quality and quantity measurements, soil erosion, and air quality.

The soil, water, and air inventories play a key role in developing land use plans, particularly for preparing grazing EISs and energy-related development. To meet these EIS schedules, almost 21 million acres of land will be inventoried in FY 1982. The inventories will assist in allocating forage among competing uses and in reducing and controlling erosion caused by energy development. Water inventories also identify and quantify current water uses on the public lands to ensure continued availability of water for authorized uses that depend upon an annual source of water. The FY 1981 water inventory program was increased to identify and quantify Federal water rights, and determine Federal reserve rights based on realistic estimates of need. This accelerated program will continue through FY 1990 when the estimated 95,000 existing water uses have been reviewed in the process of determining their legal status as either reserved, appropriated, or not requiring a water right for authorized public uses.

The Soil, Water, and Air Resources Management Program is also responsible for implementing Section 208 Water Quality Plans.

During the past 40 years, BLM has invested hundreds of millions of dollars in an estimated 20,000 erosion control structures and facilities. The Soil, Water, and Air Program provides the funds to maintain these structures and protect the Federal investment. Funds are also provided to restore eroded watersheds. There are 400 structures requiring maintenance in FY 1982; base funding will allow for maintenance of 21 structures.

BLM has been notified that the Employee Compensation payment for past accidents and deaths of employees will be $991,958 in FY 1982, which is a decrease of $28,000 from FY 1981.

In FY 1982, the endangered plant species program will be transferred from soil, water, and air to the wildlife subactivity. This accounting shift of $500,000 decreases the soil, water, and air program's base.

Accomplishments within the soil, water, and air base program are as follows:

Workload Measure	1980	1981	1982 Base
- Millions of acres inventoried	20.9	20.9	20.9
- Studies conducted	540	540	540
- Number of water uses identified and quantified @ $315 each	1,667	16,500	16,500
- Groundwater basin investigations	2	2	2
- Precipitation stations	24	24	24
- Number of flood and erosion control structures maintained	14	21	21

Increase for FY 1982

(Dollar amount in thousands)

		1982 Base	1982 Estimate	Increase
Soil, Water and Air Management	$	22,145	25,300	+3,155
	(FTP)	(225)	(226)	(+1)

The $3,155,000 increase consists of three major areas: On-the-ground facilities constructed ($2,382,000) maintenance ($720,000), and Alaska National Interest Lands Conservation Act funding ($53,000).

Construction of on-the-ground facilities (fences, earthwork, and salinity control) on public lands that are included in Section 208 Water Quality Plans ($200,000) and construction of erosion control structures, water quality monitoring facilities, and fencing associated with ongoing salinity research programs ($300,000) will be accelerated. As the final portion of the San Simon project in Arizona, a major erosion control structure will be placed on the ground ($1,500,000). Additional land treatment measures and facilities to control erosion, sediment transport, and water quality will be implemented and constructed for maintenance and improvement of the public rangeland ($382,000). These efforts will improve soil stability, increase forage productivity, and protect the water quality of downstream areas and uses by more efficient use of the overland flow of water and protection of the quality of the public range.

Maintenance of water control and storage structures is long over-due. Serious problems are known to exist in several major structures. There are an estimated 20,000 water structures on the public lands, of which 2,000 are for flood and erosion control. An estimated 400 structures require maintenance in FY 1982, with costs ranging from $10,000 to $80,000 depending on the size. The base plus

the increase will fund the maintenance of 30 of the 400 structures, or 7.5 percent of the total. The remaining structures may be maintained over time through the dam safety program. Maintenance will be initiated on those structures based on priority of safety hazards.

There is $53,000 and an increase of one FTP included for implementation of Section 402 of Alaska National Interest Lands Conservation Act. This will be used to prepare portions of the land use plan for the Steese National Conservation Area and for its subsequent administration.

The Environmental Protection Agency (EPA) has published final rules for hazardous waste disposal activities. Our work to comply with these rules is uncertain at this time; therefore, this budget contains no funds for this activity. It is anticipated that EPA rules may have a significant effect on future funding needs.

Workload Measure	1982 Base	1982 Proposed	1982 Increase
Number of flood and erosion control structures maintained	21	30	+9
Salinity control facilities constructed/installed	0	2	+2
Erosion control facilities constructed/installed	0	1	+1

Object Classification Distribution

The object class detail for the proposed increase of $3,155,000 is as follows:

Position Title	GS Grade	No.	Actual Salary
Natural Resource Specialist	GS-9	1	25,000
Permanent positions		1	25,000
Positions other than permanent			225,000
Total compensation			250,000
Personnel benefits: Civilian			25,000
Travel and transportation of persons			5,000
Printing and reproduction			15,000
Other services			770,000
Supplies and materials			20,000
Equipment			120,000
Lands and structures			1,950,000
Total			+$3,155,000

Justification of Program and Performance

Activity: 3. Renewable Resources Management
Subactivity: D. Forest Management

(Dollar amounts in thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Forest Management and Development (Public Domain)	$	8,025	8,675	8,924	+249
	(FTP)	(149)	(149)	(150)	(+1)
Forest Management (Western Oregon)	$	1 139	1,228	1,228	--
	(FTP)	(20)	(20)	(20)	--
(Common Program Services)	($)	(2,162)	(2,245)	(2,484)	(+239)
Total Requirements	$	9,164	9,903	10,152	+249
	(FTP)	(169)	(169)	(170)	(+1)

	Estimate ($000)	Authorization
43 U.S.C. 1748 P.L. 94-579 P.L. 95-352	$ 9,382	Federal Land Policy and Management Act of 1976 (FLPMA), Sections 318(a) and (b), and the Quadrennial Authorization Act of 1978 authorize the appropriation of such sums as are necessary to carry out the purposes and provisions of FLPMA based on a period of four fiscal years.
43 U.S.C. 1711, 1732; 90 Stat. 2762 P.L. 94-579		The Federal Land Policy and Management Act of 1976, Section 302, provides for management, protection, and marketing of resources on a sustained yield basis; Section 201(a) provides for the preparation and maintenance, on a continuing basis, of an inventory of public land resouces and other values.
16 U.S.C. 594 42 Stat. 857 P.L. 67-315		The Timber Protection Act of 1922 provides for the protection of timber from fire, disease, and insects.

43 U.S.C. 4321, 4331-4335, and 4341-4347 P.L. 91-190	The National Environmental Policy Act of 1969 requires the preparation of environmental impact statements for Federal projects having a significant effect on the environment.
30 U.S.C. 601, 602 61 Stat. 681 P.L. 80-291	The Material Sales Act of 1947, as amended, provides for the disposal of materials, including timber on public lands.

Objectives

The objectives of the Forest Management program are to:

Assure that all public land forests available for harvest are managed effectively and efficiently to help meet current and future domestic need for timber and other forest products;

- Collect information and prepare analyses on alternative forest practices and harvest levels as required by the National Environmental Policy Act;
- implement environmentally sound harvesting and management practices on all forest areas;
- Make approximately 1.0 billion board feet of timber available over the next decade;
- Make an estimated 50,000 cords of fuelwood available annually;
- Provide Forestry capability to implement the sections of the Alaska National Interest Lands Conservation Act (ANILCA) concerning the Steese NCA, White Mountain NRA, and Admiralty Island.

Base Program

The Forest Management program consists of two components: (1) forest management and development on the public domain outside of western Oregon, and (2) forest management in western Oregon. This subactivity funds the total forest management and development outside western Oregon and partially funds management of intermingled public lands in western Oregon. The Oregon and California Grant Land Fund appropriation provides funds for the management of public lands in Western Oregon.

Receipts from all forest products from public lands outside of western Oregon are estimated to be $7.4 million in FY 1981 and $8.0 million in FY 1982.

Forest Management and Development (Public Domain). In FY 1976, BLM completed a reinventory of commercial forests on public lands. The inventory showed 2.1 million acres of commercial forest land, standing timber of 11 billion board feet, and an annual producing capacity of 178 million board feet in the 11 western states, excluding Alaska and western Oregon. Based on an analysis of multiple use values, some of these commercial forest lands are excluded from intensive forest production. These exclusions reduced the area of commercial forest land available for full timber pro duction from 2.1 million acres to 1.5 million acres, and the potential yield from 178 million board feet to 110 million board feet annually. Recently completed environmental statements in northern California and Idaho indicate further reductions in potential annual yield from 110 million board feet to 97 million board feet. The reductions are expected to benefit water quality, wildlife habitat, and recreation. The reductions will also help protect steep slopes and other fragile sites which could be permanently damaged from full scale timber harvests.

An estimated 100 miles of new road are constructed annually to support the timber sale program. Acquisition of an estimated 30 easements is a critical part of this construction program. Funding for this construction and easement acquisition is provided in the Acquisition, Construction and Maintenance appropriation.

An estimated 22 million acres of woodlands are also being managed under this program to protect the trees from insects and disease, to prevent trespass, and to satisfy public demand for fuelwood, posts, poles, Christmas trees and other vegetative materials. Fuelwood demand as an energy alternative has increased by 200 percent over the past 5 years.

The FY 1982 base program continues the FY 1981 level of effort. At the current level of funding, timber sale offerings will be approximately 97 million board feet (MMBF), the same as FY 1981. A summary of workload data is shown below.

Workload Measure

	1980	1981	1982 Base	Benefits
Volume of timber sold (MMBF)	93	97	97	Wood/Receipts
Fuelwood and other forest products permits issued (#)	12,000	16,000	16,000	Wood/Receipts
Pest control practices (acres)	50,000	50,000	50,000	Sustained yield
Inventory forest land (000 acres)	1,700	265	265	ES/EAR Schedule
Prepare activity plans (#)	80	90	90	ES/EAR Schedule
Planting, site & stand work (acres)	5,000	7,000	7,000	Sustained yield
Seedlings planted (000)	1,400	1,400	1,400	Sustained yield

Increase for 1982

(Dollar amounts in thousands)

		1982 Base	1982 Est.	Increase
Forest Management and Development (Public Domain)	$	$8,675	$8,924	$+249
	(FTP)	(149)	(150)	(+1)

An increase of $158,000 and one (FTP) position is proposed to fund required inplementation of the sections of the recently passed Alaska National Interest Lands Conservation Act (ANILCA). The one position will provide forestry capability to develop a land management plan which is required by Section 402 to be completed in 5 years. Workload will include timber inventory, timber mapping and mortality computation. Section 506 of ANILCA requires a financial contribution to be made to the State of Alaska to assure native compliance with forest management practices on Admirality Island as required in 22(k) of the Alaska Native Claims Settlement Act.

An increase of $91,000 is proposed to add capability to issue fuel wood permits in areas of highest demand.

Object Classification Distribution

The object class detail for this proposed increase of $249,000 is as follows:

Position Title	GS Grade	No.	Actual Salary
Forester	9	1	$ 21,000
Lapse			- 2,000
Permanent positions		1	19,000
Positions other than permanent			28,000
Total personnel compensation			47,000
Civilian Benefits			5,000
Other Services			197,000
Total			$249,000

Forest Management (Western Oregon). Approximately 10% of the public forest lands in western Oregon which are intermingled with revested O&C lands are Public Domain (PD) and Coos Bay Wagon Road (CBWR) lands. This component is combined with the O&C Grant Lands Funds for the management of all BLM administered lands in western Oregon. No funding change is proposed in this account for FY 1982.

Justification of Program and Performance

Activity: 3. Renewable Resources Management
Subactivity: E. Recreation Management

(Dollar amounts in thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Natural History & Cultural Resource Mgmt.	$	4,046	4,285	7,244	+2,959
	(FTP)	(45)	(45)	(51)	(+ 6)
Wilderness Mgmt.	$	11,631	13,073	24,708	+11,635
	(FTP)	(143)	(143)	(144)	(+ 1)
Recreation Resource Mgmt.	$	7,646	8,058	9,022	+ 964
	(FTP)	(137)	(137)	(138)	(+ 1)
(Common Program Services)	($)	(4,760)	(4,942)	(5,468)	(+526)
Total Requirements	$	23,323	25,416	40,974	+15,558
	(FTP)	(325)	(325)	(333)	(+ 8)

	Estimate ($000)	Authorization
43 U.S.C. 1748 P.L. 94-579 P.L. 95-352	$31,015	Federal Land Policy and Management Act of 1976 (FLPMA), Section 318(a) and (b), and the Quadrennial Authorization Act of 1978 authorize the appropriation of such sums as are necessary to carry out the purposes and provisions of FLPMA based on a period of four fiscal years.
43 U.S.C. 1701, 1711, 1782 90 Stat. 2743 P.L. 94-579		The Federal Land Policy and Management Act of 1976: - identifies recreation as a major use of public lands; - directs that public lands be managed in a way that will protect scientific, scenic, historical, ecological and archaeological values; preserve and protect certain public lands in their natural condition; and provide for outdoor recreation, human occupancy, and use; - provides for interim management of the California Desert Conservation Area and implementation of the Desert Plan;

- directs that areas of critical environmental concern be given priority in the inventory of public lands, in the development and revision of land use plans, and in applying special protective management;

- directs that a review of potential wilderness areas be completed within 15 years of enactment of the Act and that existing primitive and natural areas be reported on by July 1, 1980: and

- provides for the preparation and maintenance of an inventory of public land resources on a continuing basis.

16 U.S.C. 1242, 1243 92 Stat. 3511 P.L. 95-625	The National Parks and Recreation Act of 1978 establishes a number of national historic trails which cross public lands.
16 U.S.C. 432 34 Stat. 225 P.L. 59-209	The Antiquities Act of 1906 authorizes BLM to issue permits for the examination of ruins.
42 U.S.C. 4321, 4331-4335, and 4341-4347 P.L. 91-190	The National Environmental Policy Act of 1969 requires preparation of environmental impact statements for Federal projects having a significant effect on the environment.
16 U.S.C. 1271 P.L. 90-542	The Wild and Scenic Rivers Act of 1968, as amended, provides for the acquisition and development of recreation facilities for certain rivers under the jurisdiction of BLM.
16 U.S.C. 1241-1249 P.L. 90-543	The National Trails Systems Act of 1968, as amended, establishes a national trails system.
16 U.S.C. 4601 84 Stat. 1067 P.L. 91-476	The King Range Act of 1970 provides for management and development of the King Range National Conservation Area for recreational and other multiple-use purposes.
16 U.S.C. 1131 et. seq. 78 Stat. 890 P.L. 88-577	The Wilderness Act of 1964 provides for the designation and preservation of wilderness areas.

16 U.S.C. 470aa, 470cc, and 470ee. 93 Stat. 721 P.L. 96-95	The Archaeological Resources Protection Act of 1979 requires permits for excavation of sites and removal of artifacts and provides for the protection of archaeological resources.
16 U.S.C. 470 80 Stat. 915 P.L. 89-665	The National Historic Preservation Act of 1966 provides for the protection of sites and objects significant to American history, archaeology, and culture.
P.L. 96-487	The Alaska National Interest Lands Conservation Act of 1980 (ANILCA) provides for the designation and conservation of certain public lands in the State of Alaska, including the designation of units of the National Park, National Wildlife Refuge, National Forest, National Wild and Scenic Rivers, and National Wilderness Preservation Systems, and for other purposes.

Natural History and Cultural Resource Management

Objectives

The purposes of the Cultural and Natural History Programs are:

- to ensure that, historic and Native American cultural resources and natural science resources on public lands are available for scientific research, study, and public education, where possible; and

- to protect and preserve such resources (consistent with Federal laws, Executive Orders, State and local plans, and Native American interests) from further loss or damage through salvage, detailed recordation, or other appropriate mitigation measures.

Base Program

The base program enables the Bureau to selectively identify and evaluate significant cultural and natural science resources and to provide sound data upon which to base land use and management decisions. The base program also funds the Bureau's efforts to protect and manage about 56 exceptionally valuable sites.

Cultural Resource Management

Under the Archeological Resources Protection Act of 1979, an estimated 195 permits for research and consultation will be issued and administered by BLM in the FY 1982 base program. The majority are related to the statutory requirement to consider cultural resources before proposed Federal or Federally assisted actions are undertaken. The recent increase in the number of these permits issued is directly related to the increase in energy-related activities on the public lands.

To support scheduled land-use planning and decisions, approximately 2.5 million acres will be inventoried for cultural resources in the FY 1982 base program, the same level as in FY 1981. More than 60,000 cultural resource sites have already been located on public lands to date. It is estimated that at least a half-million cultural resource properties are on public lands. They range from southwestern prehistoric ruins to historic ghost towns, from aboriginal rock art to early wagon roads, and from small clusters of ancient stone tools to abandoned military posts. There are presently over 270 BLM cultural resource properties listed on the National Register of Historic Places. About 200 more sites and properties are pending nomination for the National Register. About 6,000 sites identified on public lands possess National Register qualities.

Compliance with Section 106 of the National Historic Preservation Act of 1966 is being streamlined through new procedures, for BLM's cultural resource protection programs and authorities developed in consultation with the Advisory Council on Historic Preservation.

The Bureau's most serious problems in cultural resource management stem from the increasing interest in and commercial value of artifacts. A lucrative black market for archaeological and historical artifacts is developing rapidly. The Bureau has numerous documented cases where commercial pothunters have illegally dug sites on public lands to uncover artifacts saleable for thousands of dollars. This is especially true in areas like Grand Gulch, Utah, where there is a high denisty of artifact sites and relatively easy public access.

An estimated 500 significant sites are currently deteriorating rapidly or being damaged extensively by unauthorized use. An example is a 200-room pueblo site located on public land in New Mexico, which is thought to be Teypama, one of the first pueblos encountered by the Spanish conquistadores in the sixteenth century. This site has been bulldozed and extensively pothunted.

The Bureau is trying to curtail this illegal activity and vandalism through increased patrol and surveillance and an enhanced public awareness program to educate the public about cultural resources.

The Bureau has scheduled fifty-six major cultural sites or areas for active physical protection in both FY 1981 and FY 1982. The cost of specific site protection varies from site to site. The placement of an informational sign at a site costs as little as $250, while a long-term stabilization project, such as for Escalante in southwest Colorado, has a base funding of $200,000. The total cost for protection of these 56 sites or areas is almost $1,300,000.

Natural History Resource Management

The Natural History Program identifies, designates, protects, and manages significant natural science resources including BLM Research Natural Areas, UNESCO Biosphere Reserves 1/, Experimental Ecological Reserves and National Natural Landmarks. The program is coordinated with similar programs of State governments and other public and private institutions. BLM is responsible for managing 21 formally designated Research Natural Areas covering about 50,000 acres. About 100 additional sites are awaiting action to complete formal designation. The Bureau is also responsible for managing public lands included in 50 National Natural Landmarks designated by the Secretary of the Interior. About 4 million additional acres of public lands are thought to contain significant natural science resources. However, the limited data and analyses available on such resources are currently inadequate to demonstrate which areas are valuable enough to merit permanent Natural History designation, protection, and management.

1/ UNESCO - United Nations Ecological Scientific Cultural Organization.

Workload Measures	1980	1981	1982 Base
Cultural Inventory (million acres)	2.4	2.5	2.5
Cultural Site Protection (number)	30	56	56
Antiquities Permits (number)	170	195	195
Natural Area Designations (number)	8	10	10
Natural Areas Supervised (number)	13	15	15

Increase for 1982

		1982 Base	1982 Est.	Increase
Natural History and Cultural Resource Mgnt.	$	4,285	7,244	+2,959
	(FTP)	(45)	(51)	(+6)

The FY 1982 increase of $2.9 million is for additional protection activities and inventory for cultural resources value.

The protection activities include: limited physical measures such as stabilizing stone walls, constructing new foundations for wooden structures, fencing, signing, and erosion control; patrol and surveillance of significant areas to curtail vandalism and theft; and issuance and compliance checks of antiquities permits.

The FY 1982 Budget increase provides for the protection of an additional twelve significant cultural resource sites and areas. These twelve combined with the 56 sites covered by base funding make a total of 68 sites or areas which will receive some form of protection or stabilization. About $809,000 of the increase will be used to protect Dalton Cache (AK), Battleship Rockshelter (AZ), Homolovi Pueblo (AZ), Anasazi Culture Area (CO), Grand Junction District Petroglyphs (CO), Mt. Bennet Hills Petroglyphs (ID), Western Snake River Area (ID), Mill Iron Site (MT), Chacoan Communities (NM), Ojo Caliente (NM), Duck Lake Station (WY), Wagon Bed Springs (WY), and Wardell Archeological Site (WY).

An increase of $400,000 is proposed to implement the cultural resources part of the California Desert Plan. The work proposed includes an additional 10,000 acres of surveillance, nomination of nine areas to the National Register, and four additional projects to protect such cultural values as rock art, intaglios, Native American sacred sites, and Early Man sites.

Of the 60,000 cultural sites recorded on public lands, only 8,000 are now receiving some form of protection by means of patrol and/or surveillance. A funding increase of $750,000 will provide surveillance activities for an additional 24,500 sites, bringing in less than 50% the number of sites under surveillance to 54% of the total recorded sites.

74-939 O—80——8

Presently, the Bureau is not able to adequately review permit applications or conduct field compliance checks on work performed under an issued permit. Most work now done under these permits is the result of energy demands. An increase of $300,000 is necessary to keep pace with energy development by issuing permits under the Archaeological Resource Protection Act of 1979 and conducting field checks on all permits issued.

The funding increase of $700,000 for cultural resource inventories is for an additional 1.8 million acres in Montana, Wyoming, Idaho, Nevada, and Utah for Class I and II inventories and site evaluations to keep pace with new energy development and court-ordered range EISs.

Six full-time permanent archaeologist positions are needed to undertake the workload associated with these proposed program increases.

Workload Measures	1982 Base	1982 Proposed	1982 Increase
Cultural Inventory (million acres)	2.5	4.3	+1.8
Cultural Site Protection (number)	56	68	+12
Antiquities Permits (number)	195	220	+25

Object Classification Distribution

The object class detail for this proposed increase of $2,959,000 is as follows:

Position Title	GS Grade	No.	Actual Salary
Archaeologists	9 thru 12	6	$ 192,000
Lapse			- 18,000
Permanent Positions			174,000
Positions-Other-Than-Permanent			1,116,000
Total Personnel Compensation			$1,290,000
Personnel Benefits			200,000
Travel and Transportation of Persons			70,000
Standard Level User Charges			100,000
Communications, Utilities and Other Rent			30,000
Other Services			1,109,000
Supplies and Materials			90,000
Equipment			70,000
Total			$2,959,000

Wilderness Management

Objectives

The objectives of this program are:

1. To conduct wilderness studies on an accelerated schedule for timely resolution of resource conflicts, particularly related to energy and mineral development.

2. To ensure effective implementation of the interim management policy, including continuation of "grandfathered" activities, exercise of valid existing rights, and prevention of impairment of wilderness values.

3. To complete mineral surveys for public land islands.

Base Program

In FY 1982, the base Wilderness Program will:

- Complete studies on 55 Instant Study Areas;

  Final wilderness recommendations have been submitted on 1 Primitive Area and 18 Natural Areas. Additional final wilderness recommendations will be processed during FY 1981 on 7 primitive areas and 10 natural areas. The final recommendations on the remaining 19 instant study areas have been delayed to enable the BLM to study the areas concurrently with their contiguous wilderness study areas and in such cases, to develop one wilderness recommendation for the total public lands containing wilderness characteristics. A schedule is being developed during FY 1981 to report the remaining 19 areas by 1987. It is estimated that 6 of these will be reported during FY 1982. The total cost including inventory for reporting each area has varied from $100,000 to $150,000 for a nonsuitable recommendation to $300,000 to $500,000 for a suitable recommendation.

- Initiate new studies in 22 planning areas containing Wilderness Study Areas with priority resource conflicts.

- Prepare 18 wilderness study reports.

- Carry out interim management requirements for all areas identified as having wilderness characteristics. There are approximately 24 million acres which must be managed to ensure that grandfather activities may be continued, that valid existing rights are recognized, and that these wilderness characteristics are not impaired. (The base interim management effort in FY 1982 will be to manage wilderness study areas formally designated in 1980.)

- Gather preliminary minerals data and gather information from other agencies in advance of planning amendments and prior to formal mineral surveys.

- Complete at least 25% of the effort to develop wilderness study reports and wilderness environmental statements for the California Desert.

- Implement wilderness resource considerations through normally scheduled environmental analysis.

- Provide funding for the U.S. Geological Survey and the Bureau of Mines to conduct mineral surveys as required by law. An estimated 0.5 million acres will be surveyed.

The estimated increase in mineral survey costs is needed to complete a more thorough survey in high potential mineral areas and an increase in contract costs for sample analysis.

The base program also includes a proposed $1.0 million transfer from the planning subactivity to this subactivity to start the wilderness planning amendments formerly financed in the planning activity. In FY 1981, 18 planning amendments will be started, and 22 amendments will be started in FY 1982.

Workload Measures	1980	1981	1982 Base
Instant Study Areas (#)	19	17	6
New Study Areas			
Initiate (#)	--	18	22
Complete (#)	--	--	--
Wilderness Study Reports	0	0	18
Wilderness Management (mil. acrs.)	41.0	24.1	24.1
Mineral Surveys (mil. acrs.)	0.5	0.5	0.5

Increase for 1982

(Dollar amounts in thousands)

		1982 Base	1982 Est.	Increase
Wilderness Management	$	13,073	24,708	+11,635
	(FTP)	(143)	(144)	(+1)

Completed wilderness inventories indicate that 150 million acres of public lands do not have wilderness characteristics. Approximately 24 million acres need to be studied to provide Congress with recommendations whether they are more suitable for wilderness designation or for other uses. Until the status of these remaining acres can be determined, they are under an "interim management policy" required by law. The interim management policy requires that the suitability for preservation as wilderness of these areas not be impaired until such time that the Congress acts upon the President's wilderness recommendations. In certain cases, the development of energy and mineral resources could impair the suitability of these areas for preservation as wilderness. Therefore, this development will be delayed until such time as a Congressional decision regarding the designation of these areas as wilderness is reached. The Congress does not have a specific timeframe in which they must act upon the President's wilderness recommendations.

Accordingly, it is in the best public interest overall to reduce time delays and the period of uncertainty involved in resolving the wilderness suitability question. To achieve this end, the BLM has developed an accelerated schedule to complete all wilderness studies by the end of 1987 in an effort to obtain an early resolution of these issues by Congress. Those wilderness study areas which Congress affirms are nonsuitable for wilderness will be released from the interim management restrictions allowing other possible uses. The accelerated schedule provides for varying amounts of studies to be completed on an annual basis beginning in 1982 with the last group of studies being completed and reported in 1987, or four years ahead of the 1991 deadline required by FLPMA. Within this overall acceleration of wilderness studies, high priority will be given to completing studies first on those areas which have important energy and mineral conflicts. A major portion of the increase requested for this proposed accelerated wilderness study program is for the completion of mineral surveys by the U.S. Geological Survey and the Bureau of Mines for any areas recommended suitable for wilderness.

The following table indicates the planning, reports, and mineral surveys to be conducted to meet the 1987 completion date.

WILDERNESS MANAGEMENT
Planning, Study Report, and Mineral Survey Workload, 1982-1987

	Fiscal Year					
	1982	1983	1984	1985	1986	1987
Planning amendments						
Start	22	8	5	8	0	0
Completion	18	22	8	5	8	0
Wilderness environmental statements (other than amendments)						
Management Framework Plans						
Start	0	20	3	0	0	0
Completion	0	0	20	3	0	0
Resource Management Plans						
Start	0	7	11	15	12	0
Completion	0	7	11	15	12	0
Wilderness Study Reports	18	29	39	23	20	0
USGS/BM Mineral Surveys						
Starts/ac.	3,700,000	3,800,000	3,800,000	3,700,000	0	0
2nd year/ac.	500,000	3,700,000	3,800,000	3,800,000	3,700,000	0
3rd year/ac.	200,000	100,000	900,000	1,000,000	1,000,000	900,000

The total mineral survey requirements increase for FY 1982 is $10.3 million. This increase will allow mineral surveys to be completed on a timeframe that will ensure that mineral potential of WSAs is fully considered prior to the Secretary and the President deciding that an area is suitable for wilderness designation, while also ensuring completion of the recommendations in time to meet the 1987 deadline.

	Budget Authority
Collect minerals information	-$ 1,300,000 (reallocation to USGS/BM)
Complete 18 and begin 22 new plan amendments	+ 2,685,000
USGS/BM minerals surveys	+ 10,250,000
	$+11,635,000

The schedule to complete all wilderness studies by FY 1987 can be implemented with the proposed FY 1982 budget increase. The total estimated number of planning amendments needed through 1987 is 61, which includes all study areas presently identified. Without the proposed increase, an estimated 20 percent of all study areas will remain under interim management restrictions, with possible continuing energy and non-energy minerals conflicts in these areas.

Workload Measures	1982 Base	1982 Proposed	1982 Increase
New Study Areas Complete (#)	--	18	+18
Mineral Surveys Starts (mil. acr.)	0.5	3.7	+ 3.2

The following is a table showing the proposed mineral surveys from 1981 through 1987:

MINERAL SURVEYS
(acres and dollars in millions)

	1981 Enacted Appropriation	1981 Proposed Supplemental	1981 Total	1982	1983	1984	1985	1986	1987
BUREAU OF MINES									
New Starts									
Acres (millions)	0.5	---	0.5	3.7	3.8	3.8	3.7	---	---
Dollars (M)	$0.7	+$ 0.5*	$ 1.2	$ 7.4	$ 7.6	$ 7.6	$ 7.4	---	---
Second Year									
Acres (millions)	0.8	---	0.8	0.5	3.7	3.8	3.8	3.7	---
Dollars (M)	$0.6	-$ 0.3*	$ 0.3	0.3	$ 2.1	$ 2.2	$ 2.2	$ 2.1	---
GEOLOGICAL SURVEY									
New Starts									
Acres (millions)	0.5	+ ---	0.5	3.7	3.8	3.8	3.7	---	---
Dollars (M)	$0.5	0.6**	$ 1.1	$ 4.6	$ 4.8	$ 4.8	$ 4.6	---	---
Second Year									
Acres (millions)	0.9	---	0.9	0.5	3.7	3.8	3.8	3.7	---
Dollars (M)	$1.1	---	$ 1.1	$ 0.6	$ 4.6	$ 4.8	$ 4.8	$ 4.6	---
Third Year									
Acres (millions)	---	---	---	0.2	0.1	0.9	1.0	1.0	0.9
Dollars (M)	---	---	---	$ 0.3	$ 0.1	$ 1.1	$ 1.2	$ 1.3	$ 1.1
Total									
Acres under survey(M)	1.4	---	1.4	4.4	7.6	8.5	8.5	4.7	0.9
Dollars (M)	$ 2.9	+$ 0.8	$ 3.7	$13.2	$19.2	$20.5	$20.2	$ 8.0	$ 1.1

* Reflects revised cost estimates for the Bureau of Mines that indicate higher first-year costs (and largely offsetting decreases in second-year costs), and in 1981 $0.2 million to recruit, hire and train core staff.

** Includes $0.4 million for contracts for aeromagnetic analysis, and $0.2 million to recruit, hire and train core staff.

Object Classification Distribution

The object class detail for this proposed increase of $11,635,000 is as follows:

Position Title	GS Grade	No.	Actual Salary
Outdoor Recreation Planner	9 - 12	1	$ 40,000
Permanent Positions			$ 40,000
Positions-Other-Than-Permanent	--	-	616,000
Total Personnel Compensation			$ 656,000
Personnel Benefits			86,000
Travel and Transportation of Persons			140,000
Standard Level User Charges			114,000
Communications, Utilities and Other Rent			57,000
Printing and Reproduction			258,000
Other Services			10,250,000
Supplies and Materials			37,000
Equipment			37,000
Total			$11,635,000

RECREATION RESOURCE MANAGEMENT

Objectives

The objectives of the Recreation Resource Management program is to: 1) provide recreation opportunities to the public while assuring the long-term protection of significant recreation resources; 2) promote visitor safety and reduce user conflicts; and 3) minimize the impacts of specific resource developments on the scenic values of the public lands. Specific objectives include:

- provide for the protection and management of areas having high recreation value such as the California Desert, Wild and Scenic Rivers, Historic areas and other high value areas having unusual or unique resources.

- provide emergency and other basic services essential to promote visitor safety and reduce user conflicts.

- identify scenic values on public lands and ensure that BLM meets its basic stewardship responsibility to protect these values.

- designate and manage all public lands as open, closed or limited to off-road vehicles under Executive Order 11644, as amended.

- meet the public demand workload for permits and other use authorizations.

- participate in non-Bureau initiated studies and plans as required by law such as National Trail Studies, National Wild and Scenic River studies and State Comprehensive Outdoor Recreation Plans (SCORPS).

Base Program

The BLM is responsible for protecting and managing the following recreation values:

- extensive recreation use on 357 million acres with an estimated 80 million visitor days or 200 million visits (only the Forest Service serves more visitors in the West than the Bureau).

- 30 intensively used recreation areas totaling 3.1 million acres in twelve states.

- 52 recreational and whitewater rivers with 4,000 miles suitable for recreation use. Four rivers, the Rio Grande, Rogue, Upper Missouri and American, are designated as National Wild and Scenic Rivers.

- the King Range National Conservation Area with over 41,000 acres and 30 miles of Pacific Ocean beach.

- 12 designated National Trails with over 1,372 miles under BLM administration and another 5,000 miles under study.

- 215 developed recreation sites and 231 primitive campgrounds.
- 48 million acres of land with potential for off-road vehicle use, of which 30 million acres, has already been designated as open, closed or limited.
- 2,000 projects and actions of visual impacts on oceanic resources.
- inventory 33 million acres to identify recreation and scenic values, a decrease of 11 million acres from the FY 1981 level.

Workload Measures

	1980	1981	1982 Base
Visitors served (000's)	10,800	13,400	13,400
Recreation & Scenic Inventories (000 acres)	61,000	44,000	33,000
Off-Road Vehicle Designations (000 acres)	12,000	18,000	18,000
Surveillance (000 acres)	2,800	3,000	3,000

Increase for 1982

		(Dollar amounts in thousands) 1982 Base	1982 Est.	Increase
Recreation Resource Management	$	8,058	9,022	+964
	(FTP)	(137)	(138)	(+1)

The increase will be used to provide resource and visitor protection in heavily impacted use areas. The majority of the increase, $400,000, will be used to implement critical management needs in the California Desert Conservation Area (CDCA) as identified in the congressionally mandated plan which was approved by Secretary Andrus in December, 1980. Implementation of the off-road vehicle designations to reduce the impacts on desert environments is the primary target for the increased funds. Increased funds will also be used to prepare maps and other information to inform the ORV user of where he can travel. Increased field supervision is needed to insure that important resources and improvements are protected in compliance with requirements in the CDCA plan. Approximately $368,000 will be used to provide resource and visitor protection for other intensive use areas including the Organ Mountains in New Mexico, Lower Colorado River in Arizona, Little Sahara Sand Dunes in Utah and other intensive use areas in the 11 western states. The remaining $196,000 will be used to implement priority provisions in the Alaska National Interest Lands Conservation Act of 1980, including instituting minimum management programs for the 7 National Wild and Scenic Rivers, the White Mountain National Recreation Area, the Denali Scenic Highway and the Steese Mountain National Conservation Area.

Object Classification Distribution

The object class detail for this proposed increase of $964,000 is as follows:

Position Title	GS Grade	No.	Actual Salary
Recreation Planner	11	1	$ 32,000
Lapse			- 3,000
Permanent positions		1	29,000
Positions other than permanent			673,000
Total personnel compensation			702,000
Personnel benefits			10,000
Travel and transportation of persons			80,000
Standard level user charges			40,000
Supplies and materials			84,000
Equipment			48,000
Total			$964,000

Justification of Program and Performance

Activity: 3. Renewable Resources Management
Subactivity: F. Fire Management

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Fire Management	$	9,214	9,536	9,619	+83
	(FTP)	(140)	(140)	(140)	(--)
(Common Program Services)	($)	(1,887)	(1,959)	(2,168)	(+209)
Total Requirements	$	9,214	9,536	9,619	+ 83
	(FTP)	(140)	(140)	(140)	(--)

	Estimate ($000)	Authorization
43 U.S.C. 1748 P.L. 94-579 P.L. 95-352	$22,422	Federal Land Policy and Management Act of 1976 (FLPMA), Sections 318 (a) and (b), and the Quadrennial Authorization Act of 1978 authorize the appropriation of such sums as are necessary to carry out the purposes and provisions of FLPMA based on a period of four fiscal years.
43 U.S.C. 1732 90 Stat. 2792 P.L. 94-579		The Federal Land Policy and Management Act of 1976 Section 303(a) provides for the management, use, and protection of the public lands, including the property located on them.
16 U.S.C. 594 42 Stat. 857 P.L. 67-315		The Timber Protection Act of 1922 provides for protection of timber from fire and other threats.
43 U.S.C. 1856 a-d 59 Stat. 66		The Reciprocal Fire Protection Agreement Act of 1955 provides authority for mutual aid in fire protection.

Objectives

The objectives of BLM's Fire Management Program are to protect the public lands and their resources from loss or depletion due to wildfire and to develop techniques for using controlled fire as a tool for resource management.

Base Program

BLM is responsible for protecting more than 423 million acres of public land from wildfire. Of this total, approximately 6 million acres are protected through contracts with state, local, or other federal fire protection agencies.

Suppression costs plus losses to timber, watersheds, recreation, rangelands, wildlife habitat, and property, from fire on the public lands averages about $32,000,000 annually.

An average of 2,500 fires occur each year on public lands, varying in size from less than one acre to more than several hundred thousand acres. An average of about one million acres are burned each year.

Fire occurrence cannot be accurately predicted. However, conditions that are conducive to fire, such as lightning storms, heavy fuel buildup, and high public use, are analyzed to determine the probability of a fire occurring. Close observation of high probability areas and readiness for quick action on reported fires has reduced the size of the average wildfire as well as losses from fire.

BLM's plans for fire management are contained in Normal Fire Year Plans developed for each BLM District. The plan groups all public lands into classes of fire problems based upon historical data on fire occurrence, the value of resources threatened by fire and the estimated behavior of a fire. Activities for resolving the fire problem of each class are then developed, tested and evaluated for effectiveness. The personnel and equipment needs as displayed in the plan become the basis for the annual budget. The Bureau's Normal Fire Year Plan was updated in 1979.

The Bureau presently has a BLM developed Automatic Lightning Detection Systen (ALDS) which covers the 11 western states and Alaska. All cloud-to-ground lightning strikes are electronically recorded and plotted on a map. This allows fire managers to anticipate problem areas and take rapid action.

Studies show that a fire can, and in many areas must, play an important role in resource management. Fire is a useful tool for improving timber growth and removing undesirable vegetation. Prescribed and controlled burns have improved range and watershed conditions as well as, if not better than, other methods. Continued improvement in fire management technology is needed to reduce the costs of rangeland and timber stand improvement and to provide longer lasting results.

The FY 1982 base program maintains the current level of fire management practices and techniques. About $1,246,000 is provided for fire contracts with other firefighting agencies for fire prevention contracts on 6 million acres of public lands.

Capability for emergency prevention, presuppression and suppression efforts, and emergency resource rehabilitation is provided for in the firefighting and rehabilitation activity.

Increase for 1982

		1982 Base	1982 Estimate	Increase
Fire Management	$	9,536	9,619	+83
	(FTP)	(140)	(140)	--

The FY 1982 proposed increase of $83,000 will purchase fire pumps, portable radios and repeaters, and chain saws needed to improve firefighting effectiveness. This equipment represents the most critical items on the cyclic replacement schedule.

Object Classification Distribution

The object class detail for this proposed increase of $83,000 is as follows:

Position Title	GS Grade	No.	Actual Salary
Equipment			$ 83,000
Total			$ 83,000

JUSTIFICATION OF PROGRAM AND PERFORMANCE

Activity: 4. Planning and Data Management
Subactivity: A. Multiple Use Planning

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Multiple Use Planning	$	15,600	14,895	15,164	+ 269
	(FTP)	(328)	(305)	(306)	(+1)
(Common Program Services)	($)	(3,695)	(3,837)	(4,245)	(+ 408)
Total Requirements	$	15,600	14,895	15,164	+ 269
	(FTP)	(328)	(305)	(306)	(+1)

	Estimate ($000)	Authorization
43 U.S.C. 1748 P.L. 94-579 P.L. 95-352	$11,791	Federal Land Policy and Management Act of 1976 (FLPMA), Section 318 (a) and (b), and the Quadrennial Authorization Act of 1978 authorize the appropriation of such sums as are necessary to carry out the purposes and provisions of FLPMA based on a period of four fiscal years.
43 U.S.C. 1711, 1732 P.L. 94-579		The Federal Land Policy and Management Act of 1976 requires planning for multiple-use management of the public lands.
42 U.S.C. 4321 et seq. 83 Stat. 853 P.L. 91-190		The National Environmental Policy Act of 1969 requires systematic, interdisciplinary planning to insure the integrated use of the natural and social sciences and the environmental design arts in making decisions about federal actions that may have an effect on man's environment.
P.L. 94-377 90 Stat. 1083		The Federal Coal Leasing Amendments Act of 1975 requires plans or land use analysis in advance of coal leasing.
P.L. 96-487		The Alaska National Interest Lands Conservation Act of 1980 (ANILCA) provides for the designation and conservation of certain public lands in the State of Alaska, including the designation of units of the National Park, National Scenic Rivers, and National Wilderness Preservation Systems, and for other purposes.

Objectives

To meet the intensive and conflicting demands for use of the various resources on public lands, the court-ordered schedule for grazing environmental impact statements, the President's energy policy, and the requirements of both the Federal Land Policy and Management Act of 1976 and the National Environmental Policy Act, the Bureau's objectives in this program are to:

- prepare plans for public rangelands to meet the court mandated schedule for grazing environmental impact statements;
- support the Federal Coal Management program by preparing plans which will meet the Secretary's coal leasing schedule;
- evaluate identified wilderness study areas to complete the review process required by the Federal Land Policy and Management Act;
- prepare land use plans to assess suitability for energy and minerals leasing, special energy projects, timber sales, protection or use of areas of critical environmental concern, recreation, wildlife habitat, including threatened and endangered species, and other purposes;
- improve the quality and efficiency of multiple use decisions by implementing the planning processes required under FLPMA, and by incorporating environmental analysis early in planning decisions.

Base Program

In 1979, BLM published new regulations for resource management planning on the public lands, as required by FLPMA. These new procedures also consolidated requirements of several other laws and the NEPA regulations of The Council on Environmental Quality. In essence, the regulations establish procedures for the conversion from management framework planning to the resource management planning system required by FLPMA and the planning regulations. Such Resource Management Plans (RMPs), or plan amendments, are the basis of all major management decisions and public investments on the public lands. They are the major guide for determining and coordinating various potential uses of public land. The plans specify the allocation of resources among uses and prescribe appropriate management and protection strategies.

In addition to new planning starts for RMP's the 1982 base program includes additional work on MFP's in process in order to meet the more detailed planning requirements of FLPMA. The schedule calls for completion of plans for about 20 geographic areas per year, resulting in an estimated 70-80 plans being worked on within the base program, given an assumed planning period of four years. In FY 1982, completing transition MFPs under the new regulations will require that each plan identify local as well as national issues involved, be consistent with State and local plans, consider other public concerns, identify Areas of Critical Environmental Concern and provide unsuitability criteria analysis for any coal leasing in such areas. In addition, the

74-939 O—80——9

transition MFPs must be based on the principle of multiple use management and sustained yield of renewable resources and must have been developed with the participation of the public and State and local governments, in order to meet the FLPMA mandates (see Federal Register notice of December 3, 1979).

The regulations permit the continued use for 10 years of Management Framework Plans which meet the conformance criteria, in Section 1601.8 b(1) and (3) of the planning regulations. Management Framework Plans may be amended to consider specific actions or proposals not considered in the original plan.

The base program will carry out the four year schedule for full implementation of the regulations for the multiple use land planning activities shown below:

FY 1982 Work	Outputs
New RMP Starts (for completion in 1985)	26 RMPs
Coordinate Inventories	44 Resource Areas
Preparation for FY 84 Plan Completion	1 RMP
Preparation for FY 83 Plan Completions	3 Transition MFPs 8 RMPs
Complete FY 82 Plans	13 Transition MFPs 2 RMPs

The base program for resource management provides the capability to meet the court ordered planning/EIS grazing schedule, and future development of coal, power generating facilities, energy transportation systems, non-energy minerals, and other potentially significant land uses. For example, under current schedules, resource management planning will be completed on an estimated 70-90 percent of the coal resource acreage by the end of FY 1983.

The improved public participation effort required by the planning regulations is expected to improve BLM's relationship with local and State governments.

Each plan to be completed in FY 1982 is estimated to cost $600,000 - $750,000. This is an increase of about $100,000 per plan over FY 1980 costs and is the result of more stringent requirements for public involvement, conditioning the funding of actions on mitigation, and more coordination with State, local and other federal agencies. Since no RMPs have been completed yet, BLM does not know what the full average cost will be for these new plans; but it is expected to be higher than for MFPs because the EIS is completed as part of the plan and is part of the planning cost.

Of the RMPs in process, 6 are pilot projects which are being closely monitored to determine the most efficient way to implement the planning regulations. These six pilot RMPs are located in and their completion dates are:

Elko, Nevada 1983	Moab, Utah 1983
Susanville, California 1983	Craig, Colorado 1983
Butte, Montana 1983	Glenwood Springs, Colorado 1982

The FY 1982 base program accomplishes the following:

Workload Measures		1980	1981	1982 Base
Plan Completions	(plans)	19	27	13
Preplanning & Inventory	(plans)	40	67	48

Increase for FY 1982

(Dollar amounts in thousands)

		1982 Base	1982 Estimate	Increase
Multiple Use Planning	$	14,895	15,164	+269
	(FTP)	(305)	(306)	(+1)

Initiate plans for the 1,000,000 acres "White Mountain National Recreation Area" and the 1,220,000 acres "Steese National Conservation Area" in Alaska, under Title IV of the Alaska National Interest Lands Conservation Act of 1980. The Act requires that the Secretary "..... within 5 years of the date of enactment of the Act, develop a land use plan persuant to FLPMA .....". Special values to be considered in the management and planning of the "Steese National Conservation Area" are the Caribou Range and Birds Creek.

Object Classification Distribution

The object class detail for the proposed $269,000 increase is as follows:

Position Title	GS Grade	No.	Actual Salary
Permanent positions	9 thru 11	1	$ 30,000
Positions other than permanent			209,000
Total personnel compensation			239,000
Personnel benefits			18,000
Travel and transportation of persons			4,000
Printing and reproduction			2,500
Supplies and materials			2,500
Equipment			3,000
Total			$269,000

Justification of Program and Performance

Activity: 4. Planning and Data Management
Subactivity: B. Data Management

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Data Management	$	16,182	16,682	18,420	+1,738
	(FTP)	(166)	(166)	(166)	--
(Common Program Services)	($)	(2,850)	(2,959)	(3,274)	(+ 315)
Total Requirements	$	16,182	16,682	18,420	+1,738
	(FTP)	(166)	(166)	(166)	--

	Estimate ($000)	Authorization
43 U.S.C. 1748 P.L. 94-579 P.L. 95-352	$20,083	Federal Land Policy and Management Act of 1976 (FLPMA), Section 318 (a) and (b), and the Quadrennial Authorization Act of 1978 authorize the appropriation of such sums as are necessary to carry out the purposes and provisions of FLPMA based on a period of four fiscal years.
43 U.S.C. 1711, 1731, 1732, 1781 P.L. 94-579		The Federal Land Policy and Management Act of 1976 provides for the preparation and maintenance of an inventory of all public lands and their resources and other uses on a continuing basis.

Objectives

The primary objectives of the data management program are to provide:

- appropriate information management capability for BLM's administrative and resource management programs so they gain an increased level of operational efficiency; and

- suitable and timely information for land use planning, resource management and administrative decisions.

These objectives are to be supported by:

- developing an integrated data base;

- using a building block approach;

- making information more timely, available and usable by reducing the difficulties of manual manipulation and by standardization;

- reducing the amount of space required to store conventional records;

- increasing the accuracy level of data, particularly in statistical reports;

- reducing the man-hours required to gather, interpret, and store surface resource information; and

- making the information system user oriented rather than machine oriented.

Base Program

BLM files contain 85 million individual records, each containing one to several thousand data elements. The records contain legal, scientific, and managerial data which is documented and used in a variety of formats such as text, photographs, maps, plats, digital tapes, and electronic imagery. As a result of the broad geographic area of Bureau responsibility and operation, the records are stored at more than 120 separate locations from New York City to Fairbanks, Alaska.

In FY 1976 the BLM began implementing its "Strategic Plan for Information Systems Management". The plan is designed to guide BLM into a comprehensive and integrated information system. If sufficient resources are made available to inplement the plan, BLM's information management capabilities will include: 1) a series of data banks to replace voluminous existing conventional files; 2) easier access to data by headquarters and field offices; 3) capability for remote entry, update, and retrieval of data; 4) availability of textual, numeric, and graphic material in the format desired by the user; 5) the capability to retrieve and analyze information for conflict identification in resource management plans and operations; 6) land use and yield trend information; 7) word processing; and 8) rapid and accurate development of year end and other periodic reports.

The Federal Land Policy and Management Act of 1976 gave BLM a strong legislative mandate for comprehensive land-use planning, a mandate that was further highlighted by the Public Rangelands Improvement Act in 1978. To comply with the mandate and in response to a rapidly growing need for analysis of large amounts of data, BLM is in the process of expanding its automated capability for gathering, storing, processing, and retrieving resource and other related information. The program, therefore, includes telecommunications and remote sensing as well as the traditional automatic data processing elements.

The computer systems being developed will support one or more of the program functions related to management of lands, range, forests watersheds, wildlife habitat, recreation, minerals, cadastral survey, fire protection, roads and trails, access transportation, rights-of-way, personnel management, property, and financial management.

BLM's information management system workload is categorized into 16 application packages. The system will be designed and implemented on a phased basis for each application package.

The following general descriptions of two application packages illustrate the kinds of data units that must be maintained and processed.

- Resource Inventory (RES)

  The Resource Inventory package includes the processes of data gathering, storage, analysis, and maintenance and statistical, graphic, and narrative retrieval for all Bureau managed resources.

- Land Records Management (LR)

  The Land Records package includes the processes of data gathering, storage, analysis, maintenance, and statistical, narrative, and graphic retrieval of master title, survey and supplemental plats, field notes, and associated historical indices.

The other application packages are:

- Program Planning
- Accounting and Fund Control
- Manpower and Organization Management
- Planning - Unit Resource Analysis
- Case Management
- Utilization Management
- Planning - Management Framework Plan
- Regional Analysis
- ER/EIS Preparation and Publication
- Annual Work Planning and Program Management
- Payroll
- Manpower and Organization Management
- Property Control and Management
- Protection

The application packages provide the Bureau with a way to organize data and information to meet its needs on a unified basis.

Under the strategic plan, the Bureau is pursuing two major phases to provide a configuration of terminals and computers which will provide the on-the-ground manager with information needed to make decisions. This also requires the development or the procurement of application packages tied to the equipment to make the decisionmaking process a reality.

° The first phase focused on placing a large centralized computer in the Denver Service Center to be used by all BLM field offices. Each field office will draw upon the central data banks for information processing services.

Many of the Bureau's information needs involve methods that are common to all offices. Synthesizing resource inventories and developing planning decisions, for example, requires the generation of many maps and statistical tables. The only difference in such products from one office to another are the data. In satisfying these common requirements, several offices can share the same standard automated process. These standard processes will continue to be developed and maintained at the Denver Service Center.

- The second phase of acquiring computer equipment for field offices, called distributed processing, is now being implemented and should be completed in 1985. This phase should meet the users unique needs and provide "stand alone" capability. For example, a percentage of the resource data gathered in a state may have meaning only to that state. Since no other state office requires the data, it is best to physically store and update them in the States where they are constantly being used.

BLM needs both centralized and localized processing. The determination of which configuration best suits a function is based on performance of a system. The volume, frequency and number or location of users accessing the data will dictate whether the use of a particular system should be centralized or not.

The FY 82 Program

Priorities in the program are:

1. Efficient operation of existing on-line automatic data programs acquired for general administration and resource management.

2. Upgrading existing programs or developing new ones, based on a continuing review of priorities and needs. This includes studying alternatives to improve effectiveness at the least possible cost.

In FY 1982, the base Data Management program will:

- Operate, maintain, and, where necessary, upgrade basic automatic data processing for payroll, accounting, property control, and the administrative systems.

- Continue the trial project of field level implementation of a land and survey records system to establish the basic building block for automating land and resource data; (the lands records system is the basis for all BLM decisions in managing the public lands).

- Continue processing resource inventory data for use in field planning and management decisions. Develop improvements in techniques and procedures of handling and analyzing resource inventory data.

- Continue the system development and testing of remoted sensed data bases. These will be used for cost effective resource inventory and management planning to improve management decisions for the multiple use of public lands.

- Develop improved financial management programs to provide better working tools for managers.

- Work on system design for case management, utilization management, and resource inventory (Phase I) to reduce manual compilation of these records which will improve efficiency, data gathering, and the appraising and tracking of all case types handled by the Bureau in a timely manner.

- Operate and maintain all data processing and remote sensing equipment throughout the Bureau.

- Purchase 22 terminals for field offices; (these terminals will be needed by the district and area offices to access state level and the central site computer data bases for such applications as the fire management system, Soil Vegetative Inventory Method, Mining Claims, and PAY/PERS system.

- Analyze data communication flow and quantity. From this analysis data communication systems will be desinged and implemented to meet current requirements and provide a foundation for future systems.

Increase for 1982

(Dollar amounts in thousands)

		1982 Base	1982 Estimate	Increase
Data Management	$	16,682	18,420	+1,738
	(FTP)	(166)	(166)	--

At the present time, virtually all data is processed at the central processing unit located in Denver. This fourth generation Honeywell computer is presently operating three shifts per day, seven days a week at very near maximum capacity. Overall processing capacity is to increase in FY 81; however, it is anticipated that this increased capacity will not meet the complete FY 82 demand.

During FY 82, efforts will be directed at increasing the capability and utilization of the field office general purpose mini-computers. By increasing the capacity and utilization of the field minicomputers BLM will gain capacity and utilization of about 30 percent for a cost of approximately 1.1 million dollars. To gain the same capacity by increasing the size of the central facility would cost three times as much.

Therefore, the existing General Purpose Computers located in the State Offices, Eastern States Office, Denver Service Center, and the Washington Office will be upgraded to provide stand alone capability.

The remaining cost of $638,000 will be utilized to develop or expand the following field office application packages. These packages will be utilized with the mini computers and will provide immediate relief to the central site.

The processing capability included in this request will be used to support new/expanding programs, as follows:

Program	Percent of Benefits a/	Proposed FY 1982 Action
Land and Survey Records	13%	To provide status and surveys of the land, which is the base for all activities on public land and support of increased public service initiative.
Coal Leasing Data System	22%	Provide case management file system for Federal coal leases. Analyze tract suitability.
Simultaneous Oil and Gas Leasing	14%	The computer system will perform the drawing instead of doing it manually. To provide security and prevent fraud.
Wilderness Review in Priority Areas	24%	Analyze wilderness and mineral data in the overthrust belt and other priority areas.
Mining Claim Recordation	14%	Provide case management files of all mining claims on the public land, by location, owner type, etc.
Water Rights	13%	Analyze water locations and standardize the production system.

Meeting the needs of these priority base and expanded programs assumes computer capability at the field level. Without the equipment requested, the programs will either be delayed or seriously impaired due to the continuation of time consuming manipulation or of overloading the central computer, resulting in decision delays by the field managers.

a/ The percent benefits from the increased ADP capability is an estimate based on the distribution of equipment to be purchased and the interrelationships between the six benefitting programs, i.e., the coal program will benefit from lands and survey records, and mining claim data; the wilderness review program will benefit from the lands and survey records and mining data; whereas the mining claim recordation program, however, would not materially benefit from the other listed programs. This approach should not be used in determining user program costs but merely indicates general distribution for increased program capability benefits.

Workload Measures	1982 Base	1982 Estimate	1982 Increase
- Office installation data processing equipment (Upgrade of General Purpose mini-computer Field Offices)	0	7	7
- Office installation of Graphic Terminals equipment	0	20	20
- Office expansion of telecommunication network (Field Offices to communicate with the Host System in Denver)	--	5	5

Object Classification Distribution

The object class detail for this proposed increase of $1,738,000 is as follows:

Position Title	GS Grade	No.	Actual Salary
Positions-Other-Than Permanent	--	-	$ 167,000
Other personnel compensation			30,000
Total Personnel Compensation			197,000
Personnel Benefits			19,000
Travel and Transportation of Persons			25,000
Transportation of Things			
Communications, utilities, and other rent			475,000
Printing & reproduction			20,000
Supplies and materials			25,000
Other Services (contracts)			50,000
Equipment			927,000
Total Requirements			$1,738,000

Justification of Program and Performance

Activity: 5. Cadastral Survey

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Alaska Survey	$	11,010	11,314	12,349	+1,035
	(FTP)	(100)	(100)	(100)	--
Lower 48 States Survey	$	13,112	13,888	11,990	-1,898
	(FTP)	(240)	(240)	(240)	--
(Common Program Services)	($)	(5,904)	(6,130)	(6,783)	(+653)
Total Requirements	$	24,122	25,202	24,339	- 863
	(FTP)	(340)	(340)	(340)	--

Authorization

	Estimate ($000)	
43 U.S.C. 1748 P.L. 94-579 P.L. 95-352	$22,793	Federal Land Policy and Management Act of 1976 (FLPMA), Section 318(a) and (b), and Quadrennial Authorization Act of 1978 authorize the appropriation of such sums as are necessary to carry out the purposes and provisions of FLPMA based on a four-fiscal-year period.
43 U.S.C. 1711, 1738 90 Stat. 2792 P.L. 94-579		The Federal Land Policy and Management Act of 1976 authorizes the delineation of boundaries of the public lands.
43 U.S.C. 1612 P.L. 92-203		The Alaska Native Claims Settlement Act of 1971 (ANCSA) provides for survey of Alaska Native Lands for conveyance to Native associations and individuals.
48 U.S.C. 2 P.L. 85-508		The Alaska Statehood Act, as amended, provides for the survey of lands for State selection.
P.L. 96-487		The Alaska National Interest Lands Conservation Act of 1980 (ANILCA) provides for the survey of lands for native allotments and State Selection.

Objectives

As mandated by law, the objective of BLM's cadastral survey program is to provide timely identification of public land boundaries, from which legal property descriptions are derived in all states containing public land, and to provide surveys for other Federal land management agencies as requested, primarily on a reimbursable basis. Such surveys are prerequisite to the issuance of final patents to public land claimants as well as to those uses of land which are dependent upon proper delineation of boundaries.

Base Program

The BLM has the sole responsibility for cadastral survey and resurvey of Federal lands. This includes the public lands which BLM administers, as well as lands administered by other Federal agencies. There is current Memorandum of Understanding between the BLM and both the National Park Service and U.S Forest Service for the BLM to provide all cadastral surveys. This agreement permits the centralization of expertise, equipment, and logistical support operations resulting in improved efficiency and cost effectiveness. Land Management functions such as land transfers, energy development, easement acquisitions, timber sales, rights-of-way, and occupancy and trespass resolution are wholly dependent on clearly determined boundaries and legal property descriptions. These are, in turn, directly dependent upon the public land grid monuments established by cadastral surveys.

The nature of BLM's cadastral survey workload divides the program into two distinct areas: Alaska and the lower 48 states. Efforts in Alaska, which is largely unsurveyed, are almost exclusively new survey work. In the lower 48 states, because of the deteriorated condition of survey monuments, many of which were established before the turn of the century, resurveys constitute almost 90% of the workload.

Alaska Survey. The Alaska survey program is directed primarily by legislative requirements of the Alaska Statehood Act, the Alaska Native Claims Settlement Act, and a commitment to complete the required surveys in a reasonable period of time. Much of this survey work is accomplished through the use of BLM airborne inertial guidance systems and under contract. There is no increase for this program proposed for FY 1982. A brief summary of Alaska's planned survey workload factors is as follows:

Alaska Cadastral Survey Program

Acres Surveyed (in thousands)

Acres Required to be Surveyed	Through FY 1980	Estimate FY 1981	Estimate FY 1982	Remaining to be Surveyed	Surveys Planned for Completion
ANCSA (44,000)	16,546	2,285	2,512	22,657	1985
State Selections (104,450)	36,692	2,735	3,038	61,985	1995
Other 1/ (1,500)	400	50	70	980	2000+
Total 2/ (149,950)	53,638	5,070	5,620	85,622	

1/ Includes Native allotments (1,200,000 acres), headquarters, trade, manufacturing, communication, and homesites.

2/ Not included is potential workload of boundary surveys for national systems described in P.L. 96-487.

Increase for 1982

(Dollar Amounts in Thousands)

		1982 Base	1982 Estimate	Increase
Alaska	$	11,314	12,349	+ 1,035
	(FTP)	(100)	(100)	--

A funding increase of $1,035,000 from the FY 1981 level results from the passage of the Alaska National Interest Lands Conservation Act of 1980. The increase provides for the survey of 370 native inholding allotments (70,000 acres) in 1982. Inholding surveys require on-the-ground line running, corner turning and other leg work, this causes approximately two times the cost of airborne systems.

Object Classification Distribution

The object class detail for this proposed increase of $1,035,000 is as follows:

Position Title	GS Grade	No.	Actual Salary
Positions other than permanent	--	--	+$ 485,000
Total personnel compensation			+ 485,000
Personnel benefits			+ 55,000
Travel and transportation of persons			+ 65,000
Transportation of things			+ 75,000
Rent, communication and utilities			+ 5,000
Other services			+ 350,000
Total			+$1,035,000

Lower 48 States Surveys. In the lower 48 states completion of the rectangular grid has been postponed because of higher priority resurvey needs.

Resurvey of public lands originally surveyed prior to 1910 is necessary because of the large number of pre 1910 fraudulent surveys conducted under contract. In addition, the materials which were originally used for monumentation, such as wood posts and rock piles, have since deteriorated or have been disarranged.

As a result, many monuments have been lost and now require replacement. This maintenance type program for remonumentation is also carried out for current high priority programs such as energy development and timber sales.

Special surveys are irregular surveys that do not conform to the rectangular system. They usually locate singular lines or boundaries as provided by law for homesteads, townsites, airports, and other special purposes.

The FY 1982 base program for surveys in the lower 48 states provides for:

- by resurvey and special surveys:

  - 575,000 acres for realty operations (special occupancy trespass problems in the Rio Grande area in New Mexico, the Front Range in Colorado and the Wasatch Front Area in Utah)

  - 710,000 acres for energy development (boundaries of geothermal areas in northern California and coal in the Green River-Hams Fork areas of Colorado and Wyoming, Southern Appalachian area in Alabama, and the Powder River area of Wyoming and Montana)

  - 175,000 acres for forest development (legal boundaries for the harvest of the allowable timber cut to aid the housing industry)

  - 230,000 acres for the BLM resource and management program (range, recreation)

  1,690,000

- and by original surveys:

  - 140,000 acres of U.S. Forest Service requirements

  1,830,000 acres total

Decrease for 1982

(Dollar Amounts in Thousands)

		1982 Base	1982 Estimate	Decrease
Lower 48 States	$	13,888	11,990	-1,898
	(FTP)	(240)	(240)	--

A funding reduction of $1,898,000 from the FY 1981 level results from an assessment currently being made of the direction of the cadastral survey programs. While this study is in progress, resurveys and special surveys are being stretched out to future years and all operations surveys except energy will be decreased from 1,550,000 acres in FY 1981 to 1,120,000 acres in FY 1982. This reduction will postpone completion of certain special surveys to resolve occupancy trespass in New Mexico, Colorado, and California. Energy surveys will be increased from 500,000 acres in FY 1981 to 710,000 acres in 1982.

Object Classification Distribution

The object class detail for this proposed reduction of $1,898,000 is as follows:

Position Title	GS Grade	No.	Actual Salary
Positions other than permanent	--	--	-$ 840,000
Total personnel compensation			- 840,000
Personnel benefits			- 95,000
Travel and transportation of persons			- 110,000
Transportation of things			- 120,000
Rent, communications, and utilities			- 13,000
Other services			- 720,000
Total			-$1,898,000

74-939 O—80——10

Justification of Program and Performance

Activity: 6. Firefighting and Rehabilitation

(Dollar amounts in thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Firefighting	$	4,150	4,150	4,150	--
	(FTP)	(--)	(--)	(--)	--
Rehabilitation	$	600	600	600	--
	(FTP)	(--)	(--)	(--)	--
(Common Program Services)	($)	(--)	(--)	(--)	--
Total Requirements	$	4,750	4,750	4,750	--
	(FTP)	(--)	(--)	(--)	--

	($000)	Authorization
43 U.S.C. 90 Stat. 2792 P.L. 94-579	(4,750) 1/	The Federal Land Policy and Management Act of 1976 provides for protection of public lands and resources from destruction by fire.
16 U.S.C. 594 42 Stat. 857 P.L. 67-315		The Timber Protection Act of 1922 provides for mutual aid in fire protection.
42 U.S.C. 1856 59 Stat. 66		The Reciprocal Fire Protection Agreement Act of 1955 provides authority for mutual aid in fire protection.

1/ Firefighting and rehabilitation expenditures depend on actual occurrence of fires that varies from year to year. Total firefighting and rehabilitation expenditures will be requested through supplemental appropriations; these expenditures are not subject to the four-year authorization requirements of Section 318 of the Federal Land Policy and Management Act. The amount requested here is the minimum amount needed to initiate emergency actions only.

P.L. 95-74

Section 102 of the General Provisions of Public Law No. 95-74, making appropriations for the Department of the Interior and Related Agencies, 1979 authorizes the Secretary to transfer funds from other Department accounts for the suppression or emergency prevention of forest or range fires on or threatening the public lands, and for the emergency rehabilitation of burned lands.

Objectives

These funds are used for emergency presuppression efforts, for the actual suppression of fires starting on or threatening the public lands, and for subsequent emergency rehabilitation work in burned areas to reduce resource and economic losses. These funds are not used for regular time of permanent employees engaged in energency fire work since their salaries are already programmed in other accounts; nor are they used for purchase of capitalized equipment, certain training costs, or fire planning which is funded out of the fire management subactivity.

Base Program

Annual firefighting costs are directly related to the occurrence of fire and fire conditions, and thus cannot be accurately programmed. The number and size of fires, general severity of conditions, and length of the fire season determine the annual funding required.

Fire managers anticipate problem areas and set priorities based upon the presence of lightning, the weather, the value of resources threatened by fire, fuel buildup, etc. The BLM developed Automatic Detection System (ALDS) which covers the 11 western states and Alaska is one of the new innovative techniques that helps the fire manager make his decisions. This system records and plots on a map all cloud-to-ground lightning strikes.

When vegetative cover is removed by wildfire, damage is evaluated early to determine rehabilitation needs to prevent both the loss of soil to water or wind erosion and the pemanent impairment of site productivity. Rapidly growing species of vegetation and water control structures, such as brush dams or ditches, are immediately established in these areas to reduce further resource losses.

Total firefighting and rehabilitation costs have averaged more than $45,000,000 annually for the past five years; obligations in FY 1980 amounted to $48,470,000. Rehabilitation costs average $681,000 per year. This amounts to about $12.00 per acre for rehabilitation as compared to $40.00 per acre for firefighting.

No changes are proposed for the firefighting and rehabilitation program. The base program provides $4,750,000 as a standard funding level to cover presuppression activities 2 weeks prior to the fire season to train crews and get firefighting equipment checked out and operating and to provide rehabilitation. This is the same level of funding requested for the last several years. A supplemental request of $45,000,000 will be submitted in FY 1981 to cover FY 1980 costs borrowed from other accounts and anticipated suppression costs in FY 1981.

The effectiveness of the firefighting program depends upon funding in the fire management subactivity because all professional personnel, all capitalized equipment, and all presuppression planning prior to the start of the fire season is funded from fire management. (See Fire Management for more details.)

Justification of Program and Performance

Activity: 7. Administration and Law Enforcement
Subactivity: A. General Administration

(Dollar amounts in thousands)

Contributing Appropriation and Activity	1980 Actual FTP	1980 Actual Amount	1981 Appropriation Enacted To Date FTP	1981 Appropriation Enacted To Date Amount	1982 Base FTP	1982 Base Amount	1982 Estimate FTP	1982 Estimate Amount	Inc.(+) or Dec.(-) over 1982 Base FTP	Inc.(+) or Dec.(-) over 1982 Base Amount
1. Management of Lands & Resources										
Administration and EEO	123	4,250	153	5,283	153	5,672	153	5,772	--	+ 100
Reimbursable Accounts	20	511	20	770	20	770	20	770	--	--
2. Acquisition, Construction and Maintenance	30	799	30	738	30	738	30	981	--	+ 243
3. Payments in Lieu of Taxes	--	--	--	20	--	--	--	--	--	--
4. Oregon and California Grant Lands	84	2,522	84	2,372	84	2,372	84	2,617	--	+ 245
5. Range Improvements	18	545	18	675	18	675	18	675	--	--
6. Recreation Development and Operations	--	15	--	--	--	--	--	--	--	--
7. Permanent Appropriations										
Road Maintenance Deposits	--	169	--	150	--	150	--	150	--	--
8. Trust Funds	--	59	--	35	--	35	--	35	--	--
9. Land and Water Conservation Fund	3	138	3	57	3	57	3	155	--	+ 98
10. Forest Pest and Blister Rust	3	86	3	92	3	92	3	78	--	- 14
Total	281	9,094	311	10,192	311	10,561	311	11,233	--	+ 672
# # # # # # # # # #										
Equal Employment Opportunity	--	--	30	2,600	30	2,634	30	2,634	--	--
Executive Direction	18	997	19	950	19	973	19	973	--	--
Finance	80	2,047	85	2,050	85	2,151	85	2,823	--	+ 672
Personnel	68	1,235	68	1,150	68	1,231	68	1,231	--	--
Management Analysis	15	390	15	390	15	408	15	408	--	--
Procurement and Property	75	2,471	75	2,420	75	2,509	75	2,509	--	--
Budget	19	636	19	632	19	655	19	655	--	--
Records and Forms	6	130	--	--	--	--	--	--	--	--
Administrative Training	--	152	--	--	--	--	--	--	--	--
Fixed Costs	--	1,036	--	--	--	--	--	--	--	--
Total	281	9,094	311	10,192	311	10,561	311	11,233	--	+ 672

Justification of Program and Performance

Activity: 7. Administration and Law Enforcement
Subactivity: A. General Administration

(Dollar amounts in thousands)

		FY 1981 Currently Available	FY 1982 Base	FY 1982 Estimate	Inc.(+) or Dec.(-)
General Admin. (Direct)	$	5,283	5,672	5,772	+100
	(FTP)	(153)	(153)	(153)	(--)
(Indirect)	$	4,909	4,889	5,461	+572
	(FTP)	(158)	(158)	(158)	(--)
(Total)	$	10,192	10,561	11,233	+672
		(311)	(311)	(311)	(--)

	Estimate ($000)	Authorization
43 U.S.C. 1713, P.L. 94-579	8,242	The Federal Land Policy and Management Act of 1976

Objectives

To provide effective and efficient management support for Bureau programs that manage, protect, develop and enhance the public lands and resources administered by the Bureau of Land Management.

Base Program

Equal Employment Opportunity: (30 FTP positions; $2,634,000)
The Bureau's EEO personnel, at all levels of the organization, are responsible for developing and reviewing Bureau Affirmative Action Plans (AAP), assisting Bureau managers in implementing EEO, AAP, or other special programs, handling discrimination complaints, and for providing assistance in related civil rights matters in the Bureau. They also coordinate the Federal women's program and the Hispanic program.

When the EEO program was moved to this account as a base transfer from common program services in FY 1980, a program level of $1.1 million was estimated. Subsequent experience has shown that the actual base level was $2.7 million. Congress cut $100,000 from this program in 1981. The accounting for these changes and the addition of $34,000 for the October 1980 pay raise yields a 1982 base figure of $2,634,000. To accommodate

the shift of EEO to general administration at the $2.6 million level, the funding of training, records, and fixed costs (formerly funded in both general administration and common program services) were consolidated in common program services in FY 1981. (See lead off tables in both activities for the 1980/81 comparisons.)

Primary emphasis of the EEO program in FY 1981 and FY 1982 will be on effective planning and implementation of a broad based Affirmative Action Program with special focus on:

- Federal Equal Opportunity Recruitment Program (FEORP) including specialized recruiting and co-op education in the Southwestern United States.

- Discrimination complaints adjudication and resolution, including the upgrading EEO counseling skills through training to reduce the average case processing time (440 days) and the average cost ($50,000) per complaint; and

- Outreach programs to attract minorities and women.

Executive Direction: (19 FTP positions; $973,000)
Executive Direction includes the directorate level positions of the Headquarters Office. They share Bureauwide line authority, provide leadership and direction for national policy and program development and implementation, and represent the Bureau to the President and the Executive Branch, the Congress, the courts, other Federal agencies, State and local governments, and private associations.

Finance: (85 FTP positions; $2,151,000)
The Divisions of Finance are located in the Headquarters Office and Denver Service Center. They direct the operation and improvement of the Bureau's integrated cost and appropriation accounting system to meet all managerial and legal accounting and financial management requirements. They develop and maintain systems and methods for identifying the need for, and performing, financial analyses to meet all management requirements on a timely basis. They produce financial statements and reports for internal management purposes as required by law or other mandate. They process all disbursements, payrolls, collections, delinquent accounts, unclaimed monies and negotiable securities for the Bureau. Approximately 1,350,000 disbursement and payroll documents are processed each year. They also provide guidance to employees on the propriety and legality of transactions involving expenditure of Government funds.

Personnel Management: (68 FTP positions; $1,231,000)
The Headquarters and Denver Service Center personnel staffs develop and administer a comprehensive personnel management program that assures compliance with all relevant laws, regulations and public policies. It provides for the orderly alignment of positions for pay administration, position management and other personnel and management purposes. It develops and implements standards and criteria for hiring and retaining qualified employees and provides technical advice and assistance in the implementation and utilization of the Performance Improvement System and the Incentive Awards Program. Approximately 1,800 personnel actions are processed each year.

Management Analysis: (15 PFT positions; $408,000)
This staff is responsible for developing and operating a program to analyze and evaluate Bureau organization and management systems on a continuing basis. It provides advice on the application of scientific management methods to Bureau activities. It studies, analyzes, develops, and monitors systems and procedures for establishing or realigning functional responsibilities and organizational structure. It also monitors, reviews, and recommends action on proposals for organizational changes.

Procurement and Property Management: (75 PFT positions; $2,509,000)
The procurement and property management personnel in the Headquarters Office and Denver Service Center are responsible for the Bureau's systems for contracting, procurement, real and personal property management, space management, quarters rental, duplicating and printing services and general office services. They also direct the Bureau's Energy Conservation Program, and the Minority Business Enterprise Program. They represent the Bureau before the Department of Labor, General Services Administration, Small Business Administration, and other governmental agencies on matters involving procurement, property, and space and are responsible for monitoring field operations involving these activities. Approximately 550 negotiated contracts and 340 formally advertised contracts are processed each year.

Budget: (19 FTP positions; $655,000)
The Headquarters budget staff is responsible for the development, presentation, and accuracy of the Bureau's budget estimates and justifications. On the basis of policy guidance from the Congress, OMB, the Department, and the Bureau Directorate it develops the Bureau's out-year budget plans and the current year Annual Work Plans. It coordinates the approval and monitors the execution of the AWP/Operating Budget based upon the appropriation acts and apportionments. It also coordinates the full participation of headquarters and field officials in the Bureau's budget formulation and execution processes.

Increase for 1982

(Dollar amounts in thousands)

		1982 Base	1982 Estimate	Increase
General Administration	$	10,561	11,233	+672
	(FTP)	(311)	(311)	(--)

An increase of $672,000 is requested for implementation of a modernized system for payroll and personnel reporting developed by the Department of the Interior at Denver. This system, PAY/PERS, replaces a system developed on punch cards in the early 60's, which was patched repeatedly over the past 20 years to add new concepts such as the Fair Labor Standards Act. The system was subject to frequent breakdowns and was unable to produce many of the reports required by OMB and OPM. The new system developed by the Department as the result of a five-year effort, overcomes these problems and provides us with a system designed to take advantage of today's level of computers. It will provide the Bureau with timely, up-to-date, accurate information on all employees.

Financing

General Administration is financed by a direct appropriation within Management of Lands and Resources (MLR). In addition, a 10% surcharge is applied to reimbursable work in MLR to the benefit of general administration. On the basis of an agreement worked out with the Appropriations Committees in 1951, an assessment of 5% of the appropriated amounts in all other operating appropriations utilized by BLM, is taken for the benefit of general administration work.

Justification of Program and Performance

Activity: 7. Administration and Law Enforcement
Subactivity: B. Law Enforcement

(Dollar amounts in thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Law Enforcement	$	1,207	1,275	1,867	+592
	(FTP)	(15)	(15)	(15)	(--)
(Common Program Services)	$	(227)	(236)	(261)	(+25)
Total Requirements	$	1,207	1,275	1,867	+592
	(FTP)	(15)	(15)	(15)	(--)

	Estimate ($000)	Authorization
43 U.S.C. 1748 P.L. 94-579 P.L. 95-352	$3,028	Federal Land Policy and Management Act of 1976 (FLPMA), Section 318(a) and (b), and the Quadrennial Authorization Act of 1978 authorize the appropriation of such sums as are necessary to carry out the purposes and provisions of FLPMA based on a period of four fiscal years.
43 U.S.C. 1733 90 Stat. 2763		The Federal Land Policy and Management Act of 1976, Section 303(a) authorizes regulations to carry out the provisions of the Act with respect to the management, use, and protection of public lands, including the property located on these lands. It further authorizes a maximum penalty of a $1,000 fine or one year imprisonment, or both, for a violation of these regulations which is "knowingly and willfully" committed. The Secretary may contract with other Federal agencies and appropriate local officials to carry out this law enforcement authority and responsibilities, including arrest authority, with respect to the public lands and their resources.

16 U.S.C. 670j	The Sikes Act authorizes regulations to protect wildlife, fish, and game conservation and rehabilitation programs on the public lands. The Act provides a penalty for violation of these regulations and authorizes the Secretary to use Department employees and state officers under cooperative agreements to enforce the regulations.
16 U.S.C. 1331-1340 85 Stat. 649	The Wild Free Roaming Horse and Burro Act of 1971 provides a maximum penalty of a $2,000 fine or imprisonment for no more than 12 months, or both, for violations of the Act and regulations issued under it. The Act prohibits the taking, harassment, or killing of wild horses and burros on the public lands.
43 U.S.C. 315a 48 Stat. 1269	The Taylor Grazing Act, as amended, provides criminal penalties (a maximum penalty of a $500 fine) for violations of regulations issued to protect, administer, and improve grazing districts.
16 U.S.C. 1246 82 Stat. 919	The National Trails System Act provides a maximum penalty of a $500 fine or six months imprisonment, or both, for violations of regulations issued to protect and administer trails in the National Trails System.
16 U.S.C. 433 34 Stat. 225	The Antiquities Act of 1906 provides a maximum penalty of a $500 fine or imprisonment for 90 days, or both, for appropriation, excavation, injury, or destruction of any historic or prehistoric ruin or monument or any antiquity located on Federal lands.
43 U.S.C. 1061-1064 23 Stat. 321	The Unlawful Enclosures of Public Land Act provides a maximum penalty of a $1,000 fine or imprisonment for one year, or both, for enclosing any public lands or maintaining an enclosure except by one making claim to the land in good faith.
16 U.S.C. 470aa 470cc and 470ee 93 Stat. 721 P.L. 96-95	The Archaeological Resources Protection Act of 1979 requires permits for excavation and removal and provides for protection of archeological resources on public land and Indian lands.

16 U.S.C. 604-606
20 Stat. 89

The Act of June 3, 1878, as amended, provides a maximum penalty of a $500 fine and imprisonment for six months for cutting timber on certain mineral lands except for building, agricultural, mining, or other domestic uses.

The following sections of Title 18 U.S.C. ("Crimes and Criminal Procedures") define crimes relating to the use, management, and development of the public lands or the protection of any BLM employee in the performance of his/her official duties. These provisions are general Federal authorities.

(1) Section 47 relates to the use of aircraft or motor vehicles to hunt certain wild horses or burros and to pollution of watering holes.

(2) Section 111 relates to assaulting, resisting, or impeding certain Federal officers or employees, including BLM law enforcement officers, while performing official duties.

(3) Section 641 relates to embezzling, stealing, purloining, or knowingly converting public money, property, or records.

(4) Section 1001 relates to knowingly and willfully falsifying, concealing, or covering up a material fact or making false statements or using false writings in any matter within the jurisdiction of a Federal agency.

(5) Section 1361 relates to damaging Federal property.

(6) Section 1510 relates to obstruction of criminal investigation.

(7) Section 1851-1861 relate to specified criminal acts on public lands.

Objectives

The objective of BLM's law enforcement program is to reduce loss or damage to public property and resources by designing and implementing strategies to prevent abuses and by enforcing Federal laws and regulations governing the management, use, and protection of the public lands.

Base Program

Because public lands have always been widely open to recreation, all forms of authorized use, and legal occupancy, many of the public land resources have been taken for granted and consequently abused. Recognizing these abuses, Congress passed laws to prohibit the destruction or improper use of the public land resources. However, BLM was not given full authority to enforce these laws. As people used public lands more extensively, and as these resources became more valuable, it became evident that BLM would require additional law enforcement authority. In 1974, a task force studied the issue, and a limited law enforcement program was established in November, 1975 under authorities existing at that time. The program began employing professional law enforcement personnel to prevent acts prohibited on the public lands and to prepare investigative cases for prosecution.

Passage of the Federal Land Policy and Management Act of 1976 broadened BLM's law enforcement responsibility and encouraged contracts and cooperative agreements with state and local law enforcement agencies to enforce federal and state laws on public lands.

Since FY 1978, cooperative agreements with local law enforcement agencies in all the western states have been signed. These cooperative agreements are for enforcing state and local ordinances on public lands, rather than federal laws.

The actual number of cooperative agreements administered varies from year to year. This is because agreements may be made on a county wide basis, in specific problem areas only, or for a specified, limited time period such as long holiday weekends. In FY 1981, an estimated 52 cooperative agreements will be signed and the same number is planned for in the FY 1982 base.

A federal contract stipulation requiring local enforcement units to train their personnel to meet federal standards for enforcement of federal law on public lands has inhibited signing of contracts with local enforcement units. No contracts have been signed to this date and few, if any, are expected in the future.

The FY 1982 base program will allow BLM enforcement personnel to investigate an estimated 750 cases and prepare them for prosecution. Aspects of law enforcement range from work in the California Desert Conservation Area (CDCA) to investigation of fraudulent manipulation of the Simultaneous Oil and Gas Leasing Program. In the CDCA, 17 rangers patrol some 12 million acres providing emergency assistance to users, documenting and eliminating man-made hazards, and preventing destruction and/or theft of irreplaceable resources. The CDCA receives major use from residents of the Los Angeles and San Diego areas.

Illegal tampering with the simultaneous oil and gas leasing program has initiated standing grand jury investigations in which BLM law enforcement officers are playing a prominent supportive and investigative role. This effort, begun in FY 1980, is scheduled to continue another 4 years. We expect that BLM will continue to support the investigation, which will be led by the Office of the Inspector General. Another area for investigation and application of law enforcement measures is the theft of native desert plants, some on the "endangered" list, petroglyphs and intaglios and cultural resources throughout the West.

Workload Measures	1980	1981	1982 Base
Cooperative agreements signed (#)	37	52	52
Cases investigated (#)	524	750	750

Increase for FY 1982

(Dollar amounts in thousands)

		1982 Base	1982 Estimate	Increase
Law Enforcement	$	1,275	1,867	+592
	(FTP)	(15)	(15)	(--)

The proposed funding increase of $592,000 will be used to sign an additional 30 cooperative agreements and to investigate an additional 100 cases.

The increase in the number of cooperative agreements will enable BLM to continue its sequential program oriented toward achieving maximum feasible reliance upon local law enforcement officials to enforce laws and regulations. This thrust is mandated by FLPMA.

Concentration of investigations will be on wild horse and burro regulation violations, theft of native desert plants and other "endangered" plants, and theft and destruction of cultural resources including petroglyphs and intaglios.

Workload Measures	1982 Base	1982 Estimate	Increase
Cooperative agreements signed (#)	52	82	+ 30
Cases investigated (#)	750	850	+100

Object Classification Distribution

The object class detail for the proposed $592,000 increase is as follows:

Position Title	GS Grade	No.	Actual Salary
Positions other than permanent			$ 75,000
Total personnel compensation			75,000
Personnel benefits			8,000
Travel and transportation of persons			9,000
Rents, communications and utilities			7,000
Other services			460,000
Supplies and materials			10,000
Equipment			23,000
Total			+$592,000

Activity: 8. Common Program Services (non-Budget activity)

(Dollar Amounts in thousands)

Contributing Appropriation and Activity	1980 Actual FTP	1980 Actual Amount	1981 Appropriation Enacted To Date FTP	1981 Appropriation Enacted To Date Amount	1982 Base FTP	1982 Base Amount	1982 Estimate FTP	1982 Estimate Amount	Inc.(+) or Dec.(-) FTP	Inc.(+) or Dec.(-) Amount
1. Management of Lands & Resources Appropriation										
Energy & Minerals Management ...	221	15,778	221	15,439	221	16,030	221	17,737	--	+1,707
Lands & Realty Management	163	9,252	163	10,024	163	10,408	163	11,517	--	+1,109
Renewable Resources Management..	430	28,667	430	26,925	430	27,956	430	30,933	--	+2,977
Planning & Data Management	92	5,970	92	6,545	92	6,796	92	7,519	--	+ 723
Cadastral Survey	84	4,312	84	5,904	84	6,130	84	6,783	--	+ 653
Administration & Enforcement ...	--	115	--	227	--	236	--	261	--	+ 25
Subtotal	990	64,094	990	65,064	990	67,556	990	74,750	--	+7,194
Reimbursable Accounts	3	663	3	820	3	820	3	820	--	--
2. Oregon & California Grant Land Fund.	79	2,500	79	2,500	79	2,500	79	2,500	--	--
3. Service Charges, Deposits, & Forfeitures Appropriation	7	837	7	680	7	680	7	680	--	--
Total Requirements	1,079	68,094	1,079	69,064	1,079	71,556	1,079	78,750	--	+7,194
# # # # # # # # #										
Equal Employment Opportunity	30	2,714	--	--	--	--	--	--	--	--
Executive Direction	213	8,879	213	8,800	213	9,500	213	9,500	--	--
Administrative Support	350	10,091	350	9,500	350	10,406	350	10,406	--	--
Clerical Support	220	6,834	220	6,500	220	7,000	220	7,000	--	--
Budget	70	1,755	70	1,700	70	1,800	70	1,800	--	--
Records and Forms	6	367	6	370	6	370	6	370	--	--
Policy and Cooperative Relations Evaluation	24	1,387	24	1,400	24	1,500	24	1,500	--	--
Legislation and Regulation	13	459	13	460	13	480	13	480	--	--
Congressional Liaison	3	112	3	120	3	130	3	130	--	--
Information and Public Participation ...	60	2,192	60	2,190	60	2,300	60	2,300	--	--
Cartography and Mapping	30	1,318	30	1,064	30	1,100	30	1,100	--	--
Review of Non-Bureau EIS's	5	156	5	150	5	150	5	150	--	--
Subtotal	1,024	36,264	994	32,254	994	34,736	994	34,736	--	--
Administrative Training	30	2,070	30	2,100	30	2,100	30	2,100	--	--
Space Rental	--	19,022	--	22,000	--	22,000	--	25,600	--	+3,600
Dept. Services	--	500	--	550	--	550	--	800	--	+ 250
Household Moves	--	4,329	--	6,600	--	6,600	--	7,944	--	+1,344
Fire - (Perm.-regular time)	--	220	--	220	--	220	--	220	--	--
Mail Costs	--	1,930	--	2,350	--	2,350	--	2,850	--	+ 500
Communications	40	2,543	40	2,000	40	2,000	40	3,500	--	+1,500
Safety	15	886	15	890	15	900	15	900	--	--
Vehicle under-utilization	--	330	--	100	--	100	--	100	--	--
Subtotal	85	31,830	85	36,810	85	36,820	85	44,014	--	+7,194
Total	1,109	68,094	1,079	69,064	1,079	71,556	1,079	78,750	--	+7,194

Justification of Program and Performance

Activity: 8. Common Program Services

(Dollar Amounts in Thousands)

		1981 Currently Available	FY 1982 Base	FY 1982 Estimate	Inc.(+) or Dec.(-)
Administrative Services	$	32,254	34,736	34,736	--
	(FTP)	(994)	(994)	(994)	(--)
Related Support Services	$	36,810	36,820	44,014	+7,194
	(FTP)	(85)	(85)	(85)	(--)
Total Requirements		69,064	71,556	78,750	+7,194
	(FTP)	(1,079)	(1,079)	(1,079)	(--)

Estimate ($000)	Authorization
43 U.S.C. 1713, P.L. 94-579	The Federal Land Policy and Management Act of 1976

Administrative Services

Objectives

To provide the full array of administrative support needed to carry out the Bureau's program responsibilities. To:

- ensure that the Bureau's business is conducted in compliance with all applicable laws, regulations, and policies;
- improve the overall management efficiency and effectiveness of Bureau programs; and
- provide the Bureau's managers with improved techniques for evaluating their allocation and use of resources (personnel funding, equipment and facilities) in terms of achievements realized.

Funding for these services that benefit all program areas of the Bureau is provided through an assessment account. This Common Program Services account is used because it simplifies the accounting and provides a more accurate way to define and separate those administrative costs that are directly related to each management function and those that are related to Bureau operations as a whole.

Base Program

Executive Direction: (213 FTP positions; $9,500,000)
Executive Direction includes the line management personnel of the Bureau's 12 State offices, 7 Field offices, 55 District offices, 162 Resource Area offices and the Denver Service Center. These executives are responsible for implementing Bureau policies and objectives, for coordinating Bureau actions with others, for seeing to it that funds are used properly, and for evaluating the results of Bureau programs. Headquarters Executive Direction is funded under General Administration.

Common program services is used to collect the costs of executive management work performed by line managers or their immediate supporting staff chiefs, when engaged in broad-ranging activities. This provides an equitable way to distribute costs rather than arbitrarily charging a specific program.

Administrative Support: (350 FTP positions; $10,406,000)
Administrative Support includes personnel management, contract services, property management, procurement of office supplies and equipment, payroll, management services, and management analysis for all of the Bureau's State, District, Resource Area and Field offices.

Clerical Support: (220 FTP positions; $7,000,000)
Clerical Support includes those clerical services in State, Field, District and Resource area offices such as typing, filing, in-office mail routing and stenography that cover a broad spectrum of Bureau programs and cannot be identified with any one specific program but provide a critical service to all.

Budget: (70 FTP positions; $1,800,000)
Budget includes the personnel necessary to manage all phases of budget formulation and execution in all of BLM's State, District, Resource Area and Field offices and the Denver Service Center. This includes preparing, monitoring, and analyzing all program and budget documents including the Preliminary Annual Work Plan, the Operating Budget, the President's Budget, and program "Packages" for the out-year budget and the Four-Year Authorization. It also includes submitting regular Progress Reports for Units of Accomplishment, MidYear operating budget review of expenditures and accomplishments, and end-of-year fiscal/budget reports. Primary emphasis is on budget execution to ensure that program goals and objectives are accomplished in a timely and cost effective manner.

Records and Directives (Forms): (6 FTP positions; $370,000)
This program operates the Bureauwide directives and forms management processes and maintains standards and procedures for issuing BLM Manuals and other Bureauwide directives. It ensures conformance with established guidelines and standards and provides consistency and quality control.

74-939 O—80——11

Policy Evaluation and Cooperative Relations: (24 FTP positions; $1,500,000)
This program is responsible for the development and oversight of policies and practices for involving the public in Bureau decisions and for developing and maintaining productive working relationships with other Federal agencies, State and local agencies, and user groups. It provides guidance for and develops formal cooperative agreements with such agencies and groups. It is also responsible for managing the Bureau's advisory councils, and it acts as initial negotiator and general monitor for the Bureau's three international projects in cooperation with the State Department.

This program is also responsible for developing and imlementing a system to evaluate the Bureau's program effectiveness and managerial performance. It provides guidance and assistance in conducting general management, multi-functional, and special evaluations of Bureau programs, both for Headquarters staffs and field officials.

Legislation and Regulations: (13 FTP positions; $480,000)
This program provides for early identification of, and special responsiveness to, proposed legislation and regulations which could affect the Bureau's programs. It coordinates the clearance of new or revised regulations with other Federal agencies and State and local governments and is responsible for the Bureau's efforts in regulatory reform. It also maintains liaison with Department, OMB, members and committees of Congress, and other agencies on legislative review and regulatory matters. It prepares Bureau testimony for Congressional hearing and responds to requests for formal comment on proposed legislation and regulations.

Congressional Liaison: (3 FTP positions; $130,000)
This program is the primary point of contact between the Bureau and the Congress, providing information and response to inquiries by Congressional members, staffs, or committees on questions related to management of the public lands or any other Bureau matters. It acts as the Director's representative in communications with members of Congress and with Congressional committees and staffs about Bureau programs and policies and items involving legislative action. It is responsible for liaison with the Department's Office of Congressional and Legislative Affairs.

Information and Public Participation: (60 FTP positions; $2,300,000)
This program plans and operates public information and media contact at all levels of the Bureau. It provides advice to the line managers and their staffs on public affairs and information matters, and assures that appropriate channels are available for communicating with public land users. It also manages the Bureau publications and conservation and environmental education programs. It provides the communication link between the public and BLM. This includes planning and directing public participation meetings to discuss BLM's plans and policies, and to receive comments and answer questions.

Cartography and Mapping: (30 FTP positions; $1,100,000)
Cartography and mapping includes the costs of charts, graphs and maps of a general nature that serve several programs. General purpose maps are used to determine surface and sub-surface ownership status before development of natural resources is undertaken. This program includes the Bureau's basic series mapping program which provides a standard one-inch-to-the-mile base map covering all BLM managed lands.

Review of Non-Bureau Environmental Statements: (5 FTP positions; $150,000)
BLM cooperates with other agencies in the review of Environmental Statements prepared by them and submitted to the Bureau for review. All costs are charged to Common Services regardless of subject matter involved.

Related Support Services

Objectives

- To provide an efficient and accurate mechanism for handling payment of those services applicable to the entire Bureau which cannot be easily assigned directly to a program area or function, and

- To assess the programs and functions equitably, based on their annual usage of these services or "fair share" of the costs.

Base Program

Administrative Training: (30 FTP positions; $2,100,000)
This program initiates and administers employee training. It coordinates and directs the operation of all Bureau-wide and State office internal training programs.

Space Rental: ($22,000,000)
This represents space rental from GSA and other sources of 4,800,000 square feet for the Headquarters, 12 State, 55 District, 162 Resource Area, and 7 Field offices and the Denver Service Center. Costs per square foot range from $12 to $16.

Departmental Services: ($550,000)
This pays BLM's assessed share of interagency services such as the Departmental library, audits and inspections and for certain activities conducted on an interdepartmental basis such as Federal Information centers.

Household Moves: ($6,600,000)
During the past year BLM processed approximately 1,100 permanent change of duty station transfers. This represents movement of about 10% of the Bureau's total work force to meet new workloads at different locations and to provide for the promotion of experienced personnel into more responsible positions.

Fire Management: ($220,000)
This represents salaries for full-time permanent employee's regular hours spent fighting fire. Overtime hours are charged to the Firefighting account.

Mail Costs: ($2,350,000)
This represents the costs of all postal services for the Bureau.

Communications: (40 FTP positions; $2,000,000)
This includes costs of FTS and commercial telephones, radios, and other communication services such as lines for data processing equipment.

Safety: (15 FTP positions; $900,000)
This program develops and maintains policy and guidance at all levels of the Bureau, for safety programs to comply with OSHA and State safety standards and to reduce BLM employee accidents. Also provides guidance and procedures to ensure safety of public land visitors, and to identify and minimize hazards.

Vehicles (under-utilization): ($100,000)
A minimum mileage driven figure is specified for all BLM owned vehicles. Vehicles that are not driven the minimum mileage each month are charged a flat rate which is credited to the Working Capital Fund. This charge is made to the Common Services program to spread the effect over all operating programs.

Increase for FY 1982

Related Support Services Item	FY 1982 FTP	FY 1982 Base	FY 1982 FTP	FY 1982 Estimate	Inc.(+) or Dec.(-) FTP	Inc.(+) or Dec.(-) Amt.
Administrative Training	30	2,100	30	2,100	--	--
Space Rental	--	22,000		25,600		+3,600
Departmental Services	--	550		800		+ 250
Household Moves		6,600		7,944		+1,344
Fire (Perm.-Regular Time)		220		220		--
Mail Costs		2,350		2,850		+ 500
Communications	40	2,000	40	3,500		+1,500
Safety	15	900	15	900		--
Vehicles (under-utilization)	--	100	--	100		--
Total	85	36,820	85	44,014		+7,194

All of the $7,194,000 increase is for the rapidly increasing fixed or uncontrollable costs; space, communications, utilities, and personnel transfers. A recent analysis shows that during the last five years, the Bureau's fixed costs have increased as follows:

-- 178% for GSA space rental,
-- 145% for telephones and other communication expenses,
-- 75% for utilities (heat, lights and water),
-- 87% for movement of household goods, and
-- 183% for real estate expenses associated with personnel transfers.

The increases in fixed and uncontrolled costs for FY 1982 break out as follows:

°. A GSA space rental increase of $3,600,000 is based on the latest information received from GSA.

°. An estimated $250,000 increase is needed to pay for the BLM's assessed share of contract audits which are performed as a Department-wide service.

°. Recent changes in travel allowances and the continuing escalation of housing prices requires a 20% increase ($1,344,000) for costs of household moves.

°. Based on the trend in mail costs over the past several years, a $500,000 increase is necessary to maintain BLM's current level of postal services.

°. Bureau communication specialists have reviewed the effects of the Supreme Court Decision on AT & T's long line rate case, and have determined that the effect on BLM will be to almost double our current telephone charges, requiring an increase of $1,500,000.

Financing

All regular program activities in the Mangement of Lands and Resources (MLR) Appropriation are charged a pro-rata share of common program services based on a formula which equally weights dollars appropriated and direct full time equivalent work years utilized by each of these activities. In addition, reimbursements to MLR are surcharged 15% to benefit common program services and service charges for energy related rights-of-way are charged an annually determined percentage, which is 13.3% in 1981. The Oregon and California Grant Lands appropriation is assessed a flat amount of $2,500,000, half of which covers GSA rent for facilities in Oregon that benefit the O&C account and half for operating the portion of the BLM Oregon State Office that benefits the O&C account.

(Dollars in Thousands)

FY 1981 Base as shown in 1981 President's Budget	$ 54,530
Adjusted 1981 Base resulting from 1980 actual obligations (curtailed program after mid-year)	64,094
FY 1981 Increase requested in revised 1981 President's Budget (4,870 - 1,400)	+ 3,470
Adjusted 1981 request (comparable to 1980)	$ 67,564
Congressional action	- 2,500
Net adjusted availability, 1981	$ 65,064
1982 Base Adjustment	
1981 pay raise $14,161 x 0.176 [1/] =	+ 2,492
1982 Base	$ 67,556

1/ Common program services utilizes 17.6% of the manpower in the Management of Lands and Resources appropriation.

Summary of Requirements by Object Class
(dollar amounts in thousands)

Appropriation: Management of Lands and Resources	1982 Base			1982 Estimate			Inc. (+) or Dec. (-)		
	Pos.	Avg. No.	Amount	Pos.	Avg. No.	Amount	Pos.	Avg. No.	Amount
Object Class									
Personnel compensation:									
11.1 Full-time permanent positions 1/.....	4,847	4,537	103,473	5,026	4,698	117,304	+179	+161	+13,831
11.3 Positions other than full-time permanent...	---	6,068	42,938	---	6,108	46,753	---	+40	+3,815
11.5 Other personnel compensation.....	---	200	3,000	---	200	3,175	---	---	+175
11.8 Special personal services payments.....	---	---	4,000	---	---	4,230	---	---	+230
Total personnel compensation..	4,847	10,805	153,411	5,026	11,006	171,462	+179	+201	+18,051
12.1 Personnel benefits: Civilian.....	---	---	19,577	---	---	21,445	---	---	+1,868
21.0 Travel and transportation of persons.....	---	---	11,689	---	---	13,502	---	---	+1,813
22.0 Transportation of things.	---	---	6,500	---	---	7,188	---	---	+688
23.1 Standard level user charges.....	---	---	16,000	---	---	24,144	---	---	+8,114
23.2 Communications, utilities, and other rent.....	---	---	15,000	---	---	16,776	---	---	+1,776
24.0 Printing and reproduction.....	---	---	4,420	---	---	5,543	---	---	+1,123
25.0 Other services.....	---	---	75,146	---	---	82,647	---	---	+7,501
26.0 Supplies and materials	---	---	12,100	---	---	13,357	---	---	+1,257
31.0 Equipment.....	---	---	11,100	---	---	14,396	---	---	+3,286
32.0 Lands and structures	---	---	33,000	---	---	33,552	---	---	+552
41.0 Grants, subsidies, and contributions.....	---	---	1	---	---	1	---	---	---
42.0 Insurance claims and indemnities.....	---	---	60	---	---	60	---	---	---
99.0 Total requirements.....	---	---	358,014	---	---	404,043	---	---	+46,029

1/ The permanent positions are lapsed on an annual rate of 6.5%.

MANAGEMENT OF LANDS AND RESOURCES

For expenses necessary for protection, use, improvement, development, disposal, cadastral surveying, classification, and performance of other functions, as authorized by law, in the management of lands and their resources under the jurisdiction of the Bureau of Land Management, ($343,962,000) $404,043,000. (5 U.S.C. 583, 594; 43 U.S.C. 2, 54, 72, 129, 315, 1181a-f, 1701; 78 Stat. 986; Public Law 96-514, making appropriations for the Department of the Interior and related agencies, 1981.)

MANAGEMENT OF LANDS AND RESOURCES
Program and Financing (in thousands of dollars)

14-1109-0-1-302	1980 Actual	1981 Estimate	1982 Estimate
Program by activities:			
Direct program:			
1. Energy and minerals management.....	89,812	110,358	126,101
2. Lands and realty management.....	36,398	36,431	44,336
3. Renewable resource management.....	117,715	138,458	163,294
4. Planning and data management.....	28,588	32,931	33,584
5. Cadastral survey.....	26,663	25,006	24,339
6. Firefighting and rehabilitation.....	43,380	4,750	4,750
7. Administration and enforcement.....	5,748	6,831	7,639
Total direct program.....	348,304	354,765	404,043
Reimbursable program:			
1. Energy and minerals management.....	90	1,000	1,000
2. Lands and realty management.....	2,059	3,000	3,000
3. Renewable resource management.....	1,752	2,500	2,500
5. Cadastral survey.....	4,260	4,500	4,500
6. Firefighting and rehabilitation.....	3,350	4,000	4,000
Total reimbursable program.....	11,511	15,000	15,000
Total program costs, funded 1/.....	359,815	369,765	419,043
Change in selected resources (undelivered orders).....	5,017	---	---
10.00 Total obligations.....	364,832	369,765	419,043

1/ Includes capital investment as follows: 1980, $7,638 thousand; 1981, $44,110 thousand; 1982, $47,948 thousand.

MANAGEMENT OF LANDS AND RESOURCES
Program and Financing (in thousands of dollars)

14-1109-0-1-302		1980 Actual	1981 Estimate	1982 Estimate
Financing:				
	Offsetting collections from:			
11.00	Federal funds	-9,403	-12,000	-12,000
14.00	Non-Federal sources	-2,592	-3,000	-3,000
21.40	Unobligated balance available, start of year	-7,553	---	---
23.40	Unobligated balance transferred to other accounts	5,000	---	---
25.00	Unobligated balance lapsing	3,175	---	---
39.00	Budget authority	353,459	354,765	404,043
Budget authority:				
40.00	Appropriation	354,396	343,962	404,043
40.01	Appropriation rescinded (Public Law 96-304)	-681	---	---
41.00	Transferred to other accounts	-256	---	---
43.00	Appropriation (adjusted)	353,459	343,962	404,043
44.20	Supplemental for civilian pay raises	---	10,803	---
Relation of obligations to outlays:				
71.00	Obligations incurred, net	352,837	354,765	404,043
72.40	Obligated balance, start of year	84,877	81,404	111,310
74.40	Obligated balance, end of year	-81,404	-111,310	-131,518
77.00	Adjustments in expired accounts	-2,035	---	---
90.00	Outlays, excluding pay raise supplemental	354,275	314,380	383,511
91.20	Outlays from civilian pay raise supplemental	---	10,479	324

MANAGEMENT OF LANDS AND RESOURCES
Object Classification (in thousands of dollars)

14-1109-0-1-302		1980 Actual	1981 Estimate	1982 Estimate
Direct obligations:				
	Personnel compensation:			
11.1	Full-time permanent positions	96,006	101,930	117,304
11.3	Positions other than full-time permanent	50,753	41,548	46,753
11.5	Other personnel compensation	6,943	3,000	3,175
11.8	Special personal services payments	2,260	4,000	4,230
11.9	Total personnel compensation	155,962	150,478	171,462
12.1	Personnel benefits: Civilian	19,203	19,250	21,445
21.0	Travel and transportation of persons	11,009	11,700	13,502
22.0	Transportation of things	9,250	6,500	7,188
23.1	Standard level user charges	17,676	16,000	24,114
23.2	Communications, utilities, and other rent	10,266	15,000	16,776
24.0	Printing and reproduction	4,619	4,420	5,543
25.0	Other services	98,106	75,146	82,647
26.0	Supplies and materials	19,047	12,100	13,357
31.0	Equipment	4,112	11,110	14,396
32.0	Lands and structures	3,526	33,000	33,552
41.0	Grants, subsidies and contributions	1	1	1
42.0	Insurance claims and indemnities	60	60	60
99.0	Subtotal, direct obligations	352,837	354,765	404,043

MANAGEMENT OF LANDS AND RESOURCES
Object Classification (in thousands of dollars)

14-1109-0-1-302		1980 Actual	1981 Estimate	1982 Estimate
Reimbursable obligations:				
	Personnel compensation:			
11.1	Full-time permanent positions	1,946	2,000	2,000
11.3	Positions other than full-time permanent	1,896	2,000	2,000
11.5	Other personnel compensation	236	200	200
11.9	Total personnel compensation	4,078	4,200	4,200
12.1	Personnel benefits: Civilian	763	850	850
21.0	Travel and transportation of persons	971	600	600
22.0	Transportation of things	322	300	300
23.1	Standard level user charges	277	---	---
23.2	Communications, utilities, and other rent	172	450	450
24.0	Printing and reproduction	74	---	---
25.0	Other services	2,715	6,600	6,600
26.0	Supplies and materials	1,878	1,700	1,700
31.0	Equipment	675	200	200
32.0	Lands and structures	70	100	100
99.0	Subtotal, reimbursable obligations	11,995	15,000	15,000
99.9	Total obligations	364,832	369,765	419,043

MANAGEMENT OF LANDS AND RESOURCES
Personnel Summary

14-1109-0-1-302	1980 Actual	1981 Estimate	1982 Estimate
Direct:			
Total number of full-time permanent positions	4,718	4,849	5,026
Total compensable workyears:			
Full-time equivalent employment	8,275	7,783	9,604
Full-time equivalent of overtime and holiday hours	351	300	300
Average ES salary	$50,112	$50,112	$50,112
Average GS grade	9.63	9.63	9.63
Average GS salary	$22,066	$23,830	$23,830
Reimbursable:			
Total number of full-time permanent positions	96	89	89
Total compensable workyears:			
Full-time equivalent employment	240	230	230
Full-time equivalent of overtime and holiday hours	12	10	10
Average GS grade	9.63	9.63	9.63
Average GS salary	$22,066	$23,830	$23,830

Appropriation Summary Statement

Appropriation: Acquisition, Construction and Maintenance

Funds in this appropriation are used to meet four major objectives.

- to construct buildings, recreation facilities, roads, trails, and bridges necessary for the management of public lands, for the protection of public lands from visitor abuse, and for providing physical access to these lands;
- to acquire those legal rights (easements for access or improvements, or fee title) on non-federal land that are essential to planned BLM resource management programs and that are pre-requisite to their implementation.
- to maintain buildings, roads, and recreation sites to protect the public investment and to insure the health and safety of visitors and BLM employees.
- to implement a dam safety program in accordance with Secretarial Order 3048.

Appropriation Summary

Appropriation, 1981		$14,768,000
Unobligated balance from prior years		-0-
Total Available for Obligation		$14,768,000
Decreases		
Construction and acquisition	$5,988,000	
Maintenance	8,780,000	$14,768,000
Subtotal		-0-
Increases		
Construction and acquisition	7,951,000	
Maintenance	11,675,000	$19,626,000
Budget Estimate		$19,626,000

BUREAU OF LAND MANAGEMENT

Acquisition, Construction, and Maintenance
Analysis by Activities
(dollar amounts in thousands)

Activity/Subactivity	Appropriation 1980	Appropriation 1981	FTP	1982 Budget Estimate	FTP	1982 Budget Estimate Compared with 1981 Appropriation	FTP
1. Construction and Acquisition							
Appropriation	$ 8,069	$5,988	91	$ 7,951	91	+$1,963	--
Unobligated balance brought forward	921	---		---			
Obligation program	8,990			7,951			
Unobligated balance carried forward	---	---		---			
2. Maintenance							
Appropriation	8,274	8,780	77	11,675	77	+ 2,895	--
Unobligated balance brought forward	---	426		---			
Obligation Program	8,274	9,206		11,675			
Unobligated balance carried forward	---	---		---		---	
Total Appropriation	16,343	14,768	168	19,626	168	+ 4,858	--
Total unobligated balance brought forward	921	426		---			
Total Obligation Program	17,264	15,194		19,626			
Total unobligated balance carried forward	$ 426	---		---			

Construction and Acquisition Program Synopsis

1. Construction and Acquisition: FY 1981, $5,988,000; FY 1982, $7,951,000; an increase of $1,963,000.

Increase (+) or Decrease (-)

	Amounts	FTP	Total Program	Total FTP	Explanation
A.	+$2,223,000		$3,684,000	16	Building Construction
B.	+ 434,000		1,118,000	8	Recreation Construction
C.	- 792,000		1,249,000	29	Transportation Construction
D.	+ 98,000		1,900,000	38	Acquisition
	+$1,963,000		$7,951,000	91	

Subactivity	FY 1981 Estimate	FY 1982 Estimate	Change
Building Construction	$1,461,000	$3,684,000	+$2,223,000
(Building Construction Energy Conservation)*	(73,000)	(184,000)	+(111,000)
Recreation Construction	684,000	1,118,000	+ 434,000
(Recreation Construction Energy Conservation)**	(243,000)	(----)	-(243,000)
Transportation Construction	2,041,000	1,249,000	- 792,000
Acquisition	1,802,000	1,900,000	+ 98,000
	$5,988,000	$7,951,000	+$1,963,000

* Non-add. Approximately 5 percent of new construction costs relate to energy use and are subject to energy conservation analysis in the design of the structure.

** Non-add. Solar heating and cooling system Red Rocks - Las Vegas, Nevada.

The FY 1982 program consists of the following projects:

Building Construction

Survey, Design and Administration	$ 352,000
Idaho, Shoshone District Office Complex	429,000
Montana, Miles City District Office	870,000
New Mexico, Farmington Resource Area Office Complex	182,000
Utah, Escalante Resource Area Office Complex	953,000
Oregon, Vale District Office	898,000
Total Building Construction	$3,684,000

Recreation Construction

California, Senator Wash Recreation Complex	$ 551,000
New Mexico, Aguirre Spring Recreation Site	348,000
Survey, Design, and Administration	219,000
Total Recreation Construction	$1,118,000

Transportation Construction

New Mexico, Organ Mountain Road	$ 109,000
Sign Shop Operations	178,000
Survey, Design, and Administration	962,000
Total Transportation Construction	$1,249,000

Acquisition

Title Clearance, Appraisals, Negotiations and Easement Costs	$1,900,000
Total Acquisition	$1,900,000
Total, Construction and Acquisition	$7,951,000

Authorization	Estimate ($000)	
43 U.S.C. 1748 P.L. 94-579 P.L. 95-352	$16,683	Federal Land Policy and Management Act of 1976 (FLPMA), Sections 318 (a) and (b), and the Quadrennial Authorization Act of 1978 authorize the appropriation of funds necessary to carry out the purposes and provisions of FLPMA based on a period of four fiscal years.
43 U.S.C. 1731-32 1762, 1782 16 U.S.C. 460Y-8 31 U.S.C. 1301 90 Stat. 2792 43 U.S.C. 1715 P.L. 94-579		The Federal Land Policy and Management Act of 1976 provides authority for: - acquisition of lands or interest in lands when it is consistent with the mission of the Department and with land use plans (Section 205); - construction of roads required for protection, development, and management of lands for utilization of forest and other resources; and
43 U.S.C. 1701 P.L. 94-579		- directs that public lands be managed in a way that will protect scenic, historical, and archeological values and that will provide for outdoor recreation and for human occupancy and use.
16 U.S.C. 42 Stat. 857 P.L. 67-315		- The Timber Protection Act of 1922 provides for the protection of timber owned by the United States from fire, disease, or insect ravages.

74-939 O—80——12

Activity: 1. Construction and Acquisition
Subactivity: A. Building Construction

FY 1981, $1,461,000; FY 1982, $3,684,000; an increase of $2,223,000.

A. Building Construction +$2,223,000; Total $3,684,000
Total 16 FTP

Construct facilities necessary for the management of the public lands and resources, such as office buildings, warehouses, communication buildings, vehicle storage buildings, fuel and lubricant storage facilities, fire detection and alarm systems, utility systems, site preparation, and retrofitting for energy conservation.

Proposal: The following projects are proposed for construction in FY 1982.

Idaho	Shoshone District Office Complex	Insulation of original office, site preparation, construction of gasoline and oil storage facilities (cut from FY 1981 program)	$ 429,000
Montana	Miles City District Office Complex	Office building expansion to add 6,300 square feet of space (cut from FY 1981 program)	870,000
New Mexico	Farmington Resource Area Office Complex	Phase II office expansion to add 2,000 square feet of space (cut from FY 1981 program)	182,000
Utah	Escalante Resource Area Office Complex	Construct 4,000 square feet of office space (cut from FY 1981 program)	953,000
Oregon	Vale District Office Complex	Construct 14,000 square feet of office space adjacent to existing shop and wareyard	898,000
All states	Survey, Design and Administration		352,000
		Total	$3,684,000

JUSTIFICATION OF PROJECTS

LOCATION: Shoshone, Idaho
PROJECT TITLE: Shoshone District Office Complex - Fuel Storage Facilities, Site Preparation and Parking Area. (Phase IV)

COST PHASING:

	FY 1982
Construction	$429,000
Total	$429,000

FY 1982 PROJECT SCHEDULE:

	Quarter			
	1st	2nd	3rd	4th
Construction Start:		X		
Construction Completion:				X

NEED:

Phase I consisted of an office building which was completed in FY 1975. Phase II consisted of a warehouse and shop building completed in FY 1979. Phase III consisting of an additional 2,360 square feet of office space for 17 long-term District personnel is scheduled for completion in FY 1980. These facilities and the site cannot be used at maximum efficiency until total site development is completed. The site is located on two to five feet of silty soils which cannot be traveled on during wet or dry periods. Fuel storage facilities are non-existent.

DESCRIPTION:

Phase IV, which will make the facilities and site completely useable, consists of constructing gasoline and oil storage facilities, site preparation (grading, paving, curbing, landscaping, parking facilities) and insulation of the original office building for energy conservation.

The cost estimates are based on conceptual design using 1980 cost indices adjusted (10% per year) for anticipated inflation at the time of contract award.

Maintenance of these proposed facilities will require an increase in the maintenance program of $3,000 in future fiscal years.

BENEFITS:

The proposed project will control drainage and erosion on the silty soils making the site useable under all weather conditions, will provide fuel storage facilities which meet safety and fire codes, and will help meet energy conservation goals.

LOCATION: Miles City, Montana
PROJECT TITLE: Office Building Expansion

COST PHASING:

	FY 1982
Construction	$870,000
Total	$870,000

FY 1982 PROJECT SCHEDULE:

	Quarter				FY 1983
	1st	2nd	3rd	4th	3rd
Construction Start:				X	
Construction Completion:					X

NEED:

Existing office space is extremely crowded. The office T.O. includes 112 people or 88 square feet per person which is below GSAs standard of 130 square feet per person. The conference room has been converted to office space. An interim conference room has been set up in the warehouse which has no restroom facilities. Personnel are also being housed in a trailer located in the wareyard without restroom facilities.

DESCRIPTION:

Construct an additional 6,300 square feet of office space to provide adequate office space for District personnel. The building will be constructed on BLM-administered land at the present administrative site and will be architecturally and functionally compatible with the existing office building.

The cost estimates are based on conceptual design using 1980 cost indices adjusted (10% per year) for anticipated inflation at the time of contract award.

Maintenance of this proposed building will require an increase in the maintenance program of $5,000 in future fiscal years.

BENEFITS:

Completion of this project will relieve severely overcrowded working conditions and improve employee productivity.

LOCATION: Farmington, New Mexico
PROJECT TITLE: Farmington Resource Area Headquarters Complex Office Expansion, Phase II

COST PHASING:

	FY 1982
Construction	$182,000
Total	$182,000

FY 1982 PROJECT SCHEDULE:

	Quarter			
	1st	2nd	3rd	4th
Construction Start:		X		
Construction Completion:				X

NEED:

The original building was constructed in 1963 to house 21 people. Since that time, there has been a net increase of 19 people to meet the requirements of energy related R/Ws, coal leases, oil and gas leasing and court mandated grazing EISs. All available space in the present building has been converted to office space and conditions are cramped. Lease space is not available, and GSA is unable to meet the present need for additional office space in Farmington.

DESCRIPTION:

Construction will provide an additional 2,000 square feet of office space to the existing building.

The cost estimates are based on conceptual design using 1980 cost indices adjusted (10% per year) for anticipated inflation at the time of contract award.

Maintenance of this proposed addition will require an increase in the maintenance program of $1,000 in future fiscal years.

BENEFITS:

Completion of this project will alleviate overcrowded working conditions and improve employee productivity.

LOCATION: Escalante, Utah
PROJECT TITLE: Escalante Resource Area Headquarters Complex
Office Building

COST PHASING:

	FY 1982
Construction	$953,000
Total	$953,000

FY 1982 PROJECT SCHEDULE:

	Quarter				FY 1983
	1st	2nd	3rd	4th	3rd
Construction Start:				X	
Construction Completion:					

NEED:

Escalante is approved as a permanent location for a detached Resource Area Headquarters. Present office space is provided in three separate mobile home units which have been converted to office trailers. In this region of relatively extreme and varying temperatures, the difficulty in heating and cooling office trailers increases costs and energy consumption. The limited space has resulted in overcrowded working conditions for employees and inadequate service to the public. Lease facilities are not available, and GSA is unable to provide space for the BLM staff.

DESCRIPTION:

Construct a 4,000 square foot office building with parking facilities, sidewalks, utilities, landscaping and security fencing. The building, which will accommodate a staff of 14 people, will be constructed on BLM-administered land on which a warehouse and wareyard are presently located.

The cost estimates are based on conceptual design using 1980 cost indices adjusted (10% per year) for anticipated inflation at the time of contract award.

Maintenance of this proposed building will require an increase in the maintenance program of $4,000 in future fiscal years.

BENEFITS:

Completion of the office will relieve the overcrowded working conditions and provide suitable space for assisting the visiting public. In addition, the new office will provide more efficient facilities for heating and cooling, thereby reducing costs and overall energy consumption.

LOCATION: Vale, Oregon
PROJECT TITLE: Vale District Office Building

COST PHASING:

	FY 1982
Construction	$898,000
Total	$898,000

FY 1982 PROJECT SCHEDULE:

	Quarter				FY 1983
	1st	2nd	3rd	4th	
Construction Start:			X		
Construction Completion:					3rd

NEED:

The existing office building is overcrowded containing 6,000 square feet for 40 full-time permanent, 40 WAE, and 58 temporary employees. To decrease congestion they have rented 1,200 square feet in Vale and moved in a temporary office trailer containing 550 square feet. Even after these measures were taken this resulted in a 97 square feet per permanent and WAE employee which is 25 percent below GSA's standard of 130 square feet per employee. Separation of offices and overcrowding of personnel results in decreased service to the public. GSA has been unable to provide this space.

DESCRIPTION:

Construct a 14,000 square foot office building. The heating system will be designed to allow conversion to geothermal heat. Parking will provide for employee and visitor parking similar to the plan developed by GSA in FY 78. The office will be located adjacent to our present wareyard and shop for maximum efficiency. Services are available at the proposed site.

The cost estimates are based on conceptual design using 1980 cost indices adjusted (10 percent per year) for anticipated inflation at the time of contract award.

Maintenance of this proposed building will require and increase in the maintenance program of $40,000 in future fiscal years.

BENEFITS:

Completion of the office will relieve overcrowded working conditions and improve service to the public. In addition, the new office will provide more efficient heating and cooling, thereby reducing costs and overall energy consumption. If geothermal heating becomes feasible, this would have additional energy conservation benefits.

SURVEY, DESIGN AND ADMINISTRATION $352,000

This appropriation will provide the capability for survey, design, and analysis of program needs subsequent to the budget year and provide for the administration of ongoing construction projects.

Activity: 1. Construction and Acquisition
Subactivity: B. Recreation Construction

FY 1981, $684,000; FY 1982, $1,118,000, an increase of $434,000.

B. Recreation Construction +$434,000; Total $1,118,000
Total 8 FTP

Construct safe facilities for camping, picnicking and other outdoor recreational activities on public land sites receiving heavy public use. These facilities include potable water, suitable sanitary facilities, and other improvements necessary to assure public health and safety and to protect the resource values of the public lands.

Proposal: The following projects are proposed for FY 1982.

Arizona	Senator Wash Complex	Sanitation Facilities	$ 551,000
New Mexico	Aquirre Springs Recreation Area	Additional Family Units	348,000
All States	Survey, Design and Administration		219,000
TOTAL			$1,118,000

Justification of Projects

LOCATION: Imperial County, California $551,000
PROJECT TITLE: Senator Wash Complex

COST PHASING:

	FY 1982	Future
Construction	$551,000	$1,860,000
Total	$551,000	$1,860,000

FY 1982 PROJECT SCHEDULE:

	Quarter				FY 1983
	1st	2nd	3rd	4th	
Construction Start:				X	
Construction Completion:					4th

NEED

The existing Imperial Dam - Senator Wash - Squaw Lake recreation complex now attracts more than 500,000 visitors annually with an anticipated increase of 10 to 15 percent per year. Present public sanitation facilities consist of seven vault toilets, three small holding tank disposal stations, and four comfort stations with flush toilets at the Squaw Lake day-use area. Electrical power is provided on a temporary basis by the Water and Power Resources Service. The complex is administered by the Bureau of Land Management from the Yuma, Arizona District Office.

Recreational use of this area will continue and will increase whether or not the sanitation facilities are constructed. The absence of adequate sanitation and water systems is creating serious health and pollution hazards. The proximity of the Colorado River, soil conditions, and State and County Health Codes combine to require a rather sophisticated flush toilet and sewage treatment plant to meet minimum sanitary needs at the present level of use.

DESCRIPTION:
Construct the sewage treatment plant, the water distribution system, and collection facilities to meet the needs of 800 family camping units as well as the needs of existing day-use facilities.

The cost estimates are based on conceptual design using 1980 cost indices adjusted (10% per year) for anticipated inflation at the time of contract award.

BENEFITS:

This project is another step in resolving the problems created by extremely heavy use in an area with inadequate water, sanitation and sewage treatment facilities. It will correct or prevent public health hazards by providing the sewage collection, treatment plant, and water supply system.

When Senator Wash Complex is completed it will accommodate the soon to be displaced winter visitors presently camping in the flood plain below Imperial Dam on the Colorado River.

COST TO COMPLETE:

Additional projects for this complex include the development of 800 family units in future years. The estimated cost for future construction is $1,860,000.

LOCATION: Las Cruces, New Mexico
PROJECT TITLE: Organ Mountain Recreation Lands - Aquirre Springs Recreation Area

COST PHASING:

	FY 1982
Construction	$348,000
Total	$348,000

FY 1982 PROJECT SCHEDULE:

	Quarter				FY 1983
	1st	2nd	3rd	4th	
Construction Start:			X		
Construction Completion:					1st

NEED:

The existing facility has no water supply for the existing 35 family units. The present rate of use (130,000 visitors annually) exceeds existing capacity. Overflow visitors are using areas adjacent to the access road creating congestion and a safety hazard. The area is within an hour's drive of 1.1 million people in New Mexico, West Texas, and the Juarez, Mexico area.

DESCRIPTION:

Construct 20 additional family units, two group units, and a water distribution system.

The cost estimates are based on conceptual design using 1980 cost indices adjusted (10% per year) for anticipated inflation at the time of contract award.

Maintenance of these proposed facilities will require an increase in the maintenance program of $10,000 in future fiscal years.

BENEFITS:

Construction of the additional facilities will improve control of visitor use through confinement of high intensity use in designated areas and reduce public safety hazards.

SURVEY, DESIGN AND ADMINISTRATION $ 219,000

This appropriation will provide the capability for survey, design, and analysis of program needs subsequent to the budget year and provide for the administration of ongoing construction projects.

Activity: 1. Construction and Acquisition
Subactivity: C. Transportation Construction

FY 1981, $2,041,000; FY 1982, $1,249,000; a decrease of $792,000.

C. Transportation Construction -$792,000; Total $1,249,000
Total 29 FTP

Construct roads, trails, and bridges necessary for safe access to over 400 million acres of public lands for management and public purposes.

Proposal: The FY 1982 program is summarized as follows:

($000s)

	Recreation Support Roads	Multiple-use Support Roads	Survey, Design and Administration	Total
New Mexico	$109	--		$109
Subtotal	$109	--		$109
All States	--		$1,140	$1,140
TOTAL	$109		$1,140	$1,249

Justification of Projects

Safe, reliable access by road to the public lands is a prerequisite to effective management. The primary use of a road determines its construction standard. For example, construction standards for fire management and limited access needs may only require a single-lane unsurfaced road, whereas a double-lane surfaced road may be required to meet the multiple resource needs of an area that has heavy public use for both commercial and recreational purposes.

Of the 44,000 miles of existing roads under Bureau control, 32,000 miles are considered primitive or created by use as opposed to being constructed. About 30,000 miles need improvement or upgrading. In most areas, these roads do not meet all-weather standards and can only be used seasonally.

Roads in Support of the Timber Program

About $740,000 will be used for survey and design of future projects to support the public domain timber management program and for the administration of ongoing contracts.

Roads and Trails in Support of Recreation

The increasing use of the public lands for recreation has directly increased the need for safer and better public access roads. The heaviest traffic on BLM roads is for recreational use. Existing roads provide access to only a very limited portion of the public lands which offer recreational activities. Additional access will help relieve the pressures on existing use areas and will help channel recreationists into more suitable areas. The $109,000 for recreation support roads will be used in FY 1982 for surfacing 7.6 miles of existing road to the developed recreation site at Aquirre Springs (Las Cruces, New Mexico). About $115,000 will also be used for survey and design of roads identified through the planning system as needed for recreation access and to administer ongoing construction contracts. Survey and design work in FY 1982 will provide the necessary lead time to prepare for construction in FY 1983 and beyond.

Multiple-Use Management Support Roads

Multiple-use roads provide the necessary access for management and development of several resources in a given area. Roads that fall into this category are those which are not built primarily for timber or recreation management. Operation of the Bureau's two sign shops at Rawlins, Wyoming and Kingman, Arizona are partially funded from this account since a major part of the activities at these two facilities is the production of general purpose access road signs.

The FY 1982 program will provide $178,000 for the sign shops, $107,000 will be used for survey and design of future projects and administration of existing contracts for general purpose roads.

Workload Measures

	Timber Support	Recreation Support	Multiple Use Support	Total
Grading (miles)	--	--	--	--
Surfacing (miles)	--	7.6	--	7.6
Bridges (each)	--	--	--	--
Trail (miles)	--	--	--	--

Activity: 1. Construction and Acquisition
Subactivity: D. Acquisition

FY 1981, $1,802,000; FY 1982, $1,900,000; an increase of $98,000.

Major Program Changes

D. Acquisition +$98,000, Total $1,900,000
Total 38 FTP

Proposal: Efficient multiple use resource management requires legal, as well as physical access. This is true whether we are developing energy and mineral resouces, producing timber from our forests, or providing recreational access to the general public. Legal access is provided through the purchase of easements or fee title.

About 180-200 of the 450 pending access road easements will be completed in FY 1982. This will account for only two percent of the 8,800 road easement workload which at the present rate will take about 50 years to complete.

- The range improvement program requires the acquisition of easements before structures are placed on non-federal land. The majority of the funding is from range improvement funds with technical assistance from the acquisition program.

  The proposed $22 MM range improvement program for 1982 will require the acquisition of more than 90 easements.

- The purchase of essential non-federal lands is needed in support of resource programs initiated through land use plans or by Acts of Congress. However, it is not the Bureau's policy to add significant new acreage to the public lands unless so directed by Congress.

- Equalization payments are made for exchange proposals in support of resource programs. Whenever possible, the land values will be equal or the payments will be made by the exchange proponent.

Justification:

The access provision of Section 205(a) of FLPMA originated in the Committee on Energy and Natural Resources out of concern for the lack of access for the public, timber purchasers, and other users to vast acreages of the BLM lands which are effectively landlocked by private lands. This provision was drafted in the expectation that it would spur the agency to more aggressively acquire access easements (page 16, Report No. 95-789 accompanying S.2234).

We estimate that more than 25 million acres of public land in the 11 western states do not have legal access and more than 8,800 road easements will be needed to manage them. An example of this need is the estimated 100,000,000 board feet of timber tied up by unresovled access problems.

MAINTENANCE PROGRAM SYNOPSIS

2. Maintenance: FY 1981, $8,780,000; FY 1982, $11,675,000, an increase of $2,895,000. The increase consists of:

	Increase (+) or Decrease (-) Amount	FTP	Total Program	Total FTP	Explanation
A. Building Facilities	+ 419,000	--	$3,050,000	23	Upgrade the standards of maintenance throughout the system. Provide some preventive maintenance.
B. Recreation Facilities	- 350,000	--	3,249,000	32	Reduce frequency of recreation site maintenance.
C. Transportation Facilities	+ 266,000	--	2,816,000	22	Maintain an additional 415 miles of road and 23 miles of trail.
D. Other Facilities	+2,560,000	--	2,560,000	--	Dam safety inventory and inspection.
	+$2,895,000	--	$11,675,000	77	

	FY 1981 Estimate	FY 1982 Estimate	Change
Building Maintenance	$2,631,000	$3,050,000	+$ 419,000
Energy Conservation-Survey and Retrofit	(147,000)*	(392,000)*	(+ 245,000)*
Recreation Maintenance	3,599,000	3,249,000	- 350,000
Transportation Maintenance	2,550,000	2,816,000	+ 266,000
Other Facilities Maintenance	--	2,560,000	+ 2,560,000
Total	$8,780,000	$11,675,000	+$2,895,000

* Non-add

74-939 O—80——13

	Estimate ($000)	Authorization
43 U.S.C. 1731-32 1762, 1782 16 U.S.C. 460Y-8 31 U.S.C. 1301 90 Stat. 2792	$9,110	The Federal Land Policy and Management Act of 1976 provides authority for: - maintenance of roads required for protection, development, and management of lands for utilization of forest and other resources, and
43 U.S.C. 1701 P.L. 94-579		- directs that public lands be managed in a way that will protect scenic, historical, and archaeological values and that will provide for outdoor recreation and for human occupancy and use.
16 U.S.C. 594 42 Stat. 857 P.L. 67-315		The Timber Protection Act of 1922 provides for the protection of timber owned by the United States from fire, disease, or insect ravages.

Maintenance Program Synopsis

The maintenance activity provides for the care and upkeep of BLM facilities, which include buildings, roads, trails, developed and undeveloped recreation sites, and other management facilities such as wareyards. The primary objective is to protect the government's investment in these capital improvements, to provide safe and efficient working conditions for employees, and to provide safe conditions for public land users.

Through on-the-ground inspections and condition surveys, BLM field offices identify their most immediate maintenance needs. These needs form the basis of the budget request. BLM does not currently have a cyclic maintenance program in which each item is maintained on a predetermined schedule.

The Bureau is developing plans for more systematic inspections and maintenance schedules to assure periodic maintenance that will protect the Government's capital investment. This capital investment is estimated at more than $360 million and includes:

- 44,000 miles of roads, 500 miles of trails, and 250 major bridges;
- roughly 1,300 warehouses, shops, office buildings, fire stations, and other facilities; and
- thousands of developed and undeveloped recreation sites.

Periodic maintenance is required to prevent a later need for more costly corrective maintenance or replacement of facilities that otherwise would have a longer useful life.

More than 80% of road maintenance, 95% of building maintenance, and 95% of developed recreation site maintenance is carried out through contracts with small private businesses. About 40% of the planned dam safety work will be accomplished by contract.

Activity: 2. Maintenance
Subactivity: A. Building Maintenance

FY 1981, $2,631,000; FY 1982, $3,050,000; an increase of $419,000.

Major Program Changes

A. Building Maintenance	+$419,000

Program Description

A. Building Maintenance	+$419,000;Total $3,050,000 Total 23 FTP

The Bureau will provide maintenance at an average cost of $2.50/square foot on 579 buildings and facilities including office buildings, warehouses, shops, storage buildings, fire stations, lookouts, parking areas, and wareyards. Additional funding will allow upgrading of maintenance standards and will permit some measure of preventive maintenance.

Priority will be placed on the maintenance necessary to ensure safety to the visiting public, provide healthful working conditions for employees, and protect the government's highest value capital investments. The 579 buildings being maintained represent about 45 percent of the total number of bureau buildings.

Over the past several years, special emphasis has been placed on maintenance associated with energy conservation measures. In FY 1982 $393,000 is needed to continue the emphasis on reducing fuel consumption through technical surveys, and measures such as the installation of storm windows and doors and the addition of insulation where such opportunities are identified.

Workload Measures

	Number	Cost Range
Buildings Maintained	579	$1.00 - $5.00/sqare foot
Technical Surveys	169	$1,000 - $2,500/building
Retrofit Maintenance	19	$500 - $4,000/building

Activity: 2. Maintenance
Subactivity: B. Recreation Maintenance

FY 1981, $3,599,000; FY 1982, $3,249,000; a decrease of $350,000.

Major Program Changes

B. Recreation Maintenance	$-350,000

Program Description

B. Recreation Maintenance	-$350,000;Total $3,249,000 Total 32 FTP

BLM needs $3,249,000 to assure safe, hazard free and sanitary conditions for visitors to the public lands. This includes $2,169,000 for trash collection, installation and maintenance of water purification devices, and repair of structure facilities at 450 developed recreation sites. $1,080,000 is needed for minimal cleanup of about 5,000 picnic and undeveloped sites, to remove 180 hazards, to repair or replace 1,500 signs and to replace 20 unsanitary pit toilets with vault installations.

Maintenance frequency will be reduced by 15 percent on lower priority areas in FY 1982.

Workload Measures

	Number	Cost Range
Developed campsites maintained	436	$150-$1,000/family unit
Hazards mitigated	180	$300-$4,500/each
Picnic & undeveloped sites	5,000	$50-$200/each
Pit toilet replacement	20	$5,000-$12,000/each
Sign maintenance	1,500	$10-$150/each

Activity: 2. Maintenance
Subactivity: C. Transportation Maintenance

FY 1981, $2,550,000; FY 1982, $2,816,000, an increase of $266,000.

Major Program Changes

Transportation Maintenance	+$266,000; Total $2,816,000 Total 22 FTP

Program Description

The Bureau's transportation system consists of over 44,000 miles of road, 5,000 miles of trail, and approximately 250 major bridges. Maintenance increases the safety of the public users, reduces erosion potential, and protects the government's capital investment in these facilities.

In FY 1982 the Bureau will maintain about 10,000 miles of road at an average cost of $256/mile, 14 bridges at an average cost of $1,000 each, and 314 miles of trail at an average cost of $100/mile. Emphasis will be placed on those roads, trails, and bridges that receive the greatest use and have the highest erosion potential if maintenance were deferred.

Workload Measures

	Number	Cost Range
Roads Maintained (miles)	10,000	$80-$1,000/mile
Bridges Maintained (each)	14	$200-$1,500 each
Trails Maintained (miles)	314	$20-$1,600/mile

Activity: 2. Maintenance
Subactivity: D. Other Facilities

FY 1981, -0-; FY 1982, $2,560,000; an increase of $2,560,000.

Major Program Changes

Dam Safety	+$2,560,000; Total $2,560,000 Total -0- FTP

Program Description

The Bureau has no existing systematic dam safety program. This is the initial effort to bring the Bureau's 20,000 + structures under a routine inventory, inspection, and maintenance program in compliance with national dam safety standards and Secretarial Order No. 3048. The current maintenance program for water control structures is crisis-oriented rather than preventive; only the most critical maintenance problems are undertaken each year.

Accomplishments to this point are:

- In accordance with Secretarial Order No. 3048, a dam safety officer has been appointed for the Bureau.
- Work has been initiated on compiling and computerizing a Bureauwide dam inventory. At present, some information is available from the Corps of Engineers on dams 25 feet/50 acre-feet or greater in size (for about 750 structures to date); beginning with this information, the inventory will be entered on the WPRS computer system in Denver by December 1980. This information will be field-checked, updated, and augmented as appropriate.
- A manual section on dam safety has been completed, and will be included in the Bureauwide manual system for use by field personnel. It consists of a general statement of responsibilities, policies, and standards, and a technical supplement for use by field personnel as they conduct onsite inspections.
- A training program for dam safety inspectors has been formulated by the Denver Service Center. A 4-day session will be presented in January 1981 for up to 25 participants. The objectives of the training course are to provide field personnel responsible for dam safety inspections with basic training in the legal and technical requirements for dam safety.

In FY 1982 we plan to:

1. Use $50,000 to have a computerized inventory of about 20,000 dams (defined as those water-control structures with a structural height of six feet or greater, on a detention/retention capacity of 15 acre-feet or greater and which are life threatening or have the potential for causing major damage) that are located on Bureau managed lands.

2. Use $50,000 to assign or update the hazard classification for all dams that are 25 feet or greater in height, and/or that have a detention/retention capacity of 50 acre-feet or greater (an estimated 1,000 dams).

3. Use $1,910,000 to survey and inspect the condition of 200 or 20 percent of the estimated 1,000 largest dams beginning with the largest "high" hazard structures first.

4. Use $50,000 to prepare emergency plans, including topographic mapping of downstream areas, for all dams in the "significant" and "high" hazard classification (about 50 dams).

5. Use $500,000 for emergency rehabilitation work on five structures identified in the conditions survey. An additional $400,000 is identified in 4340 watershed for emergency rehabilitation and an additional five dams.

Workload Measures	Number	Average Cost
Inventory	20,000	$2.5/each
Hazard Classification	1,000	$50/each
Condition Survey and Inspection	200	$9,550/each
Emergency Plans	50	$1,000/each
Emergency Rehabilitation	5	$100,000/each

ACQUISITION, CONSTRUCTION, AND MAINTENANCE

For acquisition of lands and interests therein, and construction and maintenance of buildings, recreation facilities, roads, trails, and appurtenant facilities ($14,768,000) $19,626,000, to remain available until expended. (16 U.S.C. 594; 43 U.S.C. 2, 1181a, 1701, 1715, 1762; 69 Stat. 130; Public Law 96-514, making appropriations for the Department of the Interior and related agencies, 1981.)

ACQUISITION, CONSTRUCTION, AND MAINTENANCE
Program and Financing (in thousands of dollars)
Costs to this Appropriation

14-1110-0-1-302	Total Est.	To 9/30/79	1980 Act.	1981 Est.	1982 Est.	Deduct selected resources and unoblig. balance, start of yr.	Add selected resources & unobligated balance, end of year	Analysis of 1982 Financing: Appropriation required, 1982	Analysis of 1982 Financing: Appropriation required to complete
Program by activities:									
Direct program:									
1. Construction & acquisition	88,139	61,086	11,218	6,024	7,951	---	---	7,951	1,860
2. Maintenance	---	---	8,809	9,170	11,675	---	---	11,675	
Total, direct program	---	---	20,027	15,194	19,626	---	---	19,626	
Reimbursable program:									
2. Maintenance	---	---	32	---	---	---	---		
Total program costs, funded 1/	---	---	20,059	15,194	19,626	---	---		
Change in selected resources (undelivered orders)	---	---	-3,159	---	---				
10.00 Total obligations	---	---	16,900	15,194	19,626				
Financing:									
11.00 Offsetting collections from: Federal funds	---	---	-62	---	---				
21.40 Unobligated balance available, start of year	---	---	-921	-426	---				
24.40 Unobligated balance available, end of year	---	---	426	---	---				
40.00 Budget authority (appropriation)	---	---	16,343	14,768	19,626				
Relation of obligations to outlays:									
71.00 Obligations incurred, net	---	---	16,837	15,194	19,626				
72.40 Obligated balance, start of year	---	---	11,925	8,661	11,185				
74.40 Obligated balance, end of year	---	---	-8,661	-11,185	-13,717				
90.00 Outlays	---	---	20,101	12,670	17,094				

1/ Includes capital investment as follows: 1980, $4,323 thousand; 1981, $3,274 thousand; 1982, $6,965 thousand.

ACQUISITION, CONSTRUCTION, AND MAINTENANCE
Object Classification (in thousands of dollars)

14-1110-0-1-302		1980 Actual	1981 Estimate	1982 Estimate
Direct obligations:				
Personnel compensation:				
11.1	Full-time permanent positions	4,209	4,400	4,400
11.3	Positions other than full-time permanent	3,061	3,000	3,000
11.5	Other personnel compensation	106	150	150
11.9	Total personnel compensation	7,376	7,550	7,550
12.1	Personnel benefits: Civilian	757	740	740
21.0	Travel and transportation of persons	294	400	400
22.0	Transportation of things	690	600	686
23.1	Standard level user charges	190	200	200
23.2	Communications, utilities, and other rent	14	15	15
24.0	Printing and reproduction	1	15	15
25.0	Other services	1,733	700	1,330
26.0	Supplies and materials	1,458	1,700	1,725
31.0	Equipment	227	200	200
32.0	Lands and structures	4,096	3,074	6,765
42.0	Insurance claims and indemnities	2	---	---
99.0	Subtotal, direct obligations	16,838	15,194	19,626
Reimbursable obligations:				
Personnel compensation:				
11.1	Full-time permanent positions	---	---	---
11.3	Positions other than full-time permanent	26	---	---
11.5	Other personnel compensation	1	---	---
11.9	Total personnel compensation	27	---	---
12.1	Personnel benefits: Civilian	5	---	---
22.0	Transportation of things	3	---	---
25.0	Other services	22	---	---
26.0	Supplies and materials	5	---	---
99.0	Subtotal, reimbursable obligations	62	---	---
99.9	Total obligations	16,900	15,194	19,626

ACQUISITION, CONSTRUCTION, AND MAINTENANCE
Personnel Summary

14-1110-0-1-302	1980 Actual	1981 Estimate	1982 Estimate
Direct:			
Total number of full-time permanent positions	166	168	168
Total compensable workyears:			
Full-time equivalent employment	356	359	365
Full-time equivalent of overtime and holiday hours	5	5	5
Average GS grade	9.63	9.63	9.63
Average GS salary	$22,066	$23,830	$23,830
Reimbursable:			
Total number of full-time permanent positions	(0)	---	---
Total compensable workyears:			
Full-time equivalent employment	2	---	---
Full-time equivalent of overtime and holiday hours	(0)	---	---
Average GS grade	9.63	---	---
Average GS salary	$22,066	---	---

Appropriation Summary Statement

Appropriation: Payments in Lieu of Taxes

Public law 94-565 (31 U.S.C. 1601), as amended, provides for payments in lieu of taxes to counties and other units of local governments in which lands administered by BLM, the Forest Service, the National Park Service, and certain other agencies are located.

Section 1 of the Act provides for annual payments equal to the greater of a) 75 cents per acre reduced by payments made under selected public land payment programs such as the Mineral Lands Leasing Act and the National Forest Revenue Act; or b) 10 cents per acre. However, payments may not exceed a statutory ceiling based on population.

Section 3 of the Act specifies additional payments not limited by population ceilings, for lands acquired for the Redwoods National Park or for additions to the National Park and National Wilderness systems made after December 31, 1970. In each of the five fiscal years following the land acquisition, these payments are to be equal to 1 percent of the fair market value of the lands when acquired. However, the annual payments may not exceed the amount of real property taxes assessed and levied on the lands during the last fiscal year the lands were in private ownership. Section 106 of the Redwood National Park Amendments of 1978 provides for additional Section 3 payments if required for land acquired to expand the Redwood National Park. These payments are to be made after the five year payment period so that the total payment for these additions will equal 5 percent of their fair market value at the time they were acquired. No appropriation is requested in 1982.

Summary of Requirements
(dollar amounts in thousands)

Appropriation: Payments in Lieu of Taxes

Summary of adjustments to base and built-in changes:	FTP	Amount
Appropriation enacted to date, 1981	5	103,000
Adjustment to base and built-in changes	-5	-103,000
1982 Base	--	---

	1980 Actual		1981 Appropriation Enacted to Date		1982 Base		1982 Estimate		Inc.(+) or Dec.(-) Over 1982 Base	
Comparison by activities:	FTP	Amount	FTP	Amount	FTP	Amount	FTP	Amount	FTP	Amount
1. Appropriation Total	1	108,000	5	103,000	--	--	--	--	--	--
Total Requirements	1	108,000	5	103,000	--	--	--	--	--	--

BLM-200

Justification of Program and Performance

Activity: Payments in Lieu of Taxes

(Dollar amounts in thousands)

	1981 Appropriation Enacted to Date	1982 Base	1982 Estimate	Inc. (+) or Dec. (-)
Total Requirements $	103,000	--	--	--
(FTP)	(5)	--	--	--

Estimate ($000)	Authorization
31 U.S.C. 1601	The Payments in Lieu of Taxes Act, Public Law 94-565, as amended, authorizes and directs the Secretary of Interior to "make payments on a fiscal year basis to each unit of local government in which entitlement lands....are located".

No appropriation is requested in 1982. The decision not to seek funding for the payments in Lieu of Taxes program is proposed as an economy measure and in consideration of the substantial increases in shared receipt payments.

PAYMENTS IN LIEU OF TAXES

[For expenses necessary to implement the Act of October 20, 1976 (31 U.S.C. 1601), $103,000,000, of which not to exceed $400,000 shall be available for administrative expenses: Provided, That this appropriation may be used to correct underpayments in the previous fiscal year to achieve equity among all qualified recipients.] (Public Law 96-514, making appropriations for the Department of the Interior and related agencies, 1981.)

PAYMENTS IN LIEU OF TAXES
Program and Financing (in thousands of dollars)

14-1114-0-1-852	1980 Actual	1981 Estimate	1982 Estimate
Program by activities:			
Payments to local governments (total program costs, funded)	102,960	108,000	---
Change in selected resources (undelivered orders)	-668	---	---
10.00 Total obligations	102,292	108,000	---
Financing:			
21.40 Unobligated balance available, start of year	---	-5,000	---
24.40 Unobligated balance available, end of year	5,000	---	---
25.00 Unobligated balance lapsing	708	---	---
40.00 Budget authority (appropriation)	108,000	103,000	---
Relation of obligations to outlays:			
71.00 Obligations incurred, net	102,292	108,000	---
72.40 Obligated balance, start of year	432	6	---
74.40 Obligated balance, end of year	-6	---	---
77.00 Adjustments in expired accounts	721	---	---
90.00 Outlays	103,439	108,006	---

PAYMENTS IN LIEU OF TAXES
Object Classification (in thousands of dollars)

14-1114-0-1-852	1980 Actual	1981 Estimate	1982 Estimate
Personnel compensation:			
11.1 Full-time permanent positions	28	90	---
11.3 Positions other than full-time permanent	17	105	---
11.5 Other personnel compensation	1	---	---
11.9 Total personnel compensation	46	195	---
12.1 Personnel benefits: Civilian	5	25	---
21.0 Travel and transportation of persons	1	2	---
25.0 Other services	3	10	---
26.0 Supplies and materials	1	---	---
41.0 Grants, subsidies and contributions	102,236	107,768	---
99.9 Total obligations	102,292	108,000	---

Personnel Summary

14-1114-0-1-852	1980 Actual	1981 Estimate	1982 Estimate
Total number of full-time permanent positions	5	5	(0)
Total compensable workyears: Full-time equivalent employment	3	5	(0)
Average GS grade	9.63	9.63	---
Average GS salary	$22,066	$23,830	---

74-939 O—80——14

APPROPRIATION SUMMARY STATEMENT

Appropriation: Oregon and California Grant Lands

Twenty-five percent of the revenue from timber harvesting on the revested Oregon and California (O&C) Grant Lands is made available to BLM for four principal activities on these revested lands in the eighteen O&C counties of Western Oregon. These funds will finance the following activities.

1. Construction and Acquisition - Construct 4 drainage structures and acquire 53 road easements to commercial timber areas.

2. Maintenance - Maintain access roads, operate and maintain recreation facilities, and maintain administrative facilities.

3. Renewable Resource Management - Conduct reforestation, timber stand improvement, and sale of timber including mortality salvage and commercial thinning, forest genetics, protection, research, and other resource management actions on O&C lands.

4. Planning and Data Management - Prepare and update Bureau planning system documents and pay for automated data processing costs related to the management of O&C lands and their resources.

Status of the O&C Grant Land Fund is as follows:

	$000s
Carryover into FY 1981	$ 2,549
Estimated new budget authority FY 1981	+ 57,500
Total available FY 1981	$60,049
Obligations FY 1981	- 58,200
Carryover into FY 1982	$ 1,849
Proposed appropriation	+ 63,105
Proposed appropriation (one-time only)	+ 10,000
Total available FY 1982	$74,954
Obligations FY 1982	- 63,105
Carryover into FY 1983	$11,849

New Budget authority in the O&C fund is a direct function of the current year receipts from the harvest of timber and other commercial products on O&C lands and is, therefore, largely uncontrollable. In previous years, these receipts generally exceeded current needs and balances carried forward to subsequent years.

These balances normally provided a reserve against periods when conditions might reduce both the levels of timber harvesting and the projected new budget authority. Thus, the availability of funds in excess of planned obligations provided necessary flexibility to react to current conditions in Western Oregon and meet planned levels of activity even though current year receipts may not, in and of themselves, support such levels.

Because revenues are difficult to project as a result of economic fluctuations in the timber industry, a one time direct appropriation of ten million dollars in FY 1982 is proposed to permit more orderly program planning and management. This would act as a "cushion" in the event receipts fall below the program obligation level, as they did in 1980.

Summary of Requirements
(Dollar amounts in thousands)

/Appropriation: Oregon and California Grant Lands/

Summary of adjustments to base and built-in changes:	FTP	Amount	FTP	Amount
Obligation approved to date, 1981	--	--	834	$58,200
Adjustments to base and built-in changes:				
Construction program decreases (zero-base program)	--	-7,200		
Subtotal, adjustments to base and built-in changes	--	--		- 7,200
1982 Base	--	--	834	$51,000

	1980 Obligations		1981 Obligation Program Approved To Date		1982 Base		1982 Estimates		Inc.(+) or Dec.(-) over 1982 Base	
Comparison by activities:	FTP	Amount	FTP	Amount	FTP	Amount	FTP	Amount	FTP	Amount
1. Construction and Acquisition										
A. Building Construction	8	658	3	294	3	--	3	58	--	+ 58
B. Recreation Construction	6	710	6	1,152	6	--	6	1,015	--	+ 1,015
C. Transportation Construction	13	4,391	13	5,300	13	--	13	5,568	--	+ 5,568
D. Acquisition	15	413	15	454	15	--	15	824	--	+ 824
Subtotal	42	6,172	37	7,200	37	--	37	7,465	--	+ 7,465
2. Maintenance										
A. Building Maintenance	3	328	3	416	3	416	3	640	--	+ 224
B. Recreation Maintenance	12	1,070	12	1,127	12	1,127	12	1,203	--	+ 76
C. Transportation Maintenance	106	7,466	106	5,157	106	5,157	106	5,157	--	--
Subtotal	121	8,864	121	6,700	121	6,700	121	7,000	--	+ 300
3. Renewable Resource Management										
A. Timber Management and Protection	450	27,597	454	16,335	454	16,335	459	18,351	+ 5	+ 2,016
B. Timber Development	149	14,614	152	24,291	152	24,291	157	27,136	+ 5	+ 2,845
C. Other Forest Resources	38	1,617	36	2,574	36	2,574	36	2,574	--	--
Subtotal	637	43,828	642	43,200	642	43,200	652	48,061	+ 10	+ 4,861
4. Planning and Data Management										
A. Planning	28	1,043	28	750	28	750	18	428	- 10	- 322
B. Data Management	6	182	6	350	6	350	6	151	--	- 199
Subtotal	34	1,225	34	1,100	34	1,100	24	579	- 10	- 521
5. Common Program Services										
A. Services	(79)	(2,500)	(79)	(2,500)	(79)	(2,500)	(79)	(2,500)	--	--
INCREASES		--		--		--		--		+12,105
TOTAL REQUIREMENTS	834	60,089	834	58,200	834	51,000	834	63,105	--	--

BUREAU OF LAND MANAGEMENT
Oregon and California Grant Lands
Analysis by Activities
(Dollars in Thousands)

Activity	Appropriation 1980	Appropriation 1981	1982 Budget Estimate
1. Construction and Acquisition			
Appropriation	$ 2,437	$ 6,800	$ 7,465
Unobligated balance brought forward 1/	5,132	1,397	997
Total available	7,569	8,197	8,462
Obligation program	6,172	7,200	7,465
Unobligated balance carried forward	1,397	997	997
2. Maintenance			
Appropriation	6,868	6,700	7,000
Unobligated balance brought forward 1/	2,473	477	477
Total available	9,341	7,177	7,477
Obligation program	8,864	6,700	7,000
Unobligated balance carried forward	477	477	477
3. Renewable Resource Management			
Appropriation	38,159	43,000	58,061
Unobligated balance brought forward 1/	1,069	400	200
Unobligated balance transferred from other accounts	5,000	--	--
Total available	44,228	43,400	58,261
Obligation program	43,828	43,200	48,061
Unobligated balance carried forward	400	200	10,200
4. Planning and Data Management			
Appropriation	1,340	1,000	579
Unobligated balance brought forward 1/	160	275	175
Total available	1,500	1,275	754
Obligation program	1,225	1,100	579
Unobligated balance carried forward	275	175	175
Summary			
Total Appropriation	48,804	57,500	73,105 2/
Total Unobligated balance brought forward 1/	8,834	2,549	1,849
Unobligated balance transferred from other accounts	5,000	--	--
Total Availability	62,638	60,049	74,954
Total Obligation program	60,089	58,200	63,105
Total Unobligated balance carried forward	2,549	1,849	11,849

1/ Includes unobligated balances and unapportioned receipts unavailable for obligation in year of receipt
2/ Includes $63,105,000 in indefinite appropriations (anticipated receipts) and $10,000,000 in direct appropriations

Justification of Program and Performance

Authorization

43 U.S.C. 1181 P.L. 75-405	The Conservation of Timber on Certain Lands in Oregon Act of 1937 provides for conservation, management, permanent forest production, and sale of timber from the Revested Oregon and California Railroad Grant Lands and Coos Bay Wagon Road lands.
53 Stat. 753	The Act of May 24, 1939 relates to the disposition of funds from the Coos Bay Wagon Road Grant Lands located in Western Oregon.
16 U.S.C. 594 42 Stat. 857 P.L. 67-315	The Timber Protection Act of 1922 provides for the protection of timber from fire, disease, and insects.
P.L. 94-579	The Federal Land Policy and Management Act of 1976 applies to all "public lands" which include the O&C Grant Lands by definition (43 U.S.C. 1702). However, in the event that any provision of this Act is in conflict with or inconsistent with the O&C Act and the Coos Bay Wagon Road Act insofar as they relate to management of timber resources and disposition of revenue from lands and resources, the latter Acts will prevail.

The Oregon and California Grant Lands Act of 1937 (43 USC 1181) provided that revenues from the Oregon and California (O&C) Grant Lands be distributed according to the following formula:

1. Fifty percent to the 18 O&C counties;
2. Twenty-five percent to the 18 O&C counties after delinquent tax claims were paid and after the United States Treasury was reimbursed for money advanced to make payments in lieu of taxes prior to 1937; and
3. Twenty-five percent to the general fund of the Treasury to be made available upon appropriation by Congress to administer the O&C lands.

By 1951, the Treasury was repaid in full for money advanced to make payments in lieu of taxes, and according to the O&C Act the 18 counties were entitled to 75 percent of the receipts. However, in 1953 the counties offered to return one-third (or 25 percent of total receipts) to the United States for the exclusive development and management of O&C lands.

Since 1953, Congress has appropriated a portion of the returned receipts for the construction, operation, and maintenance of access roads to the vast timber resources as well as for reforestation and other improvements to the O&C lands. Since 1960, the full 25 percent of aggregate receipts has been appropriated by Congress under the Oregon and California Grant Land Fund Appropriation.

If the appropriation were disallowed, then the O&C counties would be entitled to the funds now appropriated for the improvement, development, and management of the lands in the form of a permanent appropriation. The current BLM program for the O&C lands would either be virtually eliminated or require alternate sources of federal funding.

Construction and Acquisition Program Synopsis

1. Construction and Acquisition: Fiscal Year 1981, $6,800,000; Fiscal Year 1982, $7,465,000; an increase of $665,000.

On an obligation basis: Fiscal Year 1981, $7,200,000; Fiscal Year 1982, $7,465,000; an increase of $265,000.

Obligation Program
(Dollar amounts in thousands)

Increase (+) or Decrease (-)

	Amount	FTP	Total Program	Total FTP	Explanation
A.	-$236	--	$ 58	3	Building Construction
B.	- 137	--	1,015	6	Recreation Construction
C.	+ 268	--	5,568	13	Transportation Construction
D.	+ 370	--	824	15	Acquisition
	+$265	--	$7,465	37	

Subactivity	FY 1981 Program	FY 1982 Estimate	Change
Building Construction	$294	$ 58	-$236
Recreation Construction	1,152	1,015	-137
Transportation Construction	5,300	5,568	+268
Acquisition	454	824	+370
Total	$7,200	$7,465	+$265

Construction is a zero-base program. The FY 1982 program consists of the following new projects:

Building Projects

Survey, Design and Administration	$ 58,000
Total, Building Construction	$ 58,000

Recreation Projects

Survey, Design and Administration	150,000
U.S. Forest Service Recreation Construction	865,000
Total, Recreation Construction	$1,015,000

Transportation Construction	
Drainage Structures	$ 300,000
Aggregate Production (380,000 tons)	2,300,000
Planning and Reconnaissance	391,000
Survey, Design, and Administration	400,000
U.S. Forest Service Transportation Construction	2,177,000
Total, Transportation Construction	$5,568,000
Acquisition	
Title clearance, appraisals, road easements	$824,000
Total, Construction and Acquisition	$7,465,000

FY 1982 Program

Activity: 1. Construction and Acquisition
Subactivity: A. Building Construction

(Obligations: dollar amounts in thousands)

		1981 Program	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Requirements	$	294	58	-236
	(FTP)	(3)	(3)	(-)

A. Building Construction

Objectives

This program provides for construction of buildings required for administration of the O&C Grant Lands resource management programs. The FY 1982 projects include:

Survey, Design, and Administration	$ 58,000
TOTAL	$ 58,000

SURVEY, DESIGN, AND ADMINISTRATION $58,000

This funding will provide capability for planning, survey, design, and analysis of program needs subsequent to the budget year and for administration of ongoing construction contracts.

Activity: 1. Construction and Acquisition
Subactivity: B. Recreation Construction

(Obligations: dollar amounts in thousands)

		1981 Program	FY 1982 Estimate	Inc. (+) or Dec. (-)
(1) BLM	($)	$ 382	$ 150	-$232
	(FTP)	(6)	(6)	--
(2) U.S. Forest Service	($)	770	865	+ 95
	(FTP)	--	--	--
Total Requirements	($)	$1,152	$1,015	-$137
	(FTP)	(6)	(6)	(-)

B. Recreation Construction

Objectives

This program provides for planning, site studies, survey and design for construction, and upgrading of recreation facilities on O&C Grant Lands. Areas with high recreational values have been opened to the public as a result of the Bureau's timber management road construction program in Western Oregon. Increased use has caused fire hazards, pollution problems, and in some cases a degradation of the recreation resource values. The FY 1982 program includes:

Survey, Design and Administration	$150,000
TOTAL	$150,000

SURVEY, DESIGN, AND ADMINISTRATION $150,000

This funding will provide capability for planning, survey, design, and analysis of program needs subsequent to the budget year and for administration of ongoing construction contracts.

X X X X X X X X

Justification of Program and Performance

Activity: 1. Construction and Acquisition
Subactivity: C. Transportation Construction

(Obligations: dollar amounts in thousands)

		1981 Program	FY 1982 Estimate	Inc. (+) or Dec. (-)
(1) BLM	($)	2,520	3,391	+871
	(FTP)	(13)	(13)	--
(2) U.S. Forest Service	($)	2,780	2,177	-603
	(FTP)	--	--	--
Total Requirements	($)	5,300	5,568	+268
	(FTP)	(13)	(13)	(-)

Objectives

The transportation construction program provides for survey, design, and construction of access roads to support western Oregon's timber management program. Road systems must be planned and constructed sufficiently ahead of actual timber sales to insure an orderly, well balanced schedule of timber harvest.

Projects proposed for FY 1982 include:

Drainage structures (4)	$300,000
Aggregate Production (380,000 tons)	2,300,000
Other costs associated with transportation construction include:	
Planning and Reconnaissance	391,000
Survey, Design, and Administration	400,000
Subtotal	$3,391,000
U.S. Forest Service Transportation Construction	2,177,000
TOTAL REQUIREMENTS	$5,568,000

Access road construction financed by O&C Grant Land funds supplements the 300 to 500 miles of road constructed yearly under the terms of timber sale contracts. This program provides access for timber harvest and salvage as well as multiple use activities in areas where the road construction is not appropriately included in the timber sale. Roads constructed with these funds are usually difficult to construct (heavy rock excavation, unstable soil conditions, etc.), lengthy, or of a higher standard than required solely for timber removal.

In addition, many roads must be surfaced with hard rock to prevent washing of soil and to permit year-round hauling of timber in an extremely wet climate. Stockpiling of aggregate is proposed so that rock will be available as roads show signs of deterioration.

X X X X X X X X

Activity: 1. Construction and Acquisition
Subactivity: D. Acquisition

(Obligations: dollar amounts in thousands)

		1981 Program	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Requirements	($)	454	824	+370
	(FTP)	(15)	(15)	(-)

Objectives

This program acquires access across private lands as required to support the western Oregon timber management program. In addition, it provides for the purchase of land necessary for the O&C timber management programs such as administrative sites, seed orchards, road maintenance facility sites, and tree nurseries.

To provide an orderly, well balanced timber harvest program, acquisition of legal and physical access to O&C lands through easement purchases is required in advance of road construction or road use for the removal of forest products.

The proposed acquisition program for FY 1982 consists of:

53 easements to public lands	$824,000

Activities included in the proposed funding level include right-of-way surveys, acquisition negotiations, appraisals, payment for easements, title services, and processing agreements for exchange of road use.

X X X X X X X X

Maintenance Program Synopsis

2. Maintenance: Fiscal Year 1981, $6,700,000; Fiscal Year 1982, $7,000,000, an increase of $300,000.

On an obligation basis: Fiscal Year 1981, $6,700,000; Fiscal Year 1982, $7,000,000; an increase of $300,000.

Obligation Program
(Dollar amounts in thousands)

Increase (+) or Decrease (-)

	Amount	FTP	Total Program	Total FTP	Explanation
A.	+$ 224	--	$640	3	Building Maintenance
B.	+76	--	1,203	12	Recreation Maintenance
C.	--	--	5,157	106	Transportation Maintenance
	+$ 300	--	$7,000	121	

Subactivity	FY 1981 Program	FY 1982 Estimate	Change
Building Maintenance	$416	$ 640	+$224
Recreation Maintenance	1,127	1,203	+ 76
Transportation Maintenance	5,157	5,157	+ --
Total	$6,700	$ 7,000	+$300

Activity: 2. Maintenance
Subactivity: A. Building Maintenance

(Obligations: dollar amounts in thousands)

		FY 1981 Program	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Requirements	$	416	416	640	+224
	(FTP)	(3)	(3)	(3)	(-)

The basic objectives of the building maintenance program are to provide a safe, healthy working atmosphere for employees and protect the federal capital investment in facilities. Actions include:

- inspection of all buildings, yards, and parking lots and identification of needed repairs;

- repair of interior and exterior of buildings as required;

- repair and/or replacement of water sewage and electrical utility systems that do not meet safety and health codes; and

- resurface of parking areas, repair of fences, and upkeep on landscaping at administrative facilities.

Base Program

The base program in FY 1982 provides essential maintenance on about 147,000 square feet of office space; 158,000 square feet of other space such as warehouses, seed cleaning buildings, and road maintenance shops; about 143 acres of wareyards, landscaped areas, parking lots; and facilities at the Bureau's two tree seed nurseries. In addition, related parking lots, utility systems, fencing, and landscaping are maintained.

Increase for FY 1982

(Obligations: dollar amounts in thousands)

		1982 Base Program	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Requirements	($)	416	640	+224
	(FTP)	(3)	(3)	(-)

The $224,000 increase will help offset the increased costs associated with maintenance of facilities being constructed in FY 1980 and FY 1981.

Object Classification Distribution

The object class detail for this proposed $224,000 increase is as follows:

Lands and Structures	$224,000

74-939 O—80——15

Activity: 2. Maintenance
Subactivity: B. Recreation Maintenance

(Obligations: dollar amounts in thousands)

		FY 1981 Program	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Requirements	$	1,127	1,127	1,203	+76
	TP)	(12)	(12)	(12)	--

Objectives

This program maintains developed and undeveloped sites to provide a safe, healthy environment for the public users and protect prior capital investments of the United States.

Base Program

The base program consists of maintaining 850 family units in the O&C counties of Western Oregon. This includes providing such services as garbage collection and disposal, sanitation upkeep, and monitoring drinking water in 42 developed systems. In addition, hazard reduction activities will be undertaken in 25 developed sites.

Increase for FY 1982

(Obligations: dollar amounts in thousands)

		1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Requirements	($)	1,127	1,203	+76
	(FTP)	(12)	(12)	--

The $76,000 will offset the increased costs associated with maintenance to be performed on recreation sites constructed in FY 1980 and FY 1981.

Object Classification Distribution

The object class detail for this proposed $76,000 increase is as follows:

Lands and Structures $76,000

X X X X X X X X

Activity: 2. Maintenance
Subactivity: C. Transportation Maintenance

(Obligations: dollar amounts in thousands)

		FY 1981 Program	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Requirements	$	5,157	5,157	5,157	--
	(FTP)	(106)	(106)	(106)	--

Objectives

This program maintains forest roads to permit efficient land and resource management through improved access to insure an even flow of logs to utilization centers and to reduce potential erosion hazards on surfaced and unsurfaced roads. In addition, it provides safe access to forest land for the forest industry and the general public.

Base Program

The base program provides maintenance on about 5,900 miles of timber access roads in Western Oregon. This includes 1,100 miles of lower priority road that is maintained every other year. Maintenance efforts will be concentrated on normal preventive maintenance work as well as corrective maintenance geared to reduce the long-run costs of major reconstruction of existing roads and drainage structures. Correction of erosion problems which generate off-site water quality degradation will also have high priority.

Activity: 3. Renewable Resource Management
Subactivity: A. Timber Management and Protection

(Obligations: dollar amounts in thousands)

		FY 1981 Program	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Timber Management	$	13,556	13,556	15,264	+1,708
	(FTP)	(441)	(441)	(446)	(+5)
Timber Protection	$	2,779	2,779	3,087	+308
	(FTP)	(13)	(13)	(13)	--
Total Requirements	$	16,335	16,335	18,351	+2,016
	(FTP)	(454)	(454)	(459)	(+5)

Objectives

Timber Management - This program, when combined with Forest Management in the Management of Lands and Resources appropriation, provides for the layout, measurement, appraisal, sale, and administration of timber sale contracts to support an annual allowable cut of 1.1 billion board feet from O&C and intermingled public domain and Coos Bay Wagon Road land in Western Oregon.

Timber Protection - This program provides fire protection for O&C timber resources.

Base Program

Timber Management - The revested O&C grant lands and other intermingled Federal lands are managed for permanent forest production in accordance with the Act of August 28, 1937, and the Federal Land Policy and Management Act of 1976. These acts require that timber be harvested in conformance with the principles of multiple use and sustained yield. Management practices utilized to meet the allowable cut include clear cut harvesting or residual old growth timber stands, commercial thinnings, select cuttings, and mortality salvage.

These practices provide an annual flow of timber to local industry, from 800 million to 1.5 billion board feet, depending on lumber market conditions and the rate of harvest by BLM timber sale purchasers.

Expected receipts from forest management activities in Western Oregon by land classes are as follows:

	(In millions of dollars) FY 1980 Estimated	FY 1981 Estimated	FY 1982 Estimated
O&C Grant Lands	$220.0	$230.0	$278.0
Coos Bay Wagon Road	$ 10.0	$ 10.0	$ 10.0

The base program also includes funding for completion of two environmental impact statements covering the sustained yield units of Clackmas/Mollola, Santiam, Columbia, and Alsea/Rickeral, as scheduled in the National Resources Defense Council court agreement. Completion of these two environmental impact statements will bring the total of completed statements to five. Three additional statements are to be completed by December 31, 1982 covering the following sustained yield units: South Umpqua/Douglas, Siuslaw, and Upper Willamette.

Timber Protection - Fire protection for the 2.4 million acres of Bureau-administered lands in Western Oregon is contracted to the State of Oregon and local fire protection associations. BLM supports the protection effort by advance construction of firebreaks and helipads and by snag felling, both essential to the overall fire control and protection effort. The base program also includes reduction of hazardous fuels.

The rising cost of the fire protection contractual arrangement with the State of Oregon limits our ability to reduce hazardous fuels. This will lead to a backlog in disposal of hazardous fuels which will be difficult to overcome in view of air-quality constraints and will adversely impact reforestation efforts.

Increase for FY 1982

(Obligations: dollar amounts in thousands)

		1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Timber Management	($)	13,556	15,264	+1,708
	(FTP)	(441)	(446)	(+5)

Timber Management - The $1,708,000 increase for BLM will be used to offset additional costs associated with carrying out the harvest plans prescribed in the Josephine and Jackson/Klamath allowable cut plans. The Josephine Plan and the Jackson/Klamath Plan have both been approved. The additional costs are related to the increased use of special marking and cutting practices (partial cuts) and environmental protection measures taken to reduce the impacts of the timber harvest activities. These protection measures include layout of sales for specialized yarding equipment to reduce soil compaction and erosion, stream side buffers to reduce erosion and enhance water quality, and commercial thinning and salvage sales in buffer areas that provide stream-side protection.

Object Classification Distribution

The object class detail for this proposed $1,708,000 increase is as follows:

Position Title	GS Grade	No.	Actual Salary
Forester	7 thru 11	5	$92,500
Lapse			-5,600
Permanent positions		5	86,900
Total personnel compensation			86,900
Personnel benefits			8,700
Travel and Transportation of Persons			20,000
Transportation of Things			200,000
Standard Level User Charges			504,400
Communications, Utilities and Other Rent			50,000
Lands and Structures			838,000
Total			$1,708,000

Increase for FY 1982

(Obligations: dollar amounts in thousands)

		1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Timber Protection	($)	2,779	3,087	+308
	(FTP)	(13)	(13)	--

Protection - The $308,000 increase will offset the additional cost of hazardous fuels reduction.

Object Classification Distribution

The object class detail for this proposed $308,000 increase is as follows:

Other Services	$308,000

Activity: 3. Renewable Resource Management
Subactivity: B. Timber Development

(Obligations: dollar amounts in thousands)

		FY 1981 Program	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Requirements	$	24,291	24,291	27,136	+2,845
	(FTP)	(152)	(152)	(157)	(+5)

Objectives

The allowable cut is predicated on the assumption that intensive reforestation practices will follow timber harvests and that the wood-producing capacity of existing stands of timber will be improved through forest development practices.

The objective is to sustain or enhance the yield of forest stands being managed. The specific practices are detailed in the timber management plans for each sustained yield unit.

Base Program

The FY 1981 and FY 1982 base program includes a $1,200,000 Congressional add-on which was transferred to the U.S. Forest Service. The transferred funds are being used to fund BLM's share of the Forestry Intensified Research Program. The base program for BLM less the $1,200,000 transferred to the Forest Service includes intensive forest development practices which directly support the approved allowable cut plans. Failure to carry out the intensive management practices as specified in the allowable cut plans will have a negative impact on maintaining the 10 year cut identified in the approved plans. As an example, based on the 1971 allowable cut plans, for every 1,000 acres not planted, the annual allowable cut would have to be reduced by 260 M board feet to offset the reduced wood fiber production.

Land uses have changed since the allowable cut plan was approved in 1971. Base lands that were previously recognized as timber lands have been, and are still being, reclassified for other uses as buffer strips for wild, scenic, and other rivers; wildlife areas; and watershed protection. As a result, the diminished land base must be offset by increased growth to maintain the allowable cut level.

Intensive management practices and outputs which are in the O&C base program include:

Reforestation (acres)	40,000
Site Preparation (acres)	33,000
Site Protection (acres)	7,000
Stand Improvement (acres)	48,400
Development Surveys (acres)	200,000

The application of herbicides for control of brush and other vegetative competition in Western Oregon is a very sensitive issue with the public. The practice is one of the most economical methods of converting non-productive forest sites and establishing new forest plantations. Herbicides are presently being used with very close monitoring by public interest groups. Alternatives to herbicide use are being tried on a limited basis. Some of the alternatives being used include controlled burning and mechanical and hand slashing of brush for site preparation purposes. Results indicate that these alternative methods have merit but that costs, particularly mechanical and hand piling of slash, are substantially higher per acre than the costs of using herbicides.

Increase for FY 1982

(Obligations: dollar amounts in thousands)

		1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Requirements	($)	24,291	27,136	+2,845
	(FTP)	(152)	(157)	(+5)

The proposed increase includes $1,000,000 to the Forest Service to increase seedling production capacity.

The proposed FY 1982 funding level of $27,136,000 for BLM will fund the implementation of the intensive forest development practices identified in the Jackson/Klamath environmental impact statement and allowable cut plan, as well as help offset the increased costs associated with the intensive management practices.

Examples of current costs are shown below:

Tree Planting	$130-170/acre
Precommercial Thinning	$70-100/acre
Site Preparation-Herbicides	$35-65/acre
Fertilization	$70-80/acre

The proposed funding level increases our capability to carry out the following additional activities:

Reforestation (acres)	1,000
Site Preparation (acres)	1,500
Site Protection (acres)	1,000
Stand Improvement (acres)	10,000

Object Classification Distribution

The object class detail for this proposed $2,845,000 increase is as follows:

Position Title	GS Grade	No.	Actual Salary
Forester	7 thru 11	3	$55,500
Natural Resource Specialist	9	2	37,000
Lapse			-5,600
Permanent positions		5	86,900
Total personnel compensation			86,900
Personnel benefits			8,700
Travel and Transportation of Persons			20,000
Transportation of Things			200,000
Communications, Utilities and Other Rent			50,000
Printing and Reproduction			10,000
Other Services			2,000,000
Supplies and Materials			100,000
Lands and Structures			369,400
Total			+$2,845,000

Justification of Program and Performance

Activity: 3. Renewable Resource Management
Subactivity: C. Other Forest Resources

(Obligations: dollar amounts in thousands)

		FY 1981 Program	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Requirements	$	2,574	2,574	2,574	--
	(FTP)	(36)	(36)	(36)	--

Objectives

This program provides management capabilities for renewable resources other than timber that are managed in Western Oregon under the same multiple use principles as those applied to other BLM administered public lands. Range, watershed, and wildlife management programs operate in concert to stabilize and improve public rangeland, soil, watershed, and wildlife habitat. Recreation management activities are directed to developing, managing and conserving recreation resources.

Base Program

The base program funds the following activities in Western Oregon:

- Range Management

  * supervise 156 grazing allotments and maintain 23 rangeland improvements for the benefit of small livestock owners who are presently authorized 24,000 AUM's annual grazing use; and

  * continue to develop the Medford environmental impact statement for grazing started in FY 1981 and scheduled for completion in FY 1983.

- Recreation Management

  * begin studies on three wilderness study areas in FY 1981 and complete in FY 1983;

  * manage Rogue Wild River, Pacific Crest Trail, and 1.0 million visitor use days annually at developed and undeveloped recreation use areas; and

  * protect 104 Cultural and Natural History properties.

- Soil, Water and Air Management

  * conduct water quality activities pursuant to an agreement with the Oregon Department of Environmental Quality; and

  * meet the objectives of the Clean Water Act, Clean Air Act, and executive orders by preparing studies, implementing projects, and monitoring the effectiveness of land use practices to maintain and enhance these resources.

- Wildlife Management

  * supervise 13 habitat management plans, develop 65 wildlife facilities, and improve 4 miles of stream habitat; and

  * maintain wildlife habitat inventory and prepare threatened and endangered species studies to meet the court-ordered timber statements and to facilitate decisions in grazing and energy-leasing areas.

The programs also provide input into the planning system and allowable cut computations.

The proposed distribution of funds in this subactivity for FY 1982 is as follows (dollar amounts in thousands):

Program	FY 1982 Estimate
Range Management	340
Recreation Management	366
Soil, Water, and Air Management	735
Wildlife Management	1,133
Total	$2,574

Activity: 4. Planning and Data Management
Subactivity: A. Planning

(Obligations: dollar amounts in thousands)

		FY 1981 Program	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Requirements	$	750	750	428	-322
	(FTP)	(28)	(28)	(18)	(-10)

Objectives

The basic objective of this planning program is to insure that BLM management programs are properly coordinated with each other, with local and state governments, and with private land owners.

Base Program

The base program provides the capability to review and update Management Framework Plans and Unit Resource Analyses required to meet the environmental impact statement schedule in the National Resource Defense Council court agreement. The procedures for multiple-use planning in Western Oregon are the same as used for resource allocation decisions throughout the Bureau.

Decrease for FY 1982

(Obligations: dollar amounts in thousands)

		1982 Base	1982 Estimate	Decrease
Total Requirements	$	750	428	-322
	(FTP)	(28)	(18)	(-10)

The decrease of $322,000 is based on the reduced level of effort required to monitor 11 land use plans and review their adequacy to meet new requirements such as wilderness studies and energy projects which were not proposed in the original Management Framework Plan for timber EISs.

Object Classification Distribution

The object class detail for this proposed $322,000 decrease is as follows:

Position Title	GS Grade	No.	Actual Salary
Forester	7 thru 11	8	$148,000
Natural Resource Specialist	9	2	37,000
Lapse			-11,200
Permanent positions		10	173,800
Total personnel compensation			173,800
Personnel benefits			17,300
Other services			130,900
TOTAL			-$322,000

Activity: 4. Planning and Data Management
Subactivity: B. Data Management

(Obligations: dollar amounts in thousands)

		FY 1981 Program	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Requirements	$	350	350	151	-199
	(FTP)	(6)	(6)	(6)	--

Objectives

This program provides for the continued development of an information system to operate, coordinate, and control a large volume data base in an effective and efficient manner to support the O&C management program in Western Oregon.

Base Program

The Western Oregon computer operations are an integral part of the BLM plan for Information Systems Management. The program will provide ADP support for 500 timber sale computations, road design, timber bid analysis, timber production classification, monitoring of the Small Business Administration set-aside timber sale program, and for recomputing allowable cut alternatives.

Decrease for FY 1982

(Obligations: dollar amounts in thousands)

		1982 Base	1982 Estimate	Increase
Total Requirements	$	350	151	-199
	(FTP)	(6)	(6)	--

The proposed decrease is due to the completion of a major inventory and data analysis requirement to meet the timber EIS schedule. The funds requested will provide for continuing system design, development, and testing; computer utilization; and ADP equipment leasing in support of O&C resource programs.

Object Classification Distribution

The object class detail for this proposed $199,000 decrease is as follows:

Other Services	-$199,000

Summary of Requirements by Object Class
(Dollar amounts in thousands)

Appropriation: Oregon and California Grant Lands

		1982 Base			1982 Estimate			Inc. (+) or Dec. (-)		
		Posns.	Ave #	Amount	Posns.	Ave #	Amount	Posns.	Ave #	Amount
	Object Class:									
11	Personnel compensation:									
11.1	Permanent positions 1/	834	782	19,179	834	782	19,854	--	--	+675
11.3	Positions other than permanent	562	562	7,063	562	562	7,673	--	--	+610
11.5	Other personnel compensation	--	--	996	--	--	1,026	--	--	+30
	Total personnel compensation	1,396	1,344	27,238	1,396	1,344	28,553	--	--	+1,315
	Other Objects:									
12.1	Civilian personnel benefits			2,019			2,761			+742
21.0	Travel and transportation of persons			383			494			+111
22.0	Transportation of things			950			1,407			+457
23.1	Standard level user charges			1,082			1,525			+443
23.2	Communications, utilities and other rent			668			898			+230
24.0	Printing and reproduction			31			43			+12
25.0	Other services			6,184			6,496			+312
26.0	Supplies and materials			2,114			3,986			+1,872
31.0	Equipment			932			1,274			+342
32.0	Lands and structures			9,394			15,663			+6,269
42.0	Insurance claims and indemnities			5			5			--
	Total requirements			$51,000			$63,105			+$12,105

1/ Average 6.2% lapse.

OREGON AND CALIFORNIA GRANT LANDS

For expenses necessary for management, protection, and development of resources and for construction, operation, and maintenance of access roads, reforestation, and other improvements on the revested Oregon and California Railroad grant lands, on other Federal lands in the Oregon and California land-grant counties of Oregon, and on adjacent rights-of-way; and acquisition of lands or interests therein including existing connecting roads on or adjacent to such grant lands; an amount equivalent to 25 per centum of the aggregate of all receipts during the current fiscal year from the revested Oregon and California Railroad grant lands, to remain available until expended: Provided, That the amount appropriated herein for the purposes of this appropriation on lands administered by the the Forest Service shall be transferred to the Forest Service, Department of Agriculture: Provided further, That the amount appropriated herein for road construction on lands other than those administered by the Forest Service shall be transferred to the Federal Highway Administration, Department of Transportation: Provided further, That the amount appropriated herein is hereby made a reimbursable charge against the Oregon and California land grant fund and shall be reimbursed to the general fund in the Treasury in accordance with the provisions of the second paragraph of subsection (b) of title II of the Act of August 28, 1937 (50 Stat. 876): Provided further, [That not to exceed $58,200,000 available from receipts shall be obligated in fiscal year 1981 for Oregon and California grant lands.] That an appropriation of $10,000,000, out of any monies in the Treasury not otherwise appropriated, shall become available on October 1, 1981, to remain available until expended: Provided further, That not to exceed $63,105,000 may be obligated in fiscal year 1982 for Oregon and California grant lands. (16 U.S.C. 583, 594; 43 U.S.C. 2, 1181a-f; 69 Stat. 374; Public Law 96-514, making appropriations for the Department of the Interior and related agencies, 1981.)

Justification of Proposed Language Change

Deletion: "That not to exceed $58,200,000 available from receipts shall be obligated in fiscal year 1981 for Oregon and California grant lands."

Addition: "That an appropriation of $10,000,000, out of any monies in the Treasury not otherwise appropriated, shall become available on October 1, 1981, to remain available until expended: Provided further, That not to exceed $63,105,000 may be obligated in fiscal year 1982 for Oregon and California grant lands."

Twenty-five percent of the revenue from the revested Oregon and California grant lands is made available for four principal activities on the revested lands, and on other Federal lands in the Oregon and California land grant counties of western Oregon. Because revenues are difficult to project as a result of economic fluctuations in the timber industry, a one time direct appropriation of ten million dollars in 1982 is proposed to permit more orderly program planning and management. This would act as a "cushion" in the event receipts fall below the program obligation level.

74-939 O—80——16

OREGON AND CALIFORNIA GRANT LANDS
Program and Financing (in thousands of dollars)

14-5136-0-2-302	1980 Actual	1981 Estimate	1982 Estimate
Program by activities:			
Direct program:			
1. Construction and acquisition	10,441	7,200	7,465
2. Maintenance	9,520	6,700	7,000
3. Renewable resource management	45,133	43,200	48,061
4. Planning and data management	1,248	1,100	579
Total direct program	66,342	58,200	63,105
Reimbursable program:			
2. Maintenance	1	---	---
Total program costs, funded 1/	66,343	58,200	63,105
Change in selected resources (undelivered orders)	-6,253	---	---
10.00 Total obligations	60,089	58,200	63,105
Financing:			
11.00 Offsetting collections from: Federal funds	-1	---	---
21.40 Unobligated balance available, start of year	-8,834	-2,549	-1,849
22.40 Unobligated balance transferred from other accounts	-5,000	---	---
24.40 Unobligated balance available, end of year	2,549	1,849	11,849
39.00 Budget authority	48,804	57,500	73,105
Budget authority:			
40.00 Appropriation (definite)	---	---	10,000
40.00 Appropriation (indefinite, special fund)	48,804	57,500	63,105

1/ Includes capital investment as follows: 1980, $7,293 thousand; 1981, $7,101 thousand; 1982, $10,588 thousand.

OREGON AND CALIFORNIA GRANT LANDS
Program and Financing (in thousands of dollars)

14-5136-0-2-302		1980 Actual	1981 Estimate	1982 Estimate
Relation of obligations to outlays:				
71.00	Obligations incurred, net.....	60,089	58,200	63,105
72.40	Obligated balance, start of year.....	21,879	19,724	22,924
74.40	Obligated balance, end of year...	-19,724	-22,924	-26,029
90.00	Outlays.....	62,244	55,000	60,000

OREGON AND CALIFORNIA GRANT LANDS
Object Classification (in thousands of dollars)

14-5136-0-2-302	1980 Actual	1981 Estimate	1982 Estimate
Bureau of Land Management			
Direct obligations:			
Personnel compensation:			
11.1 Full-time permanent positions	18,620	17,900	18,575
11.3 Positions other than full-time permanent	7,872	6,800	7,410
11.5 Other personnel compensation	814	900	930
11.9 Total personnel compensation	27,306	25,600	26,915
12.1 Personnel benefits: Civilian	2,670	2,470	2,600
21.0 Travel and transportation of persons	332	360	355
22.0 Transportation of things	1,861	1,200	1,362
23.1 Standard level user charges	1,346	1,400	1,515
23.2 Communications, utilities, and other rent	211	800	828
24.0 Printing and reproduction	31	40	42
25.0 Other services	7,557	5,870	4,308
26.0 Supplies and materials	1,504	2,600	3,832
31.0 Equipment	193	600	660
32.0 Lands and structures	7,100	6,501	9,928
42.0 Insurance claims and indemnities	4	3	4
99.0 Subtotal, direct obligations	50,115	47,444	52,349
Reimbursable obligations:			
32.0 Lands and structures	1	---	---

OREGON AND CALIFORNIA GRANT LANDS
Object Classification (in thousands of dollars)

14-5136-0-2-302		1980 Actual	1981 Estimate	1982 Estimate
ALLOCATION ACCOUNTS				
	Personnel compensation:			
11.1	Full-time permanent positions	998	1,279	1,279
11.3	Positions other than full-time permanent	97	263	263
11.5	Other personnel compensation	45	96	96
11.9	Total personnel compensation	1,140	1,638	1,638
12.1	Personnel benefits: Civilian	144	161	161
21.0	Travel and transportation of persons	189	139	139
22.0	Transportation of things	54	45	45
23.1	Standard level user charges	8	10	10
23.2	Communications, utilities, and other rent	71	70	70
24.0	Printing and reproduction	1	1	1
25.0	Other services	2,391	2,188	2,188
26.0	Supplies and materials	123	154	154
31.0	Equipment	558	614	614
32.0	Lands and structures	5,291	5,735	5,735
42.0	Insurance claims and indemnities	3	1	1
99.0	Subtotal, allocation accounts	9,973	10,756	10,756
99.9	Total obligations	60,089	58,200	63,105
Obligations are distributed as follows:				
Interior - Bureau of Land Management		50,116	47,444	52,349
Agriculture - Forest Service		6,019	4,136	4,058
Transportation - Federal High. Admin.		3,954	6,620	6,698

OREGON AND CALIFORNIA GRANT LANDS
Personnel Summary

14-5136-0-2-302	1980 Actual	1981 Estimate	1982 Estimate
Bureau of Land Management			
Total number of full-time permanent positions	809	809	809
Total compensable workyears:			
Full-time equivalent employment	1,255	1,301	1,319
Full-time equivalent of overtime and holiday hours	33	30	30
Average GS grade	9.63	9.63	9.63
Average GS salary	$22,066	$23,830	$23,830
Average salary of ungraded positions	$23,595	$25,480	$25,480
Allocation Accounts			
Total number of full-time permanent positions	25	25	25
Total compensable workyears:			
Full-time equivalent employment	53	62	62
Full-time equivalent of overtime and holiday hours	4	---	---
Average GS grade	9.63	9.63	9.63
Average GS salary	$22,066	$23,830	$23,830
Average salary of ungraded positions	$23,595	$25,480	$25,480

Appropriation Summary Statement

Appropriation: Range Improvement Fund

This appropriation is derived from grazing fees and certain mineral leasing receipts collected during the previous year. Grazing fees from public lands and Bankhead-Jones Farm Tenant Act lands and mineral leasing receipts from the Farm Tenant Act lands are available for appropriation. When appropriated, the funds are used for rangeland improvements, which is to construct or develop a structure, practice or treatment used to rehabilitate, protect, or improve the public lands, and for maintenance of such structures and treatments.

With passage of the Public Rangeland Improvement Act of 1978, a grazing fee formula was established and took effect on March 1, 1979. PRIA also restricted fee increases or decreases to 25 percent of the previous year's fee. The 1981 grazing fee is $2.31 per animal unit month (AUM). The 1982 Range Improvement Fund is based on a similar estimated fee, which results in little or no change from the $13.5 million estimated in FY 1981.

Summary of Requirements
(dollar amounts in thousands)

Appropriation: Range Improvement Fund

Summary of adjustments to base and built-in changes:	FTP	Amount
Estimated 1981	80	$13,500
Adjustment to base and built-in changes	--	--
1982 Base	80	$13,500

	1980 Actual		1981 Appropriation Enacted To Date		1982 Base		1982 Estimate		Inc.(+) or Dec.(-) Over 1982 Base	
Comparison by activities:	FTP	Amount	FTP	Amount	FTP	Amount	FTP	Amount	FTP	Amount
1. Range Improvements										
A. Public Land	99	9,792	77	12,500	77	12,500	77	12,500	--	--
B. Farm Tenant Act Lands	16	1,263	3	1,000	3	1,000	3	1,000	--	--
Increases									--	--
Total Requirements	115	11,055	80	13,500	80	13,500	80	13,500	--	--

Justification of Program and Performance

Activity: Range Improvement Fund

(Dollar amounts in thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Improvement to Public Lands	$	12,500	12,500	12,500	--
	(FTP)	(77)	(77)	(77)	--
Farm Tenant Act Lands	$	1,000	1,000	1,000	--
	(FTP)	(3)	(3)	(3)	--
Total Requirements	$	13,500	13,500	13,500	--
	(FTP)	(80)	(80)	(80)	--

Authorization

	($000)	
43 U.S.C. 1901 92 Stat. 1803 P.L. 95-514	$10,000	The Public Rangelands Improvement Act of 1978 provides for improving the condition of the public rangelands and establishes a minimum of $10,000,000 annually in this appropriation notwithstanding the level of grazing fees collected.
43 U.S.C. 1701 P.L. 94-579		Under the Federal Land Policy and Management Act of 1976 fifty percent of grazing fees are available for appropriation. Half the appropriated amount is to be spent within the same BLM district which generated grazing receipts; the remaining half may be utilized as the Secretary directs. Use of the funds is limited to on-the-ground rehabilitation, protection, and improvement of grazing lands. This is interpreted to include planning of projects, project construction, and project maintenance, and removal of excess wild horses and burros, but to exclude environmental analysis, land use planning, and grazing administration activities such as issuing licenses or leases.

43 U.S.C. 315 P.L. 73-482	The Taylor Grazing Act of 1934, as amended, provides for: ° construction, purchase, and maintenance of range improvements; and ° the regulation of livestock grazing and improvement of the productive capability of the public range.
7 U.S.C. 1012-1013A 50 Stat. 522 P.L. 75-210	The Farm Tenant Act of 1937 ("Bankhead-Jones Act") provides for management of acquired farm tenant lands and construction and maintenance of range improvements.
30 U.S.C. 355	The Mineral Leasing of Acquired Lands Act provides that all receipts derived from mineral leases shall be paid into the same Treasury accounts for other receipts that make up the Range Improvement Fund.
E.O. 11988 February 10, 1977	Floodplain Management provides for federally funded actions or assistance in construction and improvements involving floodplains.
E.O. 11990 May 24, 1977	Wetlands Protection provides for federally funded actions or assistance in construction and improvements involving wetlands.

Objectives

The objective of the Range Improvement Fund is to rehabilitate, protect, and improve rangeland conditions through seeding and reseeding, soil and vegetation treatments, fence construction, weed control, water development, and enhancement of fish and wildlife habitat.

Base Program

This appropriation finances two activities: (1) improvements to public lands and (2) improvements to lands acquired under the Bankhead-Jones Farm Tenant Act. Except for the land status, the two activities are alike both in objectives and in work accomplished.

Budget authority is established through legislation as 50 percent of the grazing receipts from the previous year. However, passage of the Public Rangeland Improvement Act of 1978 (P.L. 95-514) provided for a minimum appropriation of $10,000,000 for the Range Improvement appropriation. The entire appropriation is used for on-the-ground rangeland improvements. Out of this appropriation, half must be used in the districts from which the fees were collected; the other half may be used for rangeland improvement practices as the Secretary directs. These funds are used to implement grazing management systems, wildlife habitat management systems, and watershed improvement and protection practices. The funds are also used to improve rangeland conditions by maintaining range, watershed, and wildlife projects. Because sustaining or reducing wild horse or burro populations, as determined by land use decisions, is as important to rangeland conditions as improvement projects, this appropriation is also available for round-ups of excess animals and construction or maintenance of round-up facilities.

Accomplishments with the Range Improvement appropriated base funds are as follows:

Workload Measure	1979	1980	1981 a/	1982 Base
Develop				
Water Facilities	341	387	370	355
Miles of Fence	603	459	500	475
Management Facilities	163	121	100	88
Projects Surveyed & Designed	817	1,066	1,080	1,080
Maintain				
Water Facilities	1,629	1,633	1,600	1,590
Miles of Fence	617	848	1,000	975
Management Facilities	175	201	200	140
Easement Acquisition	--	--	82	82

a/ Units of accomplishment are subject to change based on updated planning efforts.

Estimated rangeland improvement costs are not expected to increase sharply in 1982. Material costs are increasing, but construction costs are only slightly increasing due to greater contracting competition. Slight cost increases estimated at 5 percent by 1982 will result in less accomplishments with the same Range Improvement Funds projected for use in 1982.

Summary of Requirements by Object Class
(Dollar amounts in thousands)

Appropriation: Range Improvement Fund

	1982 Base			1982 Estimate			Inc. (+) or Dec. (-)		
	Posns.	Ave #	Amount	Posns.	Ave #	Amount	Posns.	Ave #	Amount
Object Class:									
11 Personnel compensation:									
11.1 Permanent positions 1/	80	74	1,940	80	74	1,940	--	--	--
11.3 Positions other than permanent	189	189	2,310	189	189	2,310	--	--	--
11.5 Other personnel compensation	--	--	130	--	--	130	--	--	--
Total personnel compensation	269	263	4,380	269	263	4,380	--	--	--
Other Objects:									
12.1 Civilian personnel benefits			420			420			
21.0 Travel and transportation of persons			190			190			--
22.0 Transportation of things			400			400			--
25.0 Other services			250			250			--
26.0 Supplies and materials			2,870			2,870			--
31.0 Equipment			400			400			--
32.0 Lands and structures			4,590			4,590			--
Total requirements			$13,500			$13,500			--

1/ Average 7.5% lapse.

BLM-247

RANGE IMPROVEMENTS

For rehabilitation, protection, acquisition of lands and interests therein, and improvement of Federal range lands pursuant to section 401 of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701), sums equal to fifty percent of all monies received during the prior fiscal year under sections 3 and 15 of the Taylor Grazing Act (43 U.S.C. 315, et seq.), but not less than $10,000,000 (43 U.S.C. 1901), and the amount designated for range improvements from grazing fees and mineral leasing receipts from Bankhead-Jones lands transferred to the Department of the Interior pursuant to law, to remain available until expended. (Public Law 96-514 making appropriations for the Department of the Interior and related agencies, 1981.)

RANGE IMPROVEMENTS
Amounts Available for Appropriation (in thousands of dollars)

14-5132-0-2-302	1980 Actual	1981 Estimate	1982 Estimate
Unappropriated balance, start of year...	12,083	14,698	15,919
Collections (offsetting receipts).....	24,602	27,847	29,952
Transferred to general fund receipts....	-7,779	-8,866	-9,526
Transferred to payments to States from grazing receipts, etc., public lands outside grazing districts.....	-1,497	-1,715	-1,895
Transferred to payments to States from grazing receipts, etc., public lands within grazing districts.....	-2,086	-2,545	-2,855
Payments to States from grazing receipts, etc., public lands within grazing districts, miscellaneous.....	-5	---	---
Total available for appropriation...	25,318	29,419	31,595
Appropriation.....	-10,620	-13,500	-13,500
Unappropriated balance, end of year 1/..	14,698	15,919	18,095

1/ Payments to States and the Range improvement fund are derived from statutory percentages of collections in the prior fiscal year.

RANGE IMPROVEMENTS
Program and Financing (in thousands of dollars)

14-5132-0-2-302	1980 Actual	1981 Estimate	1982 Estimate
Program by activities:			
1. Improvements to public lands.....	9,792	12,500	12,500
2. Farm tenant act lands.....	1,263	1,000	1,000
Total program costs, funded 1/.....	11,055	13,500	13,500
Change in selected resources (undelivered orders).....	-339	---	---
10.00 Total obligations.....	10,716	13,500	13,500
Financing:			
21.40 Unobligated balance available, start of year.....	-240	-144	-144
24.40 Unobligated balance available, end of year.....	144	144	144
40.00 Budget authority (appropriation) (indefinite, special fund).....	10,620	13,500	13,500
Relation of obligations to outlays:			
71.00 Obligations incurred, net.....	10,716	13,500	13,500
72.40 Obligated balance, start of year.....	2,635	2,736	2,736
74.40 Obligated balance, end of year...	-2,736	-2,736	-2,736
90.00 Outlays.....	10,616	13,500	13,500

1/ Includes capital investment as follows: 1980, $1,550 thousand; 1981, $4,990 thousand; 1982, $4,990 thousand.

RANGE IMPROVEMENTS
Object Classification (in thousands of dollars)

14-5132-0-2-302		1980 Actual	1981 Estimate	1982 Estimate
	Personnel compensation:			
11.1	Full-time permanent positions	2,535	1,940	1,940
11.3	Positions other than full-time permanent	2,609	2,310	2,310
11.5	Other personnel compensation	148	130	130
11.9	Total personnel compensation	5,292	4,380	4,380
12.1	Personnel benefits: Civilian	516	420	420
21.0	Travel and transportation of persons	215	190	190
22.0	Transportation of things	740	400	400
23.1	Standard level user charges	57	---	---
23.2	Communications, utilities, and other rent	13	---	---
25.0	Other services	1,480	250	250
26.0	Supplies and materials	852	2,870	2,870
31.0	Equipment	184	400	400
32.0	Lands and structures	1,366	4,590	4,590
42.0	Insurance claims and indemnities	1	---	---
99.9	Total obligations	10,716	13,500	13,500

Personnel Summary

14-5132-0-2-302	1980 Actual	1981 Estimate	1982 Estimate
Total number of full-time permanent positions	83	80	80
Total compensable workyears:			
Full-time equivalent employment	284	257	263
Full-time equivalent of overtime and holiday hours	7	7	7
Average GS grade	9.63	9.63	9.63
Average GS salary	$22,066	$23,830	$23,830

Appropriation Summary Statement

Appropriation: Recreation Development and Operation of Recreation Facilities

The Recreation Development and Operation of Recreation Facilities appropriation is derived from user fees collected pursuant to the Land and Water Conservation Fund Act [16 U.S.C. 4601-6a(f)], as amended. The program has been operated in conjunction with recreation funds available under the Acquisition, Construction and Maintenance appropriation; O&C Grant Lands Fund; and the Management of Lands and Resources appropriation.

The Congress, in considering the 1981 budget, abolished the separate recreation accounts that have been maintained for the Bureau of Land Management and other agencies pursuant to the Land and Water Conservation Fund. Beginning in 1981 all recreation user fees will be deposited directly into the Land and Water Conservation Fund.

74-939 O—80——17

Summary of Requirements
(dollar amounts in thousands)

Appropriation: Recreation Development and Operation of Recreation Facilities

Summary of adjustments to base and built-in changes:	FTP	Amount
Appropriation enacted to date, 1981	--	--
Adjustment to base and built-in changes	--	--
1981 Base	--	--

	1980 Actual		1981 Appropriation Enacted to Date		1982 Base		1982 Estimate		Inc.(+) or Dec.(-) Over 1982 Base	
	FTP	Amount	FTP	Amount	FTP	Amount	FTP	Amount	FTP	Amount
Comparison by activities:										
1. Appropriation Total	3	300	--	--	--	--	--	--	--	--
Total Requirements	3	300	--	--	--	--	--	--	--	--

RECREATION DEVELOPMENT AND OPERATION OF RECREATION FACILITIES

This appropriation was eliminated by Public Law 96-514. Special recreation use fees are now deposited into the Land and Water Conservation Fund for appropriation for State grants-in-aid and for Federal land acquisition.

RECREATION DEVELOPMENT AND OPERATION OF RECREATION FACILITIES
Program and Financing (in thousands of dollars)

14-5011-0-2-302	1980 Actual	1981 Estimate	1982 Estimate
Program by activities:			
Development and operation of recreation facilities (program costs, funded)	308	78	---
Change in selected resources (unpaid, undelivered orders)	-53	---	---
10.00 Total obligations	255	78	---
Financing:			
21.40 Unobligated balance available, start of year	-33	-78	---
24.40 Unobligated balance available, end of year	78	---	---
40.00 Budget authority (appropriation) (indefinite, special fund)	300	---	---
Relation of obligations to outlays:			
71.00 Obligations incurred, net	255	78	---
72.40 Obligated balance, start of year	195	52	---
74.40 Obligated balance, end of year	-52	---	---
90.00 Outlays	398	130	---

RECREATION DEVELOPMENT AND OPERATION OF RECREATION FACILITIES
Object Classification (in thousands of dollars)

14-5011-0-2-302	1980 Actual	1981 Estimate	1982 Estimate
Personnel compensation:			
11.1 Full-time permanent positions.....	112	---	---
11.3 Positions other than full-time permanent.....	84	---	---
11.5 Other personnel compensation.....	16	---	---
11.9 Total personnel compensation.....	212	---	---
12.1 Personnel compensation: Civilian.	19	---	---
21.0 Travel and transportation of persons.....	11	---	---
22.0 Transportation of things.....	13	---	---
25.0 Other services.....	---	78	---
99.9 Total obligations.....	255	78	---

Personnel Summary

14-5011-0-2-302	1980 Actual	1981 Estimate	1982 Estimate
Total number of full-time permanent positions.....	3	---	---
Total compensable workyears:			
Full-time equivalent employment.....	11	---	---
Full-time equivalent of overtime and holiday hours.....	1	---	---
Average GS grade.....	9.63	---	---
Average GS salary.....	$22,066	---	---

Appropriation Summary Statement

Appropriation: Service Charges, Deposits, and Forfeitures

This appropriation finances the costs of specific activities by making certain deposits (service charges, performance bonds, damage collections and other fund sources) immediately available to BLM. As established by the Federal Land Policy and Management Act of 1976, the account provides management flexibility and ensures the immediate availablity of funds for activities such as major right-of-way processing. This flexibility and fund availability is particularly important given the unpredictability of the timing and location of right-of-way applications which are by far the largest activity in the appropriation.

A significant portion of the 1982 program will be issuance of oil and gas pipelines right-of-way permits under Title I of the 1973 Amendments to the Mineral Leasing Act of 1920. That title provides authority to the Secretary of the Interior to process and issue permits for oil and gas pipeline rights-of-way which cross lands administered by two or more federal agencies. Processing applications and monitoring construction and operations for about 100 right-of-way projects including the Trans-Alaska pipeline, other oil and gas pipelines, electric transmission lines, transmission lines, railroad extensions, and water delivery systems will also continue.

In addition to right-of-way processing and repair of damage lands, this budget proposes to continue to finance certain costs of BLM's Adopt-a-Horse Program through this account.

Summary of Requirements
(dollar amounts in thousands)

Appropriation: Service Charges, Deposits and Forfeitures

Summary of adjustments to base and built-in changes:	FTP	Amount
Appropriation Enacted to date, 1981	93	9,600
Adjustment to base and built-in changes 1/	--	--
1982 Base	93	9,600

	1980 Actual		1981 Appropriation Enacted To Date		1982 Base		1982 Estimate		Inc.(+) or Dec.(-) Over 1982 Base	
Comparison by activities:	FTP	Amount	FTP	Amount	FTP	Amount	FTP	Amount	FTP	Amount
1. Expenses, Cost Recoverable										
A. Rights-of-Way	92	6,338	92	8,250	92	8,250	92	8,250	--	--
B. Adopt-A-Horse	--	444	--	500	--	500	--	900	--	+400
Subtotal	92	6,782	92	8,750	92	8,750	92	9,150	--	+400
2. Repair of Damaged Lands										
Subtotal	3	140	1	850	1	850	1	850	--	--
3. (Common Program Services)	(7)	(680)	(7)	(680)	(7)	(680)	(7)	(680)	--	--
Increases										
Total Requirements	95	6,922	93	9,600	93	9,600	93	10,000	--	+400

1/ Budget authority for this account is an indefinite appropriation; the estimate of the appropriation is based on anticipated receipts from performance bonds and deposits and from cost reimbursements. The estimates for 1981 and 1982 include $295,000 in increased costs resulting from the October 1980 civilian (GS) pay increase; the additional costs will be recovered through increased service charges and deposits as required.

Justification of Program and Performance

Activity: Expenses, Cost Recoverable Activities
Subactivity: A. Rights-of-Way Processing

(Dollar amounts in thousands)

		1981 Appropriation Enacted to Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Subactivity Requirements	$	8,250	8,250	8,250	--
	(FTP)	(92)	(92)	(92)	--

Authorization

43 U.S.C. 1734-35, 1764 90 Stat. 2778 P.L. 94-579	The Federal Land Policy and Management Act of 1976 authorizes collection of service charges, performance bonds, damage collections, and deposits to finance the costs of certain activities.
30 U.S.C. 18 67 Stat. 557 P.L. 153	The Trans-Alaska Pipeline Act of 1973 (Section 101) amended the Mineral Leasing Act of 1920 to authorize rights-of-ways for oil, gas, and other fuels. It further authorized the Secretary to issue rights-of-way and other land use authorizations related to the Trans-Alaska Pipeline. Right-of-way applicants and permittees are to reimburse the United States for all costs associated with processing applications and monitoring pipeline construction and operations.
15 U.S.C. 719 90 Stat. 2912 P.L. 92-195	The Alaska Natural Gas Transportation Act of 1976 authorizes the granting of certificates, rights-of-way permits, and leases.
42 U.S.C. 4321 (4331-4335, 4341-4347) P.L. 91-190	The National Environmental Policy Act of 1969 requires preparation of environmental impact statements for federal projects that will have a significant effect on the environment.

Objectives

The objective of this subactivity is to process applications, issue permits, and monitor construction involved with the operation and termination of cost recoverable rights-of-way over public lands (as authorized by the Federal Land Policy and Management Act of 1976 and the 1973 amendment to the Mineral Leasing Act of 1920). Financing is obtained from advanced deposits made by applicants and permittees. Only those costs incurred as a direct result of the filing of an application or issuing of a right-of-way permit and which facilitate processing, monitoring or termination of such are charged against the individual project.

Base Program

This activity was initially proposed in the FY 1978 budget request to accommodate the continuing workload associated with granting rights-of-way. It was actually established in the Supplemental Appropriations Act of 1977 (P.L. 95-26) to accommodate work to be performed on behalf of the Northern Tier Oil and Gas Pipeline right-of-way application. The work associated with issuing right-of-way permits includes preliminary analysis, environmental analysis and impact statements, permit issuance, and compliance monitoring.

Upon receipt of an application for a right-of-way, BLM furnishes the applicant with an estimate of the cost of processing the application up to the point of permit issuance or rejection. Periodic advance deposits are requested to finance the costs of processing. At the time of permit issuance or rejection of the application, any unused deposits are refunded to the applicant or credited against deposit requirements for construction monitoring. Once a permit is issued or about to be issued, a similar procedure for deposit is followed in the monitoring of facility construction and the supervising of operations and maintenance functions where the nature of the project warrants it.

Activity: Expenses, Cost Recoverable Activities
Subactivity: B. Adopt-a-Horse Program

(Dollar amounts in thousands)

		1981 Appropriation Enacted to Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Adopt-a-Horse Program	$	500	500	900	+400
	(FTP)	(--)	(--)	(--)	--

Authorization

43 U.S.C. 1734-35, 1764 90 Stat. 2778 P.L. 94-579	The Federal Land Policy and Management Act of 1976 authorizes collection of service charges, performance bonds, damage collections, and deposits to finance the costs of certain activities.
16 U.S.C. 1331-1340 P.L. 92-195	The Wild Free-Roaming Horse and Burro Act of 1971 authorizes "adoption" of wild horses and burros by private individuals under cooperative agreements with the government.
42 U.S.C. 4321 (4331-4335, 4341-4347) P.L. 91-190	The National Environmental Policy Act of 1969 requires preparation of environmental impact statements for federal projects that will have a significant effect on the environment.
43 U.S.C. 1901 92 Stat. 1803 P.L. 95-514	The Public Rangelands Improvement Act of 1978 facilitates the humane adoption or disposal of excess wild free-roaming horses and burros.

Objectives

The objectives of the Adopt-a-Horse Program are to provide for the adoption of excess wild horses and burros by qualified private parties under cooperative agreements and to recover the associated transportation, veterinary, and animal maintenance costs from persons adopting the animals.

Base Program

This subactivity was established in the 1978 budget as proposed under the authority of Section 304 of the Federal Land Policy and Management Act of 1976. Under the Wild Free Roaming Horse and Burro Act of 1971 (Public Law 92-195), the Bureau of Land Management has been capturing excess wild horses and burros on public lands in the West. The primary means of disposing of these animals is by making them available for "adoption" by private parties. A major stumbling block in the adoption operation has been the location

of interested and qualified persons in relation to the location of the horses and burros after capture. There is no shortage of applicants; only a shortage of applicants willing to travel the long distances to adopt a horse or burro, and then transport it to their residence or stable. For example, earlier procedures required a qualified applicant in the east to travel to a western state such as California or Nevada to adopt a wild horse. The result of this practice is a long average holding time of the animals and attendant high costs to the Bureau and the applicant, assuming one is available.

The Bureau's dilemma in its Adopt-a-Horse Program can be resolved at a reduced overall cost to the federal government as well as to the adopter through use of authority available in Section 304 of the Federal Land Policy and Management Act of 1976. This authority permits the Bureau to charge applicants for the cost of transporting horses and burros to a more convenient pick-up point as well as other related processing costs.

The Bureau has established wild horse and burro adoption centers in Washington, Oregon, Texas, and Tennessee. These centers are normally operated by private parties under contract with the Bureau. Wild horses and burros are shipped to these centers from the point of capture after certain required brand inspection and health examination procedures are completed. The Bureau furnishes lists of qualified applicants to the centers. The centers notify applicants when horses or burros are available. When applicants arrive to take custody of an animal, they are required to pay actual costs of transportation, cost of required veterinary services, and a fixed fee estimated at $30 per head to compensate the Bureau for the contract costs of operating the center. The total amount to be paid by applicants will vary based on distance, but is expected to average not more than $150. It is anticipated that most serious applicants are willing to pay costs in this range. Applicants still have the option of picking up an animal at one of the nine major holding corrals and thereby avoid a direct charge for these services. In FY 1982, it is estimated that 11,200 excess wild horses and burros will be removed from the public land and placed with adopters.

Increase for 1982

	(Dollar amounts in thousands)		
Adopt-a-Horse Program	1982 Base	1982 Estimate	Increase
($)	500	900	+400
(FTP)	--	--	--

We estimate that of the 10,500 excess horses and burros to be removed from public land at a fee of $150, 6,000 excess animals would be placed with adopters. If the fee was raised to $450, we estimate there would be approximately 2,000 adopters.

Object Classification Distribution

The object class detail for the $400,000 increase is as follows:

Other Services	+$400,000
Total	+$400,000

Activity: Repair of Damaged Lands

(Dollar amounts in thousands)

		1981 Appropriation Enacted to Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Activity	$	850	850	850	--
Requirements	(FTP)	(1)	(1)	(1)	--

Authorization

43 U.S.C. 1734-35, 1764 90 Stat. 2778 P.L. 94-579	The Federal Land Policy and Management Act of 1976 authorizes collection of service charges, performance bonds, damage collections, and deposits to finance the costs of certain activities.
42 U.S.C. 4321 (4331-4335, 4341-4347) P.L. 91-190	The National Environmental Policy Act of 1969 requires preparation of environmental impact statements for federal projects that will have a significant effect on the environment.

Objectives

The objective of this activity is to rehabilitate lands damaged by users who do not fulfill the requirements of contracts or permits.

Base Program

The Federal Land Policy and Management Act of 1976 authorizes the collection of deposits and performance bonds from resource developers, purchasers, or permittees. It further authorizes the use of these funds to provide improvements, protection, or rehabilitation work on the public lands made necessary by actions of those users.

It is estimated that $850,000 in forfeited bonds and deposits will be used in both 1981 and 1982 to correct damages to public lands caused by contract or permit holders or to repair improvements and facilities damaged by such holders.

Summary of Requirements by Object Class
(Dollar amounts in thousands)

Appropriation: Service Charges, Deposits and Forfeitures

	1982 Base			1982 Estimate			Inc. (+) or Dec. (-)		
	Posns.	Ave #	Amount	Posns.	Ave #	Amount	Posns.	Ave #	Amount
Object Class:									
11.1 Permanent positions	93	87	2,460	93	87	2,460	--	--	--
11.3 Positions other than permanent	--	32	490	--	32	490	--	--	--
11.5 Other personnel compensation	--	4	110	--	4	110	--	--	--
Total personnel compensation	93	123	3,060	93	123	3,060	--	--	--
Other Objects:									
12.1 Civilian personnel benefits			440			440			--
21.0 Travel and transportation of persons			660			660			--
22.0 Transportation of things			415			415			--
23.2 Communications, utilities and other rent			60			60			--
24.0 Printing and reproduction			500			500			--
25.0 Other services			4,285			4,685			+ 400
26.0 Supplies and materials			160			160			--
31.0 Equipment			20			20			--
Total requirements			$ 9,600			$10,000			+ 400

BLM-264

SERVICE CHARGES, DEPOSITS, AND FORFEITURES

For administrative expenses and other costs related to processing application documents and other authorizations for use and disposal of public lands and resources, for monitoring construction, operation, and termination of facilities in conjunction with use authorizations, and for rehabilitation of damaged property, such amounts as may be collected under sections 304(a), 304(b), 305(a), and 504(g) of the Act approved October 21, 1976 (43 U.S.C. 1701); and sections 101 and 203 of Public Law 93-153, to be immediately available until expended. (Public Law 96-514, making appropriations for the Department of the Interior and related agencies, 1981.)

SERVICE CHARGES, DEPOSITS, AND FORFEITURES
Program and Financing (in thousands of dollars)

14-5017-0-2-302	1980 Actual	1981 Estimate	1982 Estimate
Program by activities:			
1. Expenses, cost-recoverable applications	6,782	8,750	9,150
2. Repair of lands and facilities	140	850	850
Total program costs, funded	6,922	9,600	10,000
Change in selected resources (undelivered orders)	-116	---	---
10.00 Total obligations 1/	6,806	9,600	10,000
Financing:			
21.40 Unobligated balance available, start of year	-773	-69	-69
24.40 Unobligated balance available, end of year	69	69	69
40.00 Budget authority (appropriation) (indefinite, special fund)	6,102	9,600	10,000
Relation of obligations to outlays:			
71.00 Obligations incurred, net	6,806	9,600	10,000
72.40 Obligated balance, start of year	779	911	1,011
74.40 Obligated balance, end of year	-911	-1,011	-1,111
90.00 Outlays	6,674	9,500	9,900

1/ Includes capital investment as follows: 1980, $14 thousand; 1981, $20 thousand; 1982, $20 thousand.

SERVICE CHARGES, DEPOSITS, AND FORFEITURES
Object Classification (in thousands of dollars)

14-5017-0-2-302		1980 Actual	1981 Estimate	1982 Estimate
	Personnel compensation:			
11.1	Full-time permanent positions	2,546	2,460	2,460
11.3	Positions other than full-time permanent	376	490	490
11.5	Other personnel compensation	56	110	110
11.9	Total personnel compensation	2,978	3,060	3,060
12.1	Personnel benefits: Civilian	475	440	440
21.0	Travel and transportation of persons	372	660	660
22.0	Transportation of things	200	415	415
23.1	Standard level user charges	63	---	---
23.2	Communications, utilities, and other rent	20	60	60
24.0	Printing and reproduction	217	500	500
25.0	Other services	2,383	4,285	4,685
26.0	Supplies and materials	84	160	160
31.0	Equipment	3	20	20
32.0	Lands and structures	11	---	---
99.9	Total obligations	6,806	9,600	10,000

Personnel Summary

14-5017-0-2-302	1980 Actual	1981 Estimate	1982 Estimate
Total number of full-time permanent positions	93	93	93
Total compensable workyears:			
Full-time equivalent employment	122	118	119
Full-time equivalent of overtime and holiday hours	2	2	2
Average GS grade	9.63	9.63	9.63
Average GS salary	$22,066	$23,830	$23,830

Appropriation Summary Statement

Appropriation: Miscellaneous Permanent Appropriations

This appropriation accounts for shared receipts that BLM collects from the sale, lease, or use of public lands and resources and shares with states and counties. BLM distributes these funds in accordance with various laws that specify what percentages are to be paid and, in some cases, how the states and counties must use these funds.

This account also provides for the permanent appropriation of funds collected from commercial road users on roads maintained by the Bureau in lieu of user maintenance. This is normally applicable to roads subject to heavy, continuous use involving several users at a time such as main-line timber access roads in Western Oregon. The funds are permanently appropriated by statute and, therefore, do not require an annual appropriation.

The following activities are included within the total appropriation:

1. Leasing of grazing lands.
2. Payments to Oklahoma, royalties
3. Payments to Coos and Douglas Counties, Oregon, receipts from Coos Bay Wagon Road grant lands.
4. Payments to counties, Oregon and California grant lands.
5. Payments to states (proceeds of sales).
6. Payments to states from grazing receipts, etc., public land outside grazing districts.
7. Payments to states from grazing receipts, etc., public lands within grazing districts.
8. Payments to states from grazing receipts, etc., public lands within grazing districts, miscellaneous.
9. Payments to states from receipts under the Mineral Leasing Act.
10. Payments to counties, national grasslands.
11. Expenses, road maintenance deposits.

74-939 O—80——18

Summary of Requirements
(dollar amounts in thousands)

Appropriation: Miscellaneous Permanent Appropriations

Summary of adjustments to base and built-in changes:	Permanent Positions	Amount
Estimate, 1981	---	$457,200
Adjustment to base and built-in changes	---	---
1982 Base	---	$457,200

	1980 Actual		1981 Estimate 1/		1982 Base		1982 Estimate 1/		Inc. (+) or Dec. (-) Over 1982 Base	
	Perm. Posn.	Amount	Perm. Posn.	Amount	Perm. Posn.	Amount	Perm. Posn.	Amount	Perm. Posn.	Amount
Comparison by activities:										
1. Leasing of grazing lands	--	2	--	2	--	2	--	2	--	--
2. Payments to Oklahoma (royalties)	--	24	--	8	--	8	--	8	--	--
3. Payments to Coos and Douglas counties, Oregon, Coos Bay Wagon Road grant lands	--	523	--	603	--	603	--	500	--	-103
4. Payments to counties, Oregon and California grant lands	--	96,774	--	97,607	--	97,607	--	115,000	--	+17,393
5. Payments to States (proceeds of sales)	--	1,056	--	748	--	748	--	800	--	+52
6. Payments to States from grazing receipts, etc., public lands outside of grazing districts	--	1,497	--	1,715	--	1,715	--	1,895	--	+180
7. Payments to States from grazing receipts etc., public lands within grazing districts	--	2,086	--	2,545	--	2,545	--	2,855	--	+310
8. Payments to States from grazing receipts etc., public lands within grazing districts miscellaneous	--	5	--	0	--	0	--	0	--	--
9. Payments to States from receipts under Mineral Leasing Act	--	267,963	--	350,329	--	350,329	--	454,058	--	+103,729
10. Payments to counties, National grasslands	--	608	--	643	--	643	--	682	--	+39
11. Expenses, road maintenance deposits	--	3,389	--	3,000	--	3,000	--	3,000	--	--
	--	373,927	--	457,200	--	457,200	--	578,800	--	+121,600

1/ Estimates of the appropriation are, in part, based upon anticipated receipts and collections; some may vary from the estimate depending upon actual receipts or collections received.

Justification of Program and Performance

Activity: 1. Leasing of Grazing Lands

(Dollar amounts in thousands)

		FY 1981 Estimated	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Activity Requirements	$	2	2	2	--
	(FTP)	(--)	(--)	(--)	--

In accordance with 43 U.S.C. 315m; State, county and privately owned grazing lands that are intermingled with public grazing lands are managed on a leased basis within the limits of receipts from such arrangements. The estimate of $2,000 for FY 1982 is the same as the FY 1981 level.

Activity: 2. Payments to Oklahoma (royalties)

(Dollar amounts in thousands)

		FY 1981 Estimated	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Activity Requirements	$	8	8	8	--
	(FTP)	(--)	(--)	(--)	--

In accordance with 65 Stat. 252, the State of Oklahoma is paid 37 1/2% of the Red River oil and gas royalties in lieu of State and local taxes in Kiowa, Comanche and Apache Tribal lands. These lands are to be used for construction and maintenance of public roads and support of public schools. The estimate of $8,000 for FY 1982 is the same as the FY 1981 level.

Activity: 3. Payments to Coos and Douglas Counties, Oregon, for Coos Bay Wagon Road Grant Lands

(Dollar amounts in thousands)

		FY 1981 Estimated	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Activity Requirements	$	603	603	500	-103
	(FTP)	(--)	(--)	(--)	--

In accordance with 53 Stat. 753-754; out of receipts from the Coos Bay Wagon Road Grant Lands in Oregon, payments in lieu of taxes are made to Coos and Douglas counties, Oregon. These payments are used for schools, roads, highways, bridges, and port districts and are paid at the same ad valorem tax rate as private lands.

Decrease for 1982

	1982 Base	1982 Estimate	Decrease
$	603	500	-103
(FTP)	(--)	(--)	--

It is estimated that payments to Coos and Douglas counties will be decreased by $103,000 due to an estimated decrease in receipts.

Activity: 4. Payments to Counties, Oregon and California (O&C) Grant Lands

(Dollar amounts in thousands)

		FY 1981 Estimate	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Activity Requirements	$	97,607	97,607	115,000	+17,393
	(FTP)	(--)	(--)	(--)	--

In accordance with 39 Stat. 218 and 50 Stat. 876 as modified by annual appropriations acts (O&C Grant Land Fund); fifty (50) percent of the receipts of Oregon and California grant land funds are paid to the counties in which the lands are situated, to be used as other county funds.

Increase for 1982

	1982 Base	1982 Estimate	Increase
$	97,607	115,000	+17,393
(FTP)	(--)	(--)	--

It is estimated that payments to Oregon counties will be increased $17,393,000 due to increased FY 1981 receipts from O&C Grant Lands.

Activity: 5. Payments to States (proceeds of sales)

(Dollar amounts in thousands)

		FY 1981 Estimate	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Activity Requirements	$	748	748	800	+52
	(FTP)	(--)	(--)	(--)	--

In accordance with 31 U.S.C. 711; the States are paid five (5) percent of the net proceeds or four (4) percent of gross proceeds from the sale of public land and public land products.

Increase for 1982

	1982 Base	1982 Estimate	Increase
$	748	800	+52
(FTP)	(--)	(--)	--

It is estimated that payments to States will be increased $52,000 due to increased FY 1981 receipts from the sale of public land and public land products.

Activity: 6. Payments to States from grazing receipts, etc., public lands outside grazing districts

(Dollar amounts in thousands)

		FY 1981 Estimate	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Activity Requirements	$	1,715	1,715	1,895	+180
	(FTP)	(--)	(--)	(--)	--

In accordance with 43 U.S.C. 315i and 315m; the States are paid fifty (50) percent of the grazing fee receipts from public lands outside grazing districts.

Increase for 1982

	1982 Base	1982 Estimate	Increase
$	1,715	1,895	+180
(FTP)	(--)	(--)	--

It is estimated that payments to States will be increased $180,000 due to increased FY 1981 grazing fee receipts from public lands outside formal grazing districts.

Activity: 7. Payments to States from grazing receipts, etc., public lands within grazing districts

(Dollar amounts in thousands)

		FY 1981 Estimate	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Activity Requirements	$	2,545	2,545	2,855	+310
	(FTP)	(--)	(--)	(--)	--

In accordance with 43 U.S.C. 315b and 315i; the States are paid twelve and one-half (12 1/2) percent of grazing fee receipts from lands within organized grazing district boundaries.

Increase for 1982

	1982 Base	1982 Estimate	Increase
$	2,545	2,855	+310
(FTP)	(--)	(--)	--

It is estimated that payments to States will be increased $310,000 due to increased FY 1981 grazing fee receipts from public lands within grazing districts.

Activity: 8. Payments to States from grazing receipts, etc., public lands within grazing districts, miscellaneous

(Dollar amounts in thousands)

		FY 1981 Estimate	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Activity Requirements	$	--	--	--	--
	(FTP)	(--)	(--)	(--)	--

In accordance with 43 U.S.C. 315; the States are paid specifically determined amounts from grazing fee receipts from miscellaneous lands within grazing districts when payment is not feasible on a percentage basis. The estimate zero for FY 1982 is the same as the FY 1981 level.

Activity: 9. Payments to States from receipts under Mineral Leasing Act

(Dollar amounts in thousands)

		FY 1981 Estimate	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Activity Requirements	$	350,329	350,329	454,058	+103,729
	(FTP)	(--)	(--)	(--)	--

In accordance with 30 U.S.C. 191, all States except Alaska are paid fifty (50) percent of the receipts from bonuses, royalties, and rentals resulting from the lease of mineral resources; and from leases of potash deposits on public lands in accordance with 30 U.S.C. 285. Alaska is paid 90% of their receipts remaining after payments are made to Alaska natives under the Alaska Native Claim Settlement Act; 43 U.S.C. 1616.

Increase for 1982

	1982 Base	1982 Estimate	Increase
$	350,329	454,058	+103,729
(FTP)	(--)	(--)	--

It is estimated that payments to States will be increased $103,729,000 due to increased Mineral Leasing receipts in the last half of FY 1981 and the first half of 1982. The increased estimate is attributable primarily to expanded revenues in oil and gas, geothermal, and coal.

Activity: 10. Payments to counties, National Grasslands

(Dollar amounts in thousands)

		FY 1981 Estimate	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Activity Requirements	$	643	643	682	+39
	(FTP)	(--)	(--)	(--)	--

In accordance with 7 U.S.C. 1012; of the revenues received from the use of national grasslands, twenty-five (25) percent is paid to the counties in which such land is situated. These funds are used for school and road purposes.

Increase for 1982

	1982 Base	1982 Estimate	Increase
$	643	682	+39
(FTP)	(--)	(--)	--

It is estimated that payments to counties will be increased by $39,000 due to increased receipts.

Activity: 11. Road Maintenance Deposits

(Dollar amounts in thousands)

		FY 1981 Estimate	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Activity Requirements	$	3,000	3,000	3,000	--
	(FTP)	(--)	(--)	(--)	--

Public Law 94-579 approved October 21, 1976, provides for the permanent appropriation of funds collected from commercial road users on roads maintained by the Bureau in lieu of user maintenance. This is normally applicable to roads subject to heavy, continuous use involving several users at a time such as mainline timber access roads in Western Oregon. Monies collected on Oregon and California grant lands are available for those lands only (43 U.S.C. 1701 etc. seq.). No increases or decreases are estimated in this subactivity during FY 1982.

Summary of Requirements by Object Class
(Dollar amounts in thousands)

Appropriation: Miscellaneous Permanent

	1982 Base			1982 Estimate			Inc.(+) or Dec.(-)		
	Pos.	Avg. No.	Amount	Pos.	Avg. No.	Amount	Pos.	Avg. No.	Amount
Other Objects:									
25.0 Other Services.....	---	---	2,400	---	---	2,500	---	---	---
41.0 Grants, subsidies, and contributions	---	---	454,800	---	---	576,300	---	---	+121,600
Total Requirements	---	---	457,200			578,800			+121,600

BLM-277

MISCELLANEOUS PERMANENT APPROPRIATIONS
Program and Financing (in thousands of dollars)

14-9921-0-2-999	1980 Actual	1981 Estimate	1982 Estimate
Program by activities:			
1. Leasing of grazing lands	2	2	2
2. Payments to Oklahoma (royalties)	24	8	8
3. Payments to Coos and Douglas Counties, Oregon, from receipts Coos Bay Wagon Road Grant lands	523	603	500
4. Payments to counties, Oregon and California grant lands	96,774	97,607	115,000
5. Payments to States (proceeds of sales)	1,056	748	800
6. Payments to States from grazing receipts, etc., public lands outside grazing districts	1,497	1,715	1,895
7. Payments to States from grazing receipts, etc., public lands within districts	2,086	2,545	2,855
8. Payments to States from grazing receipts, etc., public lands within grazing districts, miscellaneous	5	---	---
9. Payments to States from receipts under Mineral Leasing Act	267,963	350,329	454,058
10. Payments to counties, national grasslands	608	643	682
11. Expenses, road maintenance deposits	3,389	3,000	3,000
Total program costs, funded	373,927	457,200	578,800
Change in selected resources (undelivered orders)	357	---	---
10.00 Total obligations	374,284	457,200	578,800
Financing:			
21.40 Unobligated balance available, start of year	-383	-58	-58
24.40 Unobligated balance available, end of year	58	58	58
60.00 Budget authority (appropriation) (permanent, indefinite, special fund)	373,959	457,200	578,800

MISCELLANEOUS PERMANENT APPROPRIATIONS
Program and Financing (in thousands of dollars)

14-9921-0-2-999	1980 Actual	1981 Estimate	1982 Estimate
Budget authority is distributed as follows:			
Leasing of grazing lands (receipt limitations)	1	2	2
Payments to Oklahoma (royalties)	24	8	8
Payments to Coos and Douglas Counties, Oregon, from receipts Coos Bay Wagon Road grant lands	523	603	500
Payments to counties, Oregon and California grant lands	96,774	97,607	115,000
Payments to States (proceeds of sales) (receipt limitations)	1,056	748	800
Payments to States from grazing receipts, etc., public lands outside grazing districts	1,497	1,715	1,895
Payments to States from grazing receipts, etc., public lands within grazing districts	2,086	2,545	2,855
Payments to States from grazing receipts, etc., public lands within districts, miscellaneous	5	---	---
Payments to States from receipts under Mineral Leasing Act	267,964	350,329	454,058
Payments to counties, national grass-lands	608	643	682
Expenses, road maintenance deposits	3,421	3,000	3,000
Relation to obligations to outlays:			
71.00 Obligations incurred, net	374,284	457,200	578,800
72.40 Obligated balance, start of year	2,898	4,255	4,255
74.40 Obligated balance, end of year	-4,255	-4,255	-4,255
90.00 Outlays	372,927	457,200	578,800

MISCELLANEOUS PERMANENT APPROPRIATIONS
Program and Financing (in thousands of dollars)

14-9921-0-2-999	1980 Actual	1981 Estimate	1982 Estimate
Distribution of outlays by account:			
Leasing of grazing lands (receipt limitations)	2	2	2
Payments to Oklahoma (royalties)	24	8	8
Payments to Coos and Douglas Counties, Oregon, from receipts Coos Bay Wagon Road grant lands	523	603	500
Payments to counties, Oregon and California grant lands	96,774	97,607	115,000
Payments to States (proceeds of sales) (receipts limitation)	921	748	809
Payments to States from grazing receipts, etc., public lands outside grazing districts	1,393	1,715	1,895
Payments to States from grazing receipts, etc., public lands within grazing districts	2,019	2,545	2,855
Payments to States from grazing receipts, etc. public lands within districts, miscellaneous	5	---	---
Payments to States from receipts under Mineral Leasing Act	267,968	350,329	454,058
Payments to counties, national grass-lands	608	643	682
Expenses, road maintenance deposits	2,690	3,000	3,000

Object Classification (in thousands of dollars)

14-9921-0-2-999		1980 Actual	1981 Estimate	1982 Estimate
11.1	Personnel compensation: Full-time permanent positions	5	---	---
25.0	Other services	3,371	2,400	2,500
41.0	Grants, subsidies, and contributions	370,908	454,800	576,300
99.9	Total obligations	374,284	457,200	578,800

Appropriation Summary Statement

Appropriation: Miscellaneous Trust Funds

This appropriation includes two trust accounts:

Land and Resource Management Fund - Monies in this trust fund are derived from administrative and survey costs paid by applicants for conveyance of lands omitted in original surveys, advances for other types of surveys and conveyances (including mineral conveyances) requested by individuals, and contributions for conservation practices, acquisition, protection, and other purposes.

Trustee Funds, Alaska Townsites - Monies in this fund are derived from the sale of Alaska town lots and are available for the expenses of sale and maintenance of townsites.

Of $700,000 in Budget Authority proposed for FY 1982, $600,000 will become available through indefinite permanent appropriations which do not require Congressional approval, and $100,000 will become available through indefinite current appropriations. The latter amount covers revenues received for unsurveyed islands and surveys of omitted lands, administrative costs of conveyance and gifts and donations.

Summary of Requirements

(dollar amounts in thousands)

Appropriation: Miscellaneous Trust Funds

Summary of adjustments to base and built-in changes:	FTP	Amount
Appropriation enacted to date 1981	3	700
Adjustment to base and built-in changes	--	--
1982 Base	3	700

	1980 Actual		1981 Appropriation Enacted to Date		1982 Base		1982 Estimate		Inc.(+) or Dec.(-) Over 1982 Base	
	FTP	Amount	FTP	Amount	FTP	Amount	FTP	Amount	FTP	Amount
Comparison by activities:										
1. Land and resource management trust fund	8	1,223	3	699	3	699	3	699	--	--
2. Trustee funds, Alaska townsites	--	1	--	1	--	1	--	1	--	--
Increases	--	--	--	--	--	--	--	--	--	--
Total Requirements	8	1,224	3	700	3	700	3	700	--	--

Justification of Program and Performance

Activity: Lands and Resource Management Trust Funds

		1981 Appropriation Enacted To Date	(Dollar amounts in thousands) FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Requirements	$	699	699	699	--
	(FTP)	(3)	(3)	(3)	--

Authorization

43 U.S.C. 1701, 1721 P.L. 94-579	The Federal Land Policy and Management Act of 1976 provides for the acceptance of money or services for the survey of omitted lands that states or their political subdivisions have requested under the Recreation and Public Purposes Act (44 Stat. 741 as amended). In addition, it provides for a deposit by applicants seeking conveyance of lands omitted from earlier survey as well as payment of administrative costs and the fair market value for the minerals conveyed under the authority of 43 U.S.C. 1719.
43 U.S.C. 315 P.L. 73-482	The Taylor Grazing Act of 1934, as amended, provides for contributions for range improvement purposes.
31 U.S.C. 711 12 Stat. 410 43 U.S.C. 1737 90 Stat. 2766	The Permanent Appropriations Act of May 30, 1862 and the Federal Land Policy and Management Act of 1976 provide for advances to pay costs of public survey work, including survey and conveyance costs of omitted lands.

Objectives

This program provides public services such as cadastral surveys, conservation practices, and acquisition and protection of resources. These activities are financed by gifts and contributions.

Base Program

This program provides for reimbursed surveys and various other activities to enhance and protect natural resources and wildlife habitats. No change in the program level or in the objectives of the activity is expected in FY 1982.

Activity: Trustee Fund, Alaska Townsites

(Dollar amount in thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Total Requirements	$	1	1	1	--
	(FTP)	(--)	(--)	(--)	--

Authorization

31 U.S.C. 725s	This act provides that all monies accruing in this fund are to be appropriated and distributed in compliance with the terms of the trust.

Objectives

This activity pays for the expenses of maintenance and sale of Alaska townsites, as provided by law. The activity is financed from the sale of town lots.

74-939 O—80——19

Summary of Requirements by Object Class
(Dollar amounts in thousands)

Appropriation: Miscellaneous Trust Funds

Object Class	1982 Base Pos.	1982 Base Avg. No.	1982 Base Amount	1982 Estimate Pos.	1982 Estimate Avg. No.	1982 Estimate Amount	Inc.(+) or Dec.(-) Pos.	Inc.(+) or Dec.(-) Avg. No.	Inc.(+) or Dec.(-) Amount
11. Personnel Compensation:									
11.1 Permanent Positions 1/	3	3	112	3	3	112	--	--	--
11.3 Positions Other-Than-Permanent	--	19	190	--	19	190	--	--	--
11.5 Other Personnel Compensation	--	1	10	--	1	10	--	--	--
Total Personnel Compensation	3	23	312	3	23	312	--	--	--
Other Objects:									
12.1 Civilian Personnel Benefits			31			31			--
21.0 Travel and Transportation of Persons			13			14			+1
22.0 Transportation of Things			13			14			+1
23.2 Communications, Utilities and Other Rent			20			22			+2
25.0 Other Services			71			71			--
26.0 Supplies and Materials			130			126			-4
31.0 Equipment			10			10			--
32.0 Lands and Structures			100			100			--
Total Requirements			700			700			--

1/ No lapse anticipated for this appropriation.

BLM-285

TRUST FUNDS

MISCELLANEOUS TRUST FUNDS

In addition to amounts authorized to be expended under existing law, there is hereby appropriated such amounts as may be contributed under section 307 of the Act of October 21, 1976 (43 U.S.C. 1701), and such amounts as may be advanced for administrative costs, surveys, appraisals, and costs of making conveyances of omitted lands under section 211(b) of that Act. (43 U.S.C. 315, 315i, 759, 761, 775, 887; 74 Stat. 506; 31 U.S.C. 711, 725s; 48 Stat. 1224-36; Public Law 96-514, making appropriations for the Department of the Interior and related agencies, 1981.)

MISCELLANEOUS TRUST FUNDS
Amounts Available for Appropriation (in thousands of dollars)

14-9971-0-7-302	1980 Actual	1981 Estimate	1982 Estimate
Unappropriated balance, start of year...	---	---	---
Receipts (net): Authorized.....	1,183	700	700
Total available for appropriation...	1,183	700	700
Appropriation.....	-1,183	-700	-700

MISCELLANEOUS TRUST FUNDS
Program and Financing (in thousands of dollars)

14-9971-0-7-302	1980 Actual	1981 Estimate	1982 Estimate
Program by activities:			
1. Land and resource management trust fund	1,223	699	699
2. Trustee funds, Alaska townsites	1	1	1
Total program costs, funded	1,224	700	700
Change in selected resources (undelivered orders)	-119	---	---
10.00 Total obligations	1,105	700	700
Financing:			
21.40 Unobligated balance available, start of year	-1,265	-1,343	-1,343
24.40 Unobligated balance available, end of year	1,343	1,343	1,343
39.00 Budget authority	1,183	700	700
Budget authority:			
Current:			
40.00 Appropriation (indefinite)	100	100	100
Permanent:			
60.00 Appropriation (indefinite)	1,083	600	600
Distribution of budget authority by account:			
Land and resource management trust fund	1,182	699	699
Trustee funds, Alaska townsites	1	1	1

MISCELLANEOUS TRUST FUNDS (Cont.)
Program and Financing (in thousands of dollars)

14-9971-0-7-302		1980 Actual	1981 Estimate	1982 Estimate
Relation of obligations to outlays:				
71.00	Obligations incurred, net	1,105	700	700
72.40	Obligated balance, start of year	234	154	154
74.40	Obligated balance, end of year	-154	-154	-154
90.00	Outlays	1,185	700	700
Distribution of outlays by account:				
	Land and resource management trust fund	1,184	699	699
	Trustee funds, Alaska townsites	1	1	1

Object Classification (in thousands of dollars)

14-9971-0-7-302		1980 Actual	1981 Estimate	1982 Estimate
	Personnel compensation:			
11.1	Full-time permanent positions	162	112	112
11.3	Positions other than full-time permanent	252	190	190
11.5	Other personnel compensation	9	10	10
11.9	Total personnel compensation	423	312	312
12.1	Personnel benefits: Civilian	44	31	31
21.0	Travel and transportation of persons	25	13	14
22.0	Transportation of things	36	13	14
23.1	Standard level user charges	18	---	---
23.2	Communications, utilities, and other rent	15	20	22
25.0	Other services	135	71	71
26.0	Supplies and materials	396	130	126
31.0	Equipment	2	10	10
32.0	Lands and structures	11	100	100
99.9	Total obligations	1,105	700	700

MISCELLANEOUS TRUST FUNDS
Personnel Summary

14-9971-0-7-302	1980 Actual	1981 Estimate	1982 Estimate
Total number of full-time permanent positions	3	3	3
Total compensable workyears:			
Full-time equivalent employment	25	21	22
Full-time equivalent of overtime and holiday hours	1	1	1
Average GS grade	9.63	9.63	9.63
Average GS salary	$22,066	$23,830	$23,830

FY 1982
Consulting Service

Bureau of Land Management

(dollars in thousands)

Appropriation: Management of Lands & Resources (14-1109-0-1-302)	Amount	Description of Need
Subactivity/Program		
Renewable Resource Mgt.	$10	Provides for review of research and other plans by experts in the private sector for proposals on which BLM expertise is not sufficient to assure adequacy and completeness. Consistent with Congressional and Administration policies, consultants are used only when there is no viable alternative.

BLM-290a

ADMINISTRATIVE PROVISIONS

Appropriations for the Bureau of Land Management shall be available for purchase, erection, and dismantlement of temporary structures, insurance on official motor vehicles, aircraft, and boats operated by the Bureau of Land Management in Canada; and alteration and maintenance of necessary buildings and appurtenant facilities to which the United States has title; $10,000 for payment at the discretion of the Secretary, for information or evidence concerning violations of laws administered by the United States Bureau of Land Management; miscellaneous and emergency expenses of enforcement activities, authorized or approved by the Secretary and to be accounted for solely on his certificate, not to exceed $10,000: Provided, That appropriations herein made for the Bureau of Land Management expenditures in connection with the revested Oregon and California Railroad and reconveyed Coos Bay Wagon Road grant lands (other than expenditures made under the appropriation "Oregon and California grant lands") shall be reimbursed to the general fund of the Treasury from the 25 per centum referred to in subsection (c), title II, of the Act approved August 28, 1937 (50 Stat. 876), of the special fund designated the "Oregon and California land grant fund" and section 4 of the Act approved May 24, 1939 (53 Stat. 754), of the special fund designated the "Coos Bay Wagon Road grant fund": Provided further, That appropraitions herein made may be expended on a reimbursable basis for (1) surveys of lands other than those under the jurisdiction of the Bureau of Land Management and (2) protection of lands for the State of Alaska: [Provided further, That the Secretary of the Interior shall develop criteria for extending, on a case-by-case basis, the period allowed for phased livestock reductions on public rangelands administered through the Bureau of Land Management up to five years. Such criteria shall take into account available agricultural assistance programs, the magnitude of projected livestock reductions, alternative pasturage available, and ability of such public rangelands to sustain such phasing in of livestock reductions without damage to rangeland productivity: Provided further, That an appeal of any reductions in grazing allotments on public rangelands must be taken within 30 days after receipt of a final grazing allotment decision or 90 days after the effective date of this Act in the case of reductions ordered during 1979, whichever occurs later. Reductions of up to 10 per centum in grazing allotments shall become effective when so designated by the Secretary of the Interior. Upon appeal any proposed reduction in excess of 10 per centum shall be suspended pending final action on the appeal, which shall be completed within 2 years after the appeal is filed: Provided further, That, none of the funds provided in this Act to the Bureau of Land Management may be expended to determine suitability or nonsuitability for wilderness or for any wilderness study area designation as directed in 43 U.S.C. 1782 of the Federal Land Policy and Management Act of the lands withdrawn by the Executive Order numbered 3767 of December 19, 1922, to be used by the United States Department of Agriculture for a sheep experiment station]. (Public Law 96-514, making appropriations for the Department of the Interior and related agencies, 1981.)

JUSTIFICATION OF PROPOSED LANGUAGE CHANGE

1. Deletion: The range management language to be deleted is bracketed in the Administrative Provisions language.

Language that limits the amount of adjustments in grazing use being made on the public lands severely cripple efforts to reverse the decline in rangeland conditions. Forage production inventories on those areas where grazing environmental impact statements have been completed, clearly show that current levels of grazing use will, in many areas, result in further deterioration of resource values. Deterioration includes loss of plants and other vegetation that provides forage and cover for wildlife and livestock; and soil loss and resulting downstream sedimentation and reduced water quality.

Range improvement projects such as seedings, water developments, and control fences will not by themselves result in improved conditions. The improvement projects must facilitate intensive grazing management practices which include changes in patterns of use and in the number of animals which can be grazed.

Continuation of the restriction on the amount of grazing reduction that can be imposed eliminates effective use of one of the key tools in grazing management (number of livestock to be grazed).

Administrative grazing reduction limitations will delay the improvement of the damaged rangelands, increase improvement costs over time, and undermine broad public support for a rangeland management improvement program.

2. Deletion: The wilderness study area restrictive language to be deleted is bracketed in the Administrative Provisions language.

This provision should be deleted because:

* The wilderness review process poses no conflict with the sheep experiment station program in question. BLM recognizes the vital and necessary program of grazing experiments in the area and supports their continuation. The future needs of the experiment station program would be fully considered during the wilderness review process and would be recognized in any resulting recommendation on the area's wilderness suitability.

* The lands in question are subject to wilderness review pursuant to the Federal Land Policy and Management Act and will remain despite the provision. The provision merely postpones conduct of the wilderness inventory and prevents the statutory process from proceeding to an orderly conclusion.

* The provision sets an undesirable precedent for exempting lands from wilderness review on the basis of supposed conflicting resource uses. The wilderness review process established by law calls for potential resource conflicts of this kind to be addressed and resolved during the wilderness studies - not for exempting areas of potential conflict prior to any study. In the long run, public land issues are most effectively resolved through an orderly planning process involving full public participation.

BUREAU OF LAND MANAGEMENT

Consolidated Schedule of Permanent Positions Paid
from Funds Available to the Bureau of Land Management

	1980 Actual	1981 Estimate	1982 Estimate
Executive Level V	1	1	1
ES-4	12	12	12
ES-3	3	3	3
ES-1	7	7	7
Subtotal	23	23	23
GS/GM-15	65	65	65
GS/GM-14	186	186	186
GS/GM-13	500	507	518
GS-12	1,075	1,111	1,114
GS-11	1,503	1,554	1,564
GS-10	35	35	35
GS-9	942	1,026	1,032
GS-8	80	80	80
GS-7	610	640	643
GS-6	230	230	230
GS-5	565	578	582
GS-4	240	240	240
GS-3	40	40	40
GS-2	10	10	10
Subtotal	6,081	6,302	6,339
Ungraded	110	110	110
Total Permanent Positions	6,214	6,435	6,472
Unfilled Positions, End-of-Year	-640	-459	-466
Total Permanent Employment, End-of-Year	5,574	5,976	6,006

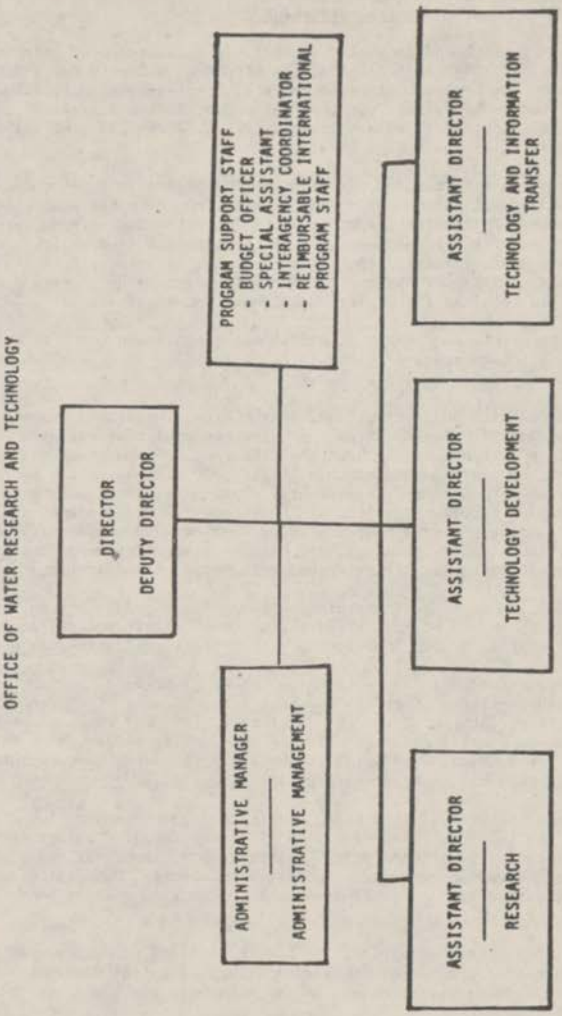
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUDGET JUSTIFICATIONS, F. Y. 1982

OFFICE OF WATER RESEARCH
AND TECHNOLOGY

DEPARTMENT OF THE INTERIOR
OFFICE OF WATER RESEARCH AND TECHNOLOGY
FISCAL YEAR 1982 BUDGET JUSTIFICATIONS

Table of Contents

Item	Page Number
Organization Chart	OWRT-1
General Statement	OWRT-2
Activity/Subactivity Change Crosswalk	OWRT-12
Appropriation: Salaries and Expenses	
Summary of Requirements	OWRT-14
Justification of Adjustments to Base and Built-in Changes	OWRT-15
Justification of Programs and Performance	
I. Water Resources Research and Development	
A. State Water Research and Development Institutes	OWRT-16
B. Matching Grants	OWRT-24
C. Water Research and Development	OWRT-29
II. Saline Water Research and Development	
A. Research	OWRT-42
B. Development	OWRT-48
C. Demonstrations	OWRT-58
III. Technology Transfer and Information Dissemination	
A. Technology Transfer	OWRT-65
B. Water Resources Scientific Information Center	OWRT-71
IV. General Program Support	
A. Executive Direction	OWRT-74
B. Common Program Services	OWRT-78
V. Reimbursable Program	
A. U.S./Israel Desalination Project	OWRT-83
B. U.S./Saudi Arabia Desalination Project	OWRT-86
Summary of Requirements by Object Class	OWRT-89
Appropriation Language Sheet	OWRT-90
Budget Schedules	OWRT-91
Consolidated Working Fund	
Program and Financing	OWRT-96
Consulting Services	OWRT-97
Appendix	
I. Institute Program	OWRT-A-2
II. Matching Grant Program	OWRT-A-61
III. Water Research and Development	OWRT-A-79
IV. Saline Water Research, Development, and Demonstration	OWRT-A-88
V. Technology and Information Transfer	OWRT-A-100
VI. Interagency Coordination	OWRT-A-106


OFFICE OF WATER RESEARCH AND TECHNOLOGY
DIRECTOR
DEPUTY DIRECTOR
PROGRAM SUPPORT STAFF
- BUDGET OFFICER
- SPECIAL ASSISTANT
- INTERAGENCY COORDINATOR
- REIMBURSABLE INTERNATIONAL PROGRAM STAFF
ADMINISTRATIVE MANAGER
ADMINISTRATIVE MANAGEMENT
ASSISTANT DIRECTOR
RESEARCH
ASSISTANT DIRECTOR
TECHNOLOGY DEVELOPMENT
ASSISTANT DIRECTOR
TECHNOLOGY AND INFORMATION TRANSFER

OWRT-1

General Statement

The Office of Water Research and Technology (OWRT) was established by Secretarial Order No. 2966, July 26, 1974, consolidating the Office of Saline Water and the Office of Water Resources Research. In accordance with subsequent legislation, the Secretary directed that OWRT operate the programs authorized by P.L. 95-84, August 2, 1977, and P.L. 95-467, October 17,1978 (Title 42, U.S.C. 7801-7883, and 19591.), as amended.

OWRT administers programs of research, development, demonstration, technology transfer and information dissemination. Using information from 54 water resources research and technology Institutes and other public water entities, OWRT carries out the legislative mandate for the Secretary of the Interior to develop a national five-year agenda for water research, including goals, objectives, priorities and funding requirements. OWRT conducts two reimbursable programs by providing assistance and expertise in desalination projects in Israel and Saudi Arabia.

OWRT's mission is to assure that water of sufficient quality and quantity will be available to meet national needs. (Figures 1, 2, 3, and 4). To accomplish this mission, OWRT conducts the following programs:

- OWRT cooperates with 50 States, Guam, Puerto Rico, the Virgin Islands, and the District of Columbia in support of water resources research and technology development Institutes established at land-grant universities and colleges, by providing allotments of $115,000 matched on the basis of two Federal shares for one non-Federal share. Institutes carry out research, provide training opportunities through participation in research, develop Statewide research programs coordinated with other academic institutions and State and regional water entities; and encourage application of research results through technology transfer and information dissemination.

- OWRT provides, through the Institutes, a competitive program of dollar-for-dollar matching grants primarily addressing local, State and regional water problems identified by the Institutes, with priority guidance from OWRT.

- OWRT supports research and development on water problems of national importance through a program of grants and contracts. Current foci are water reuse/recycling, water problems of urbanizing areas, and water conservation. In addition, innovative and high priority research is supported on water for energy development, beneficial use of brackish water, groundwater-surface water conjunctive use, and groundwater contamination.

- OWRT supports research, development, testing and the demonstration of technology for the conversion of saline and other impaired waters to water suitable for beneficial use. Construction of the first two plants will begin in 1981, pending approval of a 1981 supplemental. The third site will undergo evaluation studies in FY 1981; the fourth site will be selected in FY 1981.

- OWRT encourages practical application of research and development results through a national program of transferring technology and disseminating information to engineers, scientists, water managers, and public officials.

- OWRT maintains the Water Resources Scientific Information Center, abstracting and processing data on water resources R&D through the National Technical Information Service.

- OWRT provides technical guidance and oversight for the U.S./Israel Desalination Project, in a joint program with Israel under a participating agency service agreement with the Agency for International Development. (Reimbursable).

- OWRT provides technical guidance and oversight for the desalination projects undertaken by the U.S.-Saudi Arabia Joint Commission on Economic Cooperation, through the Department of the Treasury. (Reimbursable).

The following summary compares the 1981 appropriation enacted to date and the 1982 request:

(Dollar Amounts in Thousands)

		1981 Appropriation	1982 Estimate	Inc.(+) or Dec.(-)	Perm. Employ., 12/31
Appropriation					
Salaries & Expenses	$	30,485	32,028	1,543	
	(FTP)	(75)	(75)	(--)	(67)
Reimbursable Program	$	(+600)	(+825)	(+225)	
	(FTP)	(8)	(8)	(--)	(6)
Total	$	30,485	32,028	1,543	
	(FTP)	(83)	(83)	(--)	(73)

Highlights of 1982 Request

The changes between the 1981 programs and the requested 1982 budget are highlighted below.

Continued economic growth and development of the United States and its territories depend on finding solutions for a wide variety of water problems. In the western States, increased agricultural production, industrial growth, mineral and fossil fuel extraction, and population shifts to the sunbelt have put severe pressures on limited water supplies. In other parts of the country, depleted or impaired groundwaters and impaired or undependable surface waters could limit economic development, have adverse effects on the environment, and cause severe national repercussions. Water supplies and delivery systems are being strained as a result of urban expansion, water quality impairment, industrial growth, energy development, and environmental constraints. Water supply and quality problems are severe in 14 of 106 subregions of the United States. It is expected the number of subregions identified as severe will increase to 24 by the year 2000.

Water scientists, engineers, planners, and managers are challenged to find innovative solutions for increases in numbers and complexities of water problems. There is a need for a coordinated and nonduplicative Federal effort to establish carefully selected priorities for water resources research and the development of new technologies to address these problems. The Congressional response, in P.L. 95-467 as amended, and P.L. 95-84, as amended, is a broadened program of research, development, demonstration, and transfer of technology for immediate application, a strengthened national water research data base, and a call for the development of a five-year agenda for water resources research priorities, with needs, and funding requirements.

74-939 O—80——20

To carry out the programs authorized in these two laws, the 1982 Office of Water Research and Technology appropriations request is for $32,028,000, an increase of $1,543,000 over the 1981 appropriation.

The changes between the 1981 programs and the requested 1982 budget are highlighted below by activity and subactivity. The appropriations summary is incorporated in this statement.

Water Resources Research and Development +$748,000

OWRT is requesting $15,838,000, an increase of $748,000 over the 1981 appropriation for this activity, which covers all programs authorized in Title I of P.L. 95-467, as amended. Program changes are proposed as follows:

State Water Resources Research and Development Institutes: The 1982 budget maintains the level of support appropriated in 1981 for the 54 State Institutes, providing $115,000 to each, for a total of $6,210,000. These Institutes serve as focal points for water-related research in their States. They identify research needs associated with water resource problems and conduct research to solve these problems. The 1982 programs will address uneven distribution of water supply and deterioration of water quality, problems which are present in every State.

Matching Grants: The 1982 request maintains the $5,480,000 level of support appropriated in 1981. This competitive program provides support to match non-Federal funds on a one-for-one basis for basic or applied research projects which could not otherwise be undertaken by the State Institutes. In 1982 the four major problem priority areas addressed will be water quality deterioration, water shortages, uneven streamflow and flooding and the need for improved techniques of planning and management.

Water Research and Development: OWRT is requesting $4,148,000 in 1982, an increase of $748,000 over 1981. Of this proposed increase, $403,000 are to be used to strengthen the reuse/recycling program through further research and development of processes and systems with significant potential based on current results and through new research related to energy development. The remainder of the increase, $345,000 for special research projects, will support R&D identified as critical or urgent and requiring the highest priorities: research to determine pathways, transformations and fate of contaminants and methods to curtail their movement in groundwater; brackish water use in conjunction with the development of new crops to meet strategic needs; beneficial uses for brackish water to release other water needed for domestic, industrial or agricultural purposes; and energy development/water supply relationships. The nationally focused programs of water conservation and water problems of urbanizing areas remain the same as 1981.

Saline Water Research, Development and Demonstration +$230,000

OWRT is requesting $10,950,000, an increase of $230,000 over the 1981 appropriation for this activity, which includes all programs authorized in Title II of P.L. 95-467, amended, and P.L. 95-84, as amended. Program changes are as follows:

Research: OWRT is requesting $3,170,000, an increase of $160,000, for saline water conversion research. The funds are allocated among the three saline water research subprograms as follows: membrane research, $1,860,000; thermal research, $510,000; and research on new concepts for water desalting, $800,000.

In 1982, it is proposed to maintain the same funding levels as in 1981 for membrane research and new concepts, while placing added emphasis on thermal research particularly in the control of scale and corrosion. The solution of these latter problems can lead to improved operation and maintenance of new and existing plants and reduced capital expenditures for new thermal desalting plants.

Development: OWRT is requesting $7,580,000, an increase of $250,000 for this subactivity. The funds are allocated among three subprograms: membranes, $4,405,000; thermal, $1,625,000; and reuse, $1,550,000. These subprograms develop new membranes, thermal processes, and other desalting technologies for the conversion of saline water and/or the reuse/recycling of impaired waters.

The membrane and reuse programs will remain at the 1981 level. The $250,000 increase will focus on thermal development processes that are expected to conserve energy and reduce the costs of desalting water.

Demonstrations: OWRT is requesting $200,000 in 1982, a reduction of $180,000, for the selection phase of the fifth plant site and the evaluation phase of the fourth site. These are the first two phases in the planning of saline water conversion plants under the demonstration program.

(A 1981 supplemental request for $22,852,000 is being submitted for the construction of saline water conversion demonstration plants numbers 1 and 2, at Alamogordo, New Mexico, and Virginia Beach, Virginia.)

Technology Transfer and Information Dissemination +$250,000

OWRT is requesting $1,650,000, an increase of $250,000 over 1981 for this activity.

Technology Transfer: The budget proposes an increase of $250,000, returning this subactivity to its 1980 level of $750,000. The increase will be used to expedite the application of research and development results through a technology application manual on water reuse/recycling for municipal planners, a technology application manual and training handbook on the use of computer technology and computer graphics for water resource planning and management.

Water Resources Scientific Information Center (WRSIC): OWRT is requesting $900,000 in 1982, the same level as 1981. OWRT operates a national center for the dissemination of scientific and technical information. The WRSIC data base of 140,000 abstracts of research reports and 12,500 ongoing project summaries, is used by Government and private planners, scientists, engineers and students.

General Program Support (+$315,000)

OWRT is requesting $3,590,000, an increase of $315,000 over 1981 for general program support which includes executive direction, management, program guidance, coordination with other agencies and common program services. The increase will provide essential services.

Reimbursable Program (+$225,000)

OWRT expects to expend $825,000 for this fully reimbursable international activity which covers the United States/Israel desalination project ($230,000), and the United States/Saudi Arabia desalination project ($595,000). This includes a $225,000 increase for technical assistance to Saudi Arabia to manage additional development tasks in seawater reverse osmosis as the current projects move into the training, construction and operation phases.

Improvements in Operations:

OWRT worked closely with Congressional staff to provide information for Committees and Members relative to passage of P.L. 96-457, reauthorizing OWRT programs for fiscal years 1981 and 1982 and amending P.L. 95-84 to create flexible cost sharing in the saline water conversion demonstration program.

OWRT established priorities for the matching grant program to increase the focus of the research being supported. Guidelines now require that proposals be relevant to the national problem areas and identified State priorities.

Reports on five-year research objectives and priorities were received from the Institutes and are being incorporated into the OWRT five-year agenda.

A new agreement is being negotiated with host universities of Institutes, in conformity with P.L. 95-467, as amended.

OWRT has prepared criteria for assuring the adequacy of Institute programs to achieve their and OWRT's goals. Twenty-five site reviews of Institutes are being conducted in 1981 for compliance with OWRT policy, with fifteen currently completed.

A rotation policy for test facility managers is established. The rotation plan provides for assignments for two years at the facility, extendable for two additional years. At the end of field assignment, the manager is reassigned to Washington, bringing "hands-on" technical experience from the field to the program.

A significant portion of the OWRT program is conducted through grants and contracts rather than by Federal employees, in accordance with authorizing legislation which directs the Secretary to plan, coordinate, promote, and conduct water research, development, demonstration, and technology transfer through grants and contracts with State Institutes, private industry, and other competent entities.

Authorizations:

The major authorizing legislation for OWRT programs is included in P.L. 95-467, 42 USC 7801-7883 and P.L. 95-84, 42 USC 1959i, both as amended by P.L. 95-457. The appropriation authorizations in P.L. 95-467, Title IV, 42 USC 7872-7874 expires at the end of fiscal year 1982.

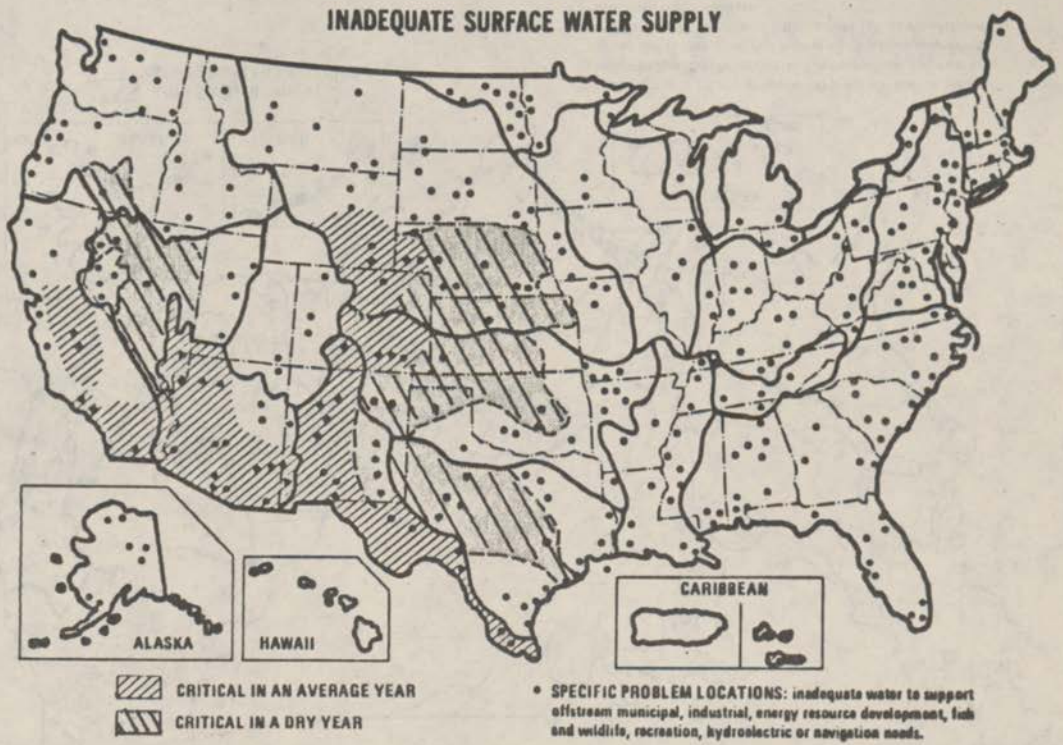
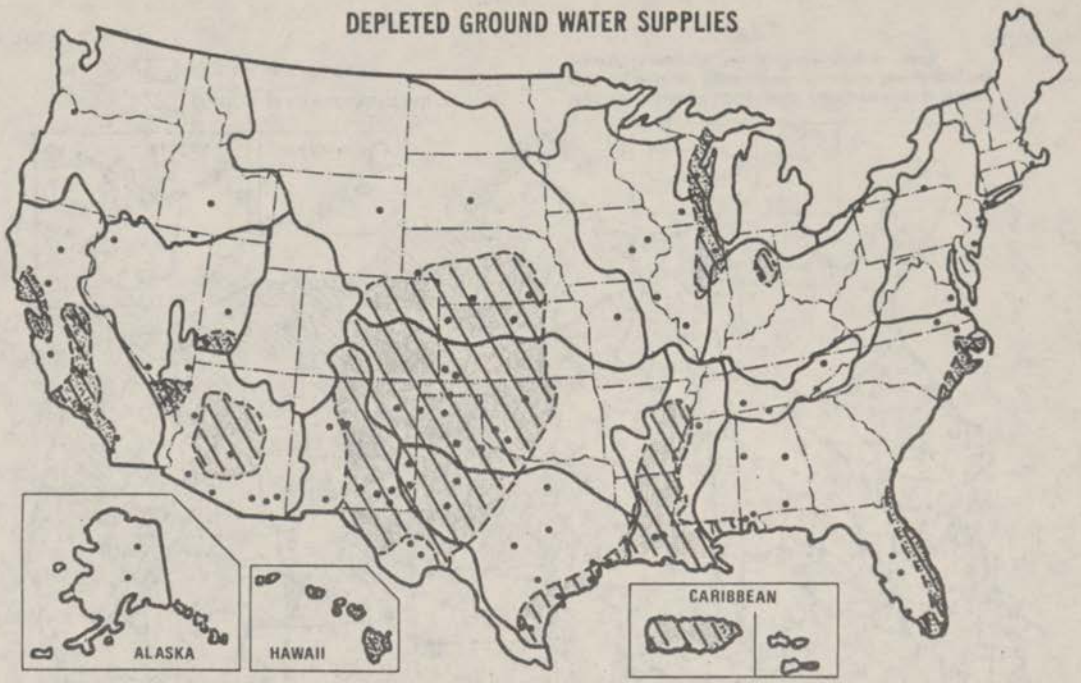

INADEQUATE SURFACE WATER SUPPLY
ALASKA
HAWAII
CARIBBEAN
CRITICAL IN AN AVERAGE YEAR
CRITICAL IN A DRY YEAR
• SPECIFIC PROBLEM LOCATIONS: inadequate water to support offstream municipal, industrial, energy resource development, fish and wildlife, recreation, hydroelectric or navigation needs.

Figure 1



ONRT-8

Figure 2

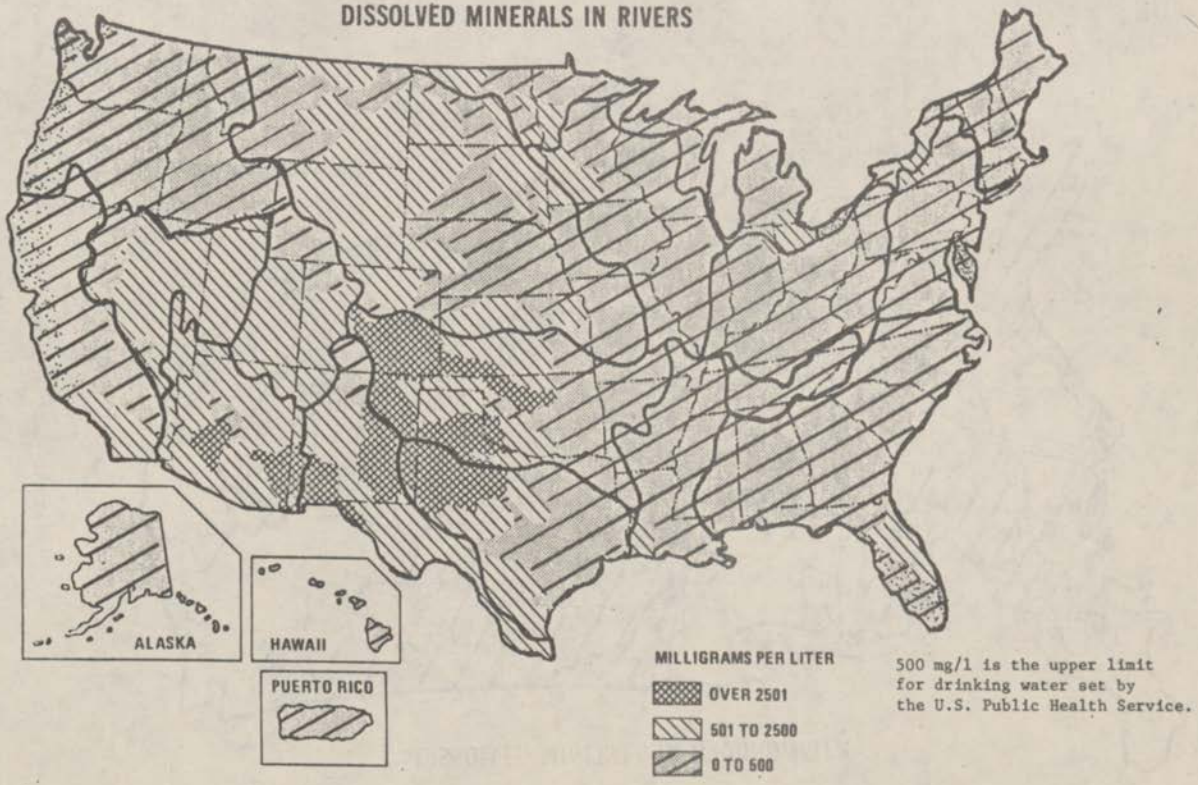

DISSOLVED MINERALS IN RIVERS
ALASKA
HAWAII
PUERTO RICO
MILLIGRAMS PER LITER
OVER 2501
501 TO 2500
0 TO 500
500 mg/l is the upper limit for drinking water set by the U.S. Public Health Service.

Figure 3

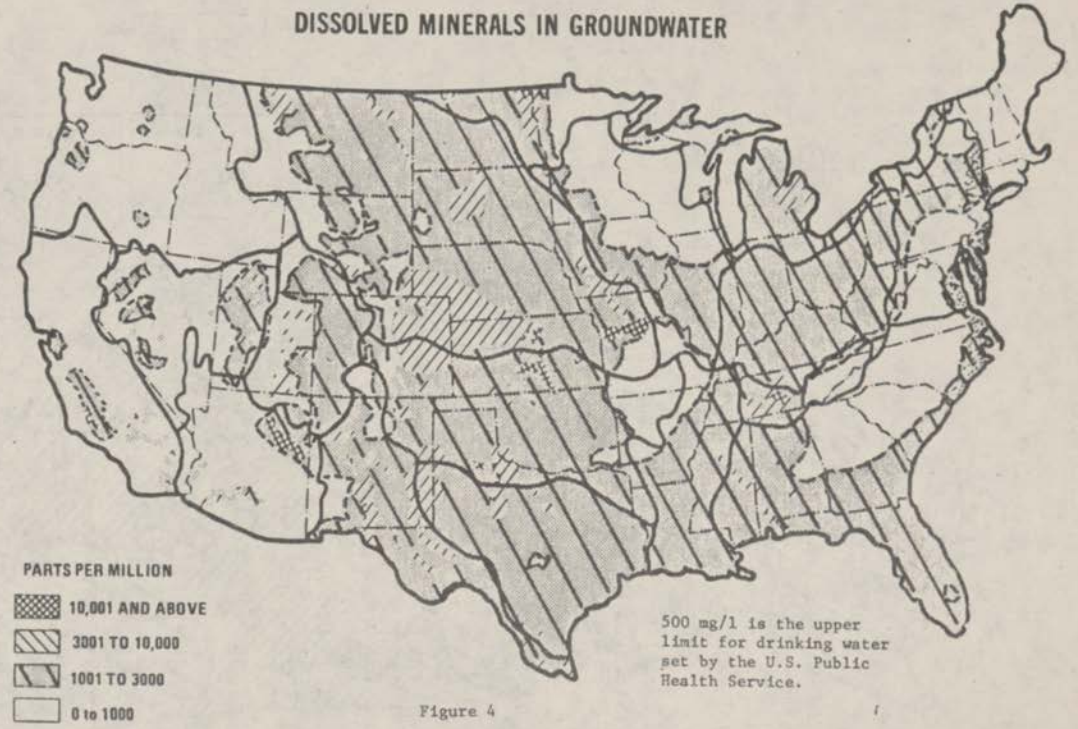

DISSOLVED MINERALS IN GROUNDWATER
PARTS PER MILLION
10,001 AND ABOVE
3001 TO 10,000
1001 TO 3000
0 to 1000
500 mg/l is the upper limit for drinking water set by the U.S. Public Health Service.

Figure 4

Office of Water Research and Technology
Comparison
FY 1982 Base to Estimate

Activity/Subactivity	(Dollar Amount in Thousands) FY 1982 Base	Estimate	Inc.(+) Dec.(-)
I. Water Resources R&D			
A. Institutes			
1. Allotments	6,210	6,210	--
2. Program Support	586	624	+38
Total	6,796	6,834	+38
B. Matching Grants			
1. Grants	5,480	5,480	--
2. Program Support	566	603	+37
Total	6,046	6,083	+37
C. Water R&D			
1. Reuse	1,550	1,953	+403
2. Conservation	850	850	--
3. Water Problem Urbanizing Areas	650	650	--
4. Special Research Projects	350	695	+345
5. Program Support	487	518	+31
Total	3,887	4,666	+779
Total Water Resources R&D	16,729	17,583	+854
II. Saline Water R&D			
A. Research			
1. Membrane	1,860	1,860	--
2. Thermal	350	510	+160
3. New Concepts	800	800	--
4. Program Support	320	341	+21
Total	3,330	3,511	+181
B. Development			
1. Membrane	4,405	4,405	--
2. Thermal	1,375	1,625	+250
3. Reuse	1,550	1,550	--
4. Program Support	807	859	+52
Total	8,137	8,439	+302
C. Demonstration			
1. Contracts	380	200	-180
2. Program Support	142	79	-63
Total	522	279	-243
Total Saline Water R&D	11,989	12,229	+240
III. Technology Transfer & Info. Dissem.			
A. Technology Transfer	500	750	+250
1. Contracts/Grants	186	198	+12
2. Program Support	686	948	+262
Total			
B. Water Resources Scientific Info. Center			
1. Contracts/Grants	900	900	--
2. Program Support	345	368	+23
Total	1,245	1,268	+23
Total Tech. Transfer & Info. Dissem.	1,911	2,216	+285
IV. General Program Support	(3,439)	(3,590)	(+151)
Grand Total	30,649	32,028	+1,379

Office of Water Research and Technology
Activity/Subactivity Change Crosswalk
(dollar amount in thousands)

Format of FY 1981 Congressional Budget Submission Appropriation/Activity/Subactivity	Amount (1982 Request)	Format of FY 1982 Congressional Budget Submission Appropriation/Activity/Subactivity	Amount (1982 Request)
Salaries and Expenses		Salaries and Expenses	
I. Water Resources Research & Dev.	17,583	I. Water Resources Research & Dev.	15,838
A. State Water R&D Insts.	6,834	A. State Water R&D Insts.	6,210
B. Matching Grants	6,083	B. Matching Grants	5,480
C. Water Research & Dev.		C. Water Research & Dev.	
1. Reuse	2,189	1. Reuse	1,953
2. Conservation	980	2. Conservation	850
3. Water Problems of Urbanizing Areas	749	3. Water Problems of Urbanizing Areas	650
4. Special Research Projects	748	4. Special Research Projects	695
II. Saline Water Research & Dev.	12,229	II. Saline Water Research & Dev.	10,950
A. Research		A. Research	
1. Membrane	2,070	1. Membrane	1,860
2. Thermal	551	2. Thermal	510
3. New Concepts	890	3. New Concepts	800
B. Development		B. Development	
1. Membrane	4,921	1. Membrane	4,405
2. Thermal	1,786	2. Thermal	1,625
3. Reuse	1,732	3. Reuse	1,550
C. Demonstrations	279	C. Demonstrations	200
III. Technology Transfer & Info. Dissem.	2,216	III. Technology Transfer & Info. Dissem.	1,650
A. Technology Transfer	948	A. Technology Transfer	750
B. Water Resources Sci. Info. Ctr.	1,268	B. Water Resources Sci. Info. Ctr.	900
IV. General Program Support	(3,590)	IV. General Program Support	3,590
A. Executive Direction	(471)	A. Executive Direction	471
B. Common Program Services	(3,119)	B. Common Program Services	3,119
Subtotal----------	32,028	Subtotal----------	32,028
V. Reimbursable Program	(825)	V. Reimbursable Program	(825)
A. U.S./Israel	230	A. U.S./Israel	(230)
B. Joint Economic Commission	(595)	B. Joint Economic Commission	(595)
Total----------	32,028	Total----------	32,028

N.B: General Program Support was spread back to the programs in FY 1981.

OWRT-12

Justification of Proposed Appropriation Language Changes

There is no proposed language or limitation change other than the appropriation dollar amounts, dates of availability and fiscal years.

Summary of Requirements
(Dollars amounts in thousands)

Appropriation: Salaries and Expenses

Summary of adjustments to base and built-in changes:	Perm. Pos.	Amount	Perm. Pos.	Amount
Appropriation enacted to date, 1981	NA	NA	83	30,485
Adjustments to base and built-in changes:				
Adjustments for 1981 pay increases and related costs	--	--	--	--
Annualization of 1981 pay increase	--	--	--	--
Other increases:	--	--	--	--
General program support				
Rental payments to GSA	--	+149	--	--
Communications, utilities & other rent	--	+15	--	--
Subtotal, adjustments to base and built-in changes	--	--	--	+164
1982 Base	--	--	83	30,649

Comparison by Activities	1980 Actual Perm. Pos.	1980 Actual Amount	1981 Appropriation Enacted to Date Perm. Pos.	1981 Appropriation Enacted to Date Amount	1982 Base Perm. Pos.	1982 Base Amount	1982 Estimate Perm. Pos.	1982 Estimate Amount	Inc.(+) or Dec.(-) Over 1982 Base Perm. Pos.	Inc.(+) or Dec.(-) Over 1982 Base Amount
I. Water Resources Research & Development										
A. State Water R&D Institutes	10	5,940	10	6,210	10	6,210	10	6,210	--	--
B. Matching Grants	10	4,980	10	5,480	10	5,480	10	5,480	--	--
C. Water Research & Development	7	5,600	7	3,400	7	3,400	7	4,148	--	+748
Subtotal	27	16,520	27	15,090	27	15,090	27	15,838	--	+748
II. Saline Water Research & Development										
A. Saline Water Research	8	3,000	8	3,010	8	3,010	8	3,170	--	+160
B. Saline Water Development	15	7,650	15	7,330	15	7,330	15	7,580	--	+250
C. Demonstrations	3	814	3	380	3	380	3	200	--	-180
Subtotal	26	11,464	26	10,720	26	10,720	26	10,950	--	+230
III. Technology Transfer & Info. Dissemination										
A. Technology Transfer	9	750	9	500	9	500	9	750	--	+250
B. Water Resources Scientific Info. Ctr.	13	900	13	900	13	900	13	900	--	--
Subtotal	22	1,650	22	1,400	22	1,400	22	1,650	--	+250
IV. General Program Support										
A. Executive Direction	(10)	461	(10)	471	(10)	471	(10)	471	(--)	--
B. Common Program Services	(65)	2,686	(65)	2,804	(65)	2,968	(65)	3,119	(--)	+151
Subtotal	(75)	3,147	(75)	3,275	(75)	3,439	(75)	3,590	(--)	+151
V. Reimbursable Program										
A. U.S./Israel	3	(225)	3	(230)	3	(230)	3	(230)	(--)	(--)
B. U.S./Saudi	5	(275)	5	(370)	5	(370)	5	(595)	(--)	+(225)
Subtotal	8	(500)	8	(600)	8	(600)	8	(825)	(--)	+(225)
Total Requirements	83	32,781	83	30,485	83	30,649	83	32,028	(--)	+1,379

Justification of Adjustments to Base & Built-in Changes
(dollar amount in thousands)

Adjustments for 1981 pay increases and related cost	Amount
Total cost in FY 1981 of pay increase/anticipated FY 1981 pay increase supplemental	--
Additional amount in FY 1981 to provide full-year cost of pay increase	--
Total	--
Other Increases	
Rental Payments to GSA	+149
The GSA conducted a Fair Annual Rental (FAR) appraisal for 1982 which resulted in an increase over the 1981 rate. The 1981 estimate of 176,000 for rental payments to GSA was less than the FAR estimate of $325,000 for 1982, for an increase of $149,000.	
Rent, Communications and utilities	+15
The Federal Telecommunications System (FTS) assessment for OWRT was increased by $15,000 over 1981.	
Total Other Increases	+164
Other Decreases	
Total Other Decreases	--
Total Adjustments to Direct Base	+164

Justification of Program and Performance

Activity: Water Resources Research and Development

Subactivity: State Water Resources Research and Technology Institutes

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted to date	FY 1982 Base	FY 1982 Estimate	Inc.(+) or Dec.(-)
State Water Resources Research and Technology Institutes	$	6,210	6,210	6,210	--
	(FTP)	(10)	(10)	(10)	(--)
(Common Program Services)	$	(558)	(586)	(624)	(+38)
Total Requirements	$	6,210	6,210	6,210	--
	(FTP)	(10)	(10)	(10)	(--)

State Water Resources Research and Technology Institutes

Authorization: 42 USC 7811, P.L. 95-467, as amended, Title I, Sec. 101(a-b); Sec. 102; Sec. 103
42 USC 7872, P.L. 95-467, as amended, Title IV, Sec. 401(a)

Sec. 101(a-b), Sec. 102 and Sec. 103. In summary, authorizes the establishment of water resources research and technology Institutes at a land grant college or university in each State, District of Columbia, Virgin Islands, Puerto Rico, Guam, American Samoa, Northern Mariana Islands, and Trust Territory of the Pacific Islands to:

- Plan, conduct, or arrange for water relevant research and development.
- Promote dissemination and application of research results.
- Provide for the training of new professionals through participation in research
- Cooperate with other academic institutions to develop Statewide R&D program directed at State and regional water problems.
- Consult with State and regional water officials on Institute programs.
- Provide Secretary of the Interior with required reports and assist him in developing five-year national research goals and priorities.
- Receive, comment on, and transmit academic community proposals to the Secretary.

Sec. 401(a)(1). There is hereby authorized to be appropriated for the purpose of carrying out the program described in subsection 101(a) of this Act...an amount sufficient to provide...$160,000 to each participating Institute on a cost-sharing basis, for the fiscal year ending September 30, 1982.

Objective: To assure adequate water for beneficial use through support of quali-fied water resources research and technology Institutes in States and territories.

Base Program: The Water Research and Development Act of 1978, Public Law 95-467, as amended, authorizes the establishment of water resources research and technology Institutes at land-grant universities in each State, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, the Northern Mariana Islands, American Samoa, and the Trust Territory of the Pacific Islands. The 54 existing Institutes were established during the period 1965-1974, under provisions of previous legislation. Their regional alignments, locations, addresses, and advisory committees are reported in Appendix I. No Institutes yet exist in the Northern Mariana Islands, American Samoa, or the Trust Territory of the Pacific Islands.

Operating as components of their host universities, the Institutes serve as focal points for water-related research in their States. They identify research needs associated with priority water resource problems and develop research programs to solve these problems.

This Federal/State cost-sharing program requires one nonFederal dollar for every two Federal dollars. Through the Institutes, OWRT supports problem-oriented investigations and experiments, offers opportunities for training of scientists and engineers through participation in research projects, and encourages application of research results.

Institutes collaborate on research of regional significance, enhancing individual efforts and avoiding unnecessary duplication. By identifying and addressing problems at local and regional levels, the Institutes provide a network for information gathering/dissemination and problem-solving. The collective efforts of this network constitute a water research and development program of national significance.

Funds allocated in this subactivity support five legislatively required functions of the Institutes:

1. Plan, undertake, and/or arrange for the conduct of research and development projects; provide for the training of scientists and engineers through participation in research. In carrying out this research and development function, Institutes rely on several sources of support: the OWRT allocation for Institute programs; the OWRT matching grant program; the OWRT focused research and development program; and the research programs of other Federal agencies, State agencies, including university programs, and private programs.

2. Define State water needs and problems, and develop five-year water research priority agenda as guides for Institute work and to assist the Secretary in the development of national research goals and priorities.

3. Develop statewide water research and development programs in cooperation with other colleges and universities, regional water entities, and State and local officials.

4. Promote the dissemination and application of results of research and development projects through bulletins, seminars, workshops, demonstrations and other means.

5. Administer the Institute, including reporting of State priorities and other required information to the Secretary and the transmittal of all proposals from academic communities with appropriate comment to OWRT.

The Institutes use advisory committees representing academic institutions, water-related public agencies, industry and public interest groups to establish research priorities and to select projects of relevance and technical merit. This linkage between R&D and the water interest groups provides a mechanism for focus of research and for the acceleration of applications of research results. Problem identification and research priority setting received special attention in 1980 through the preparation of a detailed five-year research plan by each Institute, as required by P.L. 95-467. The 54 Institutes' five-year plans are integrated with the national five-year research program being prepared by OWRT for submission to the Secretary in 1981.

OWRT reviews Institute programs yearly, and issues policy guidelines, research guidelines, and administrative regulations to ensure compliance with legislative goals.

Actions taken during 1980 to strengthen the Institute program include (1) a concentrated effort on delinquent project reports reduced the number by half, (2) a policy statement explicitly outlining Institute responsibilities in program development and management; and (3) initiation of onsite program management to appraise Institute compliance with OWRT policies and procedures and to identify factors which affect performance. Particular attention is being paid to Institute administrative and policy relationships with host universities. Fifteen onsite appraisals have been completed. Twelve are scheduled for the remainder of 1981, and the other twenty-seven will be visited in 1982.

OWRT is renegotiating agreements with each host university to renew and confirm responsibilities under P.L. 95-467, as amended.

The appropriation for the Institute program in 1980 was $6.2 million. Of this amount, about $3.7 million was spent directly on research, with the remainder supporting program development, five-year planning, technology transfer and administration. OWRT provided an additional $5.5 million for Institute R&D and technology transfer from its other programs. The Institutes, as centers of research capability, attract significant funds from other sources; in 1980, these additional funds aggregated $28 million. Thirty percent of the total funds for all Institutes come from OWRT: another 23 percent came from other Federal agencies with the balance from State agencies (43%) and private (4%) sources (Figure 5). Appendix I contains similar tables for each Institute.

Of the $115,000 allotted to each Institute in FY 1982, $5,000 will be allocated to research conducted by two or more Institutes, addressing common problems. Because they are low budget, Institute programs focus on projects which can solve problems in the short-term or initiate new lines of investigation that often lead to expansion of the research with funding from other sources. Institutes concentrate on two problem areas: (1) uneven distribution of water supply, and (2) deterioration of water quality. Within these two broad categories, research is subdivided as either (a) analytical--describing, defining, and understanding mechanisms, systems and processes or (b) applied--improving techniques, procedures, or systems for solving problems. Examples of ongoing projects and accomplishments of completed projects in the current Institute program follow.

ALL INSTITUTES

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	3,697,647	NA	170,043	3,094,870	29,569	6,992,129
2. OWRT Matching Grant Projects	NA	4,585,559	NA	4,363,864	520,673	9,470,096
3. OWRT Focused Research Projects	NA	946,418	--	896,092	8,738	1,851,248
4. Non-OWRT Projects	NA	NA	9,122,263	4,934,519	989,454	15,046,236
Subtotal	3,697,647	5,531,977	9,292,306	13,289,345	1,548,434	33,359,709
Five-Year Water Research Priorities Development	243,543	9,350	1,000	283,535	3,000	540,428
State Research Program Development and Coordination	609,892	--	1,000	1,293,406	14,000	1,918,298
Technology Transfer and Information Dissemination	486,160	595,987	71,448	1,107,119	44,325	2,305,039
Administration	703,359	NA	2,400	1,129,335	70,000	1,905,094
Total	5,740,601	6,137,314	9,368,154	17,102,740	1,679,759	40,028,568

OWRT-19

This table depicts the allocation and sources of funds within the State Institute programs based on data furnished by the Institutes. It aggregates the amounts shown in the tables for the individual Institutes, in Section 1-C of the Appendix. Columns show funding by sources; activities are those mandated by P. L. 95-467. Variation in individual University accounting practice has required some adjustments to assure consistency in reporting. Data may not be consistent with audited data except for gross totals. The column, OWRT Funds "Other," shows funds awarded to Institutes by OWRT under its Matching Grant, Focused Research, and Technology Transfer programs. Amounts shown in the column, Non-OWRT "State" include budgeted support, other program support, and in-kind contributions. The "Private" column includes funds from private sources and institutions, regional councils, and municipalities.

Clerical expenses, payroll, administration and other overhead are included under "Administration." Professional expenses are distributed among appropriate activity categories.

Figure 5

PROBLEM: UNEVEN DISTRIBUTION OF WATER SUPPLY (47% of subactivity funding)

(a) Analytical research topics:

Natural storage, movement and distribution of water; frequency, magnitude and duration of seasonal and storm-induced water movement; evapotranspiration potential instream flow; effects of erosion and sedimentation; mechanics and pathways of groundwater movement; water requirements of alternative and strategic crops for arid and semi-arid regions.

Examples of ongoing projects:

- Erosion and sedimentation chronology of three watersheds - Maryland ($9,700)
- Evapotranspiration estimates based on surface temperatures and net radiation; development of remote sensing methods - Florida ($18,000).
- Hydraulics of storm sewer systems at peak flows - Kentucky ($11,730)
- Moisture requirements and evaluation of cultivated Jojoba - Arizona ($9,700)

Accomplishment of a typical project:

Field research supported by the Office of Water Research and Technology at the North Carolina Water Resources Research Institute examined the potential for both subsurface drainage and irrigation in the coastal plain area. The project determined the optimal subsurface drain spacing and requirements for surface drainage for combination systems. The findings of this study, now available in WRRI Report 134, "A Water Management Model for Shallow Water Table Soils", resulted in the development of the drainage model DRAINMOD. This computer model for water table control has been verified in Ohio and Florida and is being tested in several other States. It has been adopted by the U.S. Soil Conservation Service for implementation in the eastern United States and is being used to design subsurface drainage systems for the land application of wastewater in North Carolina and Florida.

The simulation model called DRAINMOD can be used to evaluate alternative designs and analyze the performance of water management systems that require artificial drainage, either surface or subsurface, for efficient crop production. DRAINMOD is able to predict the hour-by-hour, day-by-day response of the water table and soil-water regime above it to rainfall, infiltration, evapotranspiration, and a given degree of drainage.

(b) Applied research topics:

Conservation and augmentation of water supplies; increases in irrigation efficiency; domestic and industrial conservation measures; use of impaired waters for beneficial purposes; artificial aquifer recharge; management improvements involving alternative systems for cost-sharing, pricing, cost allocations, systems for resolving conflicts among water users.

Examples of ongoing projects:

- Conservation in vegetable irrigation as related to intermittent sprinkling; time and method of fertilization on several vegetables - Arizona ($19,400)

- Evaluation of seashore mallow as a new crop which can be grown using brackish water - Delaware ($23,465)

- Analysis of the development of shallow groundwater supplies by pumping ponds - Georgia ($9,200)

- Management of the hydrologic system in areas of coal mining - Utah ($15,400)

- Multiple objective planning for land/water management in medium-sized cities - Indiana ($24,297)

- Demand uncertainty in water resource planning; application in the Merremack River Basin - New Hampshire ($8,534)

Accomplishment of a typical project:

Irrigation methods developed for the alkaline soils of the arid West are not satisfactory when used on acid soils in high rainfall regions. Research by the Water Resources Research Center at the University of Missouri found why past irrigation of this type had not been profitable in Missouri. The project resulted in new methods for supplemental irrigation. These are being adopted in most Missouri counties and are spreading to States east and south of Missouri. The study, in which the Federal cost was less than $4,000, in one Missouri county alone over the past five years has resulted in increased corn and soybean values greater than all Federal and State funds received by the Missouri Water Center since 1965.

PROBLEM: DETERIORATION OF WATER QUALITY (53% of subactivity funding)

(a) Analytical research topics:

Identify pollutants with respect to kind of material, source, and potential hazards; determine pathways of pollutants through surface or groundwater; locate accumulation sinks.

Examples of ongoing projects:

- Identify and assess effects of effluent residuals in leachate from landfill disposal sites - Georgia ($9,800)

- Identify natural and other contributions to heavy metal enrichment in Great Lakes sediments - Michigan ($9,747)

- Determine organic and inorganic chemical species and their interaction with geologic materials in urban floodplain sediments - Indiana ($7,265)

Accomplishment of a typical project:

Researchers of the Iowa State Water Resources Research Institute at Iowa State University, in coordination with the Agricultural Experiment Station, State and other public agencies, are carrying out a demonstration project involving nonpoint source pollution. This project grew out of three projects supported previously by OWRT on the movement of nutrients, herbicides and insecticides and their impact on water quality in a watershed. OWRT support of less than $100,000 led to multi-million dollar intensified research and demonstration projects with multiple

Federal and State support; results are expected to dramatically improve quality and quantity management in the affected watershed.

(b) Applied research topics:

Prevention from entry and/or removal of contaminating materials in surface or groundwater; site-specific feasibility of control measures for acid mine drainage, acid precipitation, sludge effluent; alternative systems for wastewater disinfection.

Examples of ongoing projects:

- Investigation of full scale biological batch treatment of intermittent wastewater flows - Maryland ($14,800)
- Removal of halomethanes from water with ozonation - Rhode Island ($12,000)
- Control of pollution in water containing heavy metals - Oklahoma ($12,500)
- Econometric analysis of water availability and drought in agriculture and the urban economy - Oregon ($25,000)
- Alternatives for wastewater disinfection: economic, social, technical aspects - California ($12,000)
- Effectiveness of septic system in safeguarding the groundwater in Maine - Maine ($9,843)

Accomplishment of a typical project:

Public Law 92-500 imposed effluent standards that many of the approximately 5,000 existing municipal wastewater lagoons could not satisfy without further treatment. In a 1971 OWRT-sponsored project, the Water Resources Research Center at Utah State University investigated the use of the intermittent sand filter as a simple, reliable, low-cost method of upgrading wastewater lagoon effluent. The project showed intermittently dosed sand filters to be promising. Subsequently, this $13,600 Institute allotment project attracted an additional $600,000 with $500,000 from EPA for perfecting the technique and evaluating its performance. Sixteen prototype installations have since been constructed with the majority being lagoons with design capacities of less than 1-million-gallons per day. Intermittently dosed sand filters have enabled these small communities to avoid costly mechanical treatment systems. In addition, 10 graduate students received research experience through participation in the project.

Workload Factors

	1980	1981	1982
Program Document Reviews	54	54	54
Program Management Appraisals	2	25	27
Proposals Reviewed	220	250	270
Project Reports Evaluated	300	250	270

The increase in the number of project reports received in 1980 resulted from stricter enforcement by OWRT of its policies on delinquent reports. Under these policies, new proposals are not considered from investigators until their overdue reports are received. Additionally the annual funding for an Institute is withheld until there is a satisfactory accounting for all projects. Internal procedures for reviewing proposals as well as the reviews themselves have been revised to provide for better application of staff expertise.

Increase for 1982: No change in the level of funding is proposed for FY 1982.

Justification of Program and Performance

Activity: Water Resources Research and Development

Subactivity: Matching Grants

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted to date	FY 1982 Base	FY 1982 Estimate	Inc.(+) or Dec.(-)
Matching Grants	$	5,480	5,480	5,480	(--)
	(FTP)	(10)	(10)	(10)	(--)
(Common Program Services)	$	(539)	(566)	(603)	(+37)
Total Requirements	$	5,480	5,480	5,480	(--)
	(FTP)	(10)	(10)	(10)	(--)

Matching Grants

Authorization: 42 USC 7815, P.L. 95-467, as amended, Title I, Sec. 105(a)
42 USC 7872, P.L. 95-467, as amended, Title IV, Sec. 401(b)

Sec. 105(a). The Secretary is authorized to make grants to Institutes to match, on a dollar-for-dollar basis, funds available to Institutes from non-Federal sources to meet the necessary expenses of specific water and related land resources research projects which the Institutes could not otherwise undertake, including the expenses of planning and coordinating regional projects by two or more Institutes.

Sec. 401(b). There is authorized to be appropriated for the purposes of carrying out the provisions of section 105(a) of this Act...the sum of $9,000,000 for the fiscal year ending September 30, 1982, all to remain available until expended, to match on a dollar-for-dollar basis, funds made available by non-Federal sources to meet the necessary expenses of specific water resources research and development projects which could not otherwise be undertaken.

Objective: To address priority State, regional, and national water problems through research and development projects coordinated by State water research and technology Institutes.

Base Program: The Matching Grant Program provides up to 50 percent of the cost of R&D projects addressing high priority water problems as identified by OWRT and the Institutes. Proposals are submitted by academic researchers through the 54 Institutes, and reviewed by OWRT technical staff and, as appropriate, by specialists in other Federal agencies. Selections are based on technical merit and relevance. About half of the matching grant awards go to projects on the national priority agenda developed by OWRT, the balance responding to priorities identified by the States and regions. The five-year plans recently completed by

each of the Institutes will serve as guides in determining proposal responsiveness to those priorities. For 1982, four problem areas and associated priorities have been identified.

PROBLEM: WATER QUALITY DETERIORATION (42% of subactivity funding)

Priorities:

- Identifying and tracking movements of pollutants in ground- and surface waters.
- Improving techniques to stop pollutants from entering water resources and to remove them from water supplies.
- Water quality management studies based on known technology and concerned with broad geographic areas or population-dense areas; e.g. selection among alternatives for sludge disposal or for control of acid mine drainage.

Examples of ongoing projects:

- Assessment of the economic magnitude of environment damage from acid precipitation - New York ($37,500)
- Isotopic and geological studies to determine the mechanisms responsible for high concentrations of 226-Radium in some groundwater supplies - Illinois ($34,898)
- Influence of ozonation on sulfur, nitrogen, chloride, and phosphorous systems in public drinking water supplies - South Dakota ($16,587)

Accomplishment of a typical project:

The high incidence of septic system failure deleteriously affects surface and groundwater quality. The Water Resources Center at the University of Wisconsin developed a new type of mound for effluent disposal from septic tanks. The new mound design performs well and promises to outlast conventional disposal systems, assuring a reduction in the potential to impair groundwater quality. The new design appears to offer long-term cost effectiveness.

PROBLEM: WATER SHORTAGES (32% of subactivity funding)

Priorities:

- Increasing efficiency in use of water supplies for domestic, industrial and agricultural purposes
- Mitigation of drought damage
- Reduction of evapotranspiration
- Improved planning and management in water-short regions
- Aquifer recharge
- Cost allocation and pricing
- Effects of land management on runoff

Examples of ongoing projects:

- Incentives for irrigation water conservation in agriculture - Texas ($22,400)

- Evaluation of drought potentials and damages in the northeastern United States - Pennsylvania ($65,475)

Accomplishment of a typical project:

In Nebraska 7.2 million acres were irrigated in 1979 with an estimated average water application rate of 20 inches per acre per year. Without scheduling, the cost of this irrigation is estimated at $251 million per year; water requirements are 12 million acre-feet. The Nebraska Water Resources Center at the University of Nebraska conducted studies to determine "how much" and "when" water should be applied to maintain yields. Water applied using predictive measures and the scheduling system resulted in a savings of 7.3 inches per acre per year with no reduction in crop yield. This represents a savings of 27% in the cost of water pumped and energy saved. Extending this scheduling to all irrigated acres in the State would result in savings of 4.4 million acre-feet of water and a reduction of energy-cost of $93 million at 1979 prices.

PROBLEM: UNEVEN STREAMFLOW AND FLOODING (16% of subactivity funding)

Priorities:

- Quantitative measures of the relationship between flow and flow-dependent users

- Mitigation of flooding damage

- Effects of erosion and sedimentation

- Mechanics and pathways of groundwater movement

- Nonstructural alternatives, such as flood plain zoning

- Methods for evaluation of economic consequences of tradeoffs in instream uses

Examples of ongoing projects:

- Evaluation of peak prediction practices in relation to floods, flash floods, and the Dam Safety Act (P.L. 92-367), 1972) - Texas ($33,805)

- Options for nonstructural flood risk management - North Carolina ($38,885)

- Development of instream flow requirements for aquatic insects - Illinois ($79,445)

Accomplishment of a typical project:

Inaccessibility to some hydrologic data and the doubtful validity of other data hamper water resource planners and researchers. A search for all available data, tests to assure reliability, and computerization for rapid and repeated analysis are needed. A North Carolina project accomplished the task with the development of

the Hydrologic Information Storage and Retrieval System (HISARS). HISARS contains a comprehensive historical data base on precipitation, streamflow, temperature, evaporation and flood peak, assembled from the records of the U.S. Geological Survey, National Weather Service, Tennessee Valley Authority, and other sources. The system makes it possible to determine weather and stream flow characteristics at any location and at any time for which data are available, and to make detailed statistical analyses, and other studies needed in water resources planning and management. The system has now been adopted for use in Idaho, Arkansas, and Virginia. North Carolina uses the system routinely. HISARS is also being used in industry. The cost of the project totaled $28,028.

PROBLEM: NEED FOR IMPROVED TECHNIQUES OF PLANNING AND MANAGEMENT (10% of sub-activity funding)

Priorities:

- Identification of legal, political and institutional restraints on water resource management
- Equitable mechanisms for the regulation and financing of interbasin water transfers
- Mechanisms to advance adoption of nontraditional water use practices
- Improved planning techniques to develop more accurate public impact projections and to improve multiple reservoir system management

Examples of ongoing projects:

- The impact of institutional structure and citizen participation on water resource planning - Kansas ($45,441)
- Analysis of impediments to local governmental cooperation caused by water institutions - Utah ($72,400)
- Methods for deriving operating rule curves for multiple reservoir system - New York ($77,254)

Accomplishment of a typical project:

The success of water conservation, reuse and similar water management programs is dependent on understanding and acceptance of the program by the public. To increase public awareness of water resources management plans and policies, the Montana University Joint Water Resources Center developed an interactive management simulator to allow public interest groups to play the water management game for a hypothetical river basin. The Cooperative Extension Service, public interest groups, and water resource planning agencies are making extensive use of the simulator.

Workload Factors

	1980	1981	1982
Proposals Reviewed	297	220	300
Projects Selected	79	77	75

Many Institute program accomplishments have come from projects funded in the matching grant program (Appendix II). Frequently, the projects continue lines of research initiated under the annual cooperative program.

As proposed in the 1981 Budget Justification, the $500,000 increase provided in 1981 is being used for support of proposals in stated critical areas and for work on groundwater contamination and groundwater/surface water interactions. Projects include:

- Methodologies for predicting the subsurface solubility and biodegradability of potentially hazardous trace metals - California ($30,000)

- Isotopic and geological studies for determining the mechanisms responsible for high concentrations of Radium 220 in Illinois groundwater supplies - Illinois ($34,898)

- Developing the resource potential of a shallow water table - California ($70,000)

- Return flow and deep percolation characteristics of first order valley basins - Texas ($55,806)

Increase for 1982: No change in the level of funding is proposed for 1982.

Justification of Program and Performance

Activity: Water Resources Research and Development

Subactivity: Water Research and Development

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted to Date	FY 1982 Base	FY 1982 Estimate	Inc.(+) or Dec.(-)
Water Reuse	$	1,550	1,550	1,953	+403
	(FTP)	(2)	(2)	(2)	(--)
Water Conservation	$	850	850	850	--
	(FTP)	(2)	(2)	(2)	(--)
Water Problems of Urbanizing Areas	$	650	650	650	--
	(FTP)	(2)	(2)	(2)	(--)
Special Research Projects	$	350	350	695	+345
	(FTP)	(1)	(1)	(1)	(--)
(Common Program Services)	$	(464)	(487)	(518)	(+31)
Total Requirements	$	3,400	3,400	4,148	+748
	(FTP)	(7)	(7)	(7)	(--)

Authorization: 42 USC 7815, P.L. 95-467 as amended, Title I, Sec. 105(b)
42 USC 7872, P.L. 95-467 as amended, Title IV, Sec. 401(c)

Sec. 105(b). The Secretary is authorized to make grants to, and finance contracts and matching or other agreements with qualified educational institutions; private firms and individuals whose training, experience and qualifications are adequate in his judgement for the conduct of water research and development projects; and with local, State, and Federal Government agencies to undertake research and development concerning any aspect of water-related problems which he may deem desirable in the national interest.

Sec. 401(c). There is authorized to be appropriated for purposes of carrying out the provisions of section 105(b) of this Act for the fiscal year ending September 30, 1982, the sum of $8,000,000, all to remain available until expended, which shall be available on a competitive basis to any organization or individual to finance grants, contracts, matching grants, or other arrangements which equal 100 per centum, or any lesser per centum of the total cost of the project involved.

Objectives: To identify water problems of national importance, determine research and development priorities for support, and focus on those areas which are manageable within existing budget limitations and are susceptible of solution through research and development.

Base Program: Research and development supported through this program provide information and technologies to solve critical water problems of national concern. In the past three years the principal foci of this program have been water reuse,

water conservation and water problems of urbanizing areas. In addition, the program has supported special research which offered opportunities for solving high-priority national water problems. OWRT proposes to continue strong support for water reuse in the next five years. Assessment of research needs for solving problems of urbanizing areas has identified sufficient work for continuation. Research and development on water conservation will phase out in 1983, as information and technologies are transferred through a national information program. Candidate topics for special projects and for future subprogram focus include groundwater quality protection, conjunctive use of groundwater and surface water, beneficial use of brackish water resources, and water allocation and use for energy development.

OWRT program announcements identify priorities and procedures for proposals submittal. Widespread distribution of announcements is a deliberate effort to stimulate participation. The dollar value of proposals received usually exceeds funds available by at least 3 to 1. The grants and contracts awarded under this subactivity are open to all researchers, and may be funded up to 100 percent of the project cost. Selection is based on technical merit of the proposal, and relevance of research to a water problem of high national priority or critical regional need.

The presence of volcanic ash in the Northwest has created problems for industry, agriculture and municipal governments. The economy, health and environment of the region can be helped and protected if immediate and well-planned R&D are conducted to mitigate adverse effects on the quality and quantity of surface and groundwater and water supply systems. The research funded by OWRT addresses problems which are developing in this region, and could be important in handling future and similar disasters. Consideration is given to R&D work to be conducted at or through the Water Research and Technology Institutes in Washington, Oregon, Idaho, and Montana. Funds for research in this subcategory were provided in a 1980 supplemental appropriation and are available until expended.

Water Reuse

Objective: To provide methods for beneficial reuse/recycle of municipal, agricultural and industrial wastewaters.

Base Program: Gross water use in the United States is expected to increase from a 1975 level of about 500-billion-gallons per day (bdg) to a level of about 1,200 bdg by the year 2000. Wastewater renovated for reuse and recycling is projected to be a major source for supplementing water supplies to meet municipal, industrial, and agricultural water demands as shown in figure 6. Reuse refers to wastewater renovated and used by other than the original user, while recycle refers to water renovated by the original user for use in the original facility. The 500 bgd used in 1975 included 139 bgd of reuse/recycle water; reuse/recycle is expected to increase to 869 bgd by the year 2000 when more than 70 percent of the gross water demand may be supplied from wastewaters through water reuse technology (Figure 6).

The FY 1981 and FY 1982 projects will include work to:

- Determine potential and efficiency of artifical wetlands for renovation of wastewaters in water reuse systems.

- Develop beneficial reuse applications, including groundwater recharge, industrial process and cooling water, agricultural and landscape irrigation, recreation and boiler feedwater.

- Study pathways, transformations and fate of contaminants in surface and groundwater reuse systems.

PROJECTED INCREASES IN WATER REUSE/RECYCLE

FROM 1975 TO YR 2000
(BY WATER RESOURCES REGIONS)

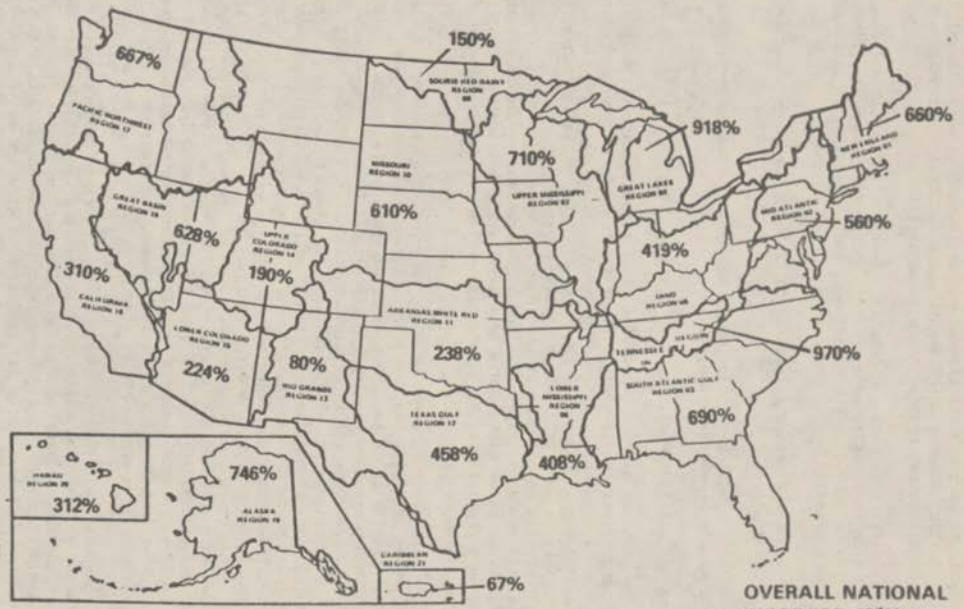


Figure 6

- Evaluate innovative treatment processes such as aquaculture, oxidation, adsorption, foam stripping and demineralization for contaminant removal in reuse applications.

- Evaluate reuse needs, potential, opportunities and strategies in high water-using manufacturing industries, steam electric power industry, energy development and municipalities in water-short areas.

- Increase the economic feasibility of energy and by-product recovery in reuse streams and solar energy in reuse systems.

- Develop planning methods for incorporating water reuse in water resource development projects.

- Study institutional, legal and economic aspects of water reuse.

OWRT's focus is on planned beneficial reuse/recycle, rather than pollution abatement to meet regulatory requirements. Reuse applications include groundwater recharge, irrigation, industrial cooling and process water, energy conversion, aquaculture, and domestic uses. Industrial reuse/recycle research and development focus on the high water-using industries which include paper and allied products, chemical and allied products, petroleum products, food and kindred products, primary metals, and textile mill products. These six industries presently account for almost 90 percent of total fresh water withdrawals by manufacturing industries. Municipal reuse focuses on non-potable applications such as irrigation, groundwater recharge, and cooling.

OWRT initiated its comprehensive water reuse/recycle research and development program in 1977. Research has supported a wide array of reuse problems from the development of new treatment technologies to analysis of legal and institutional problems. A strong R&D program is required to improve existing treatment technologies and to develop new processes for renovation and reclamation of municipal, industrial and agricultural wastewaters. Emphasis has been given to innovative treatment processes, such as (1) a nutrient film technique using plant root systems on impervious bases to renovate wastewater biologically with low energy and chemical demand; (2) ultrasound catalyzed ozone to reduce organic fouling of membranes; (3) removal of volatile organic constituents by air stripping; and (4) the use of inorganic oxides to remove contaminants from wastewaters intended for reuse. Reuse/recycle projections are being made to determine opportunities, strategies, potential, and research and development priorities and directions for high water-using industries. Other ongoing projects include research for (1) municipal groundwater recharge, (2) reuse of agricultural wastewaters for domestic supply systems, and (3) testing of advanced treatment processes at industrial plants requiring large volumes of water.

Legal, economic, and institutional barriers to water reuse/recycle are often as significant as technological barriers. Research conducted to identify these barriers and remove them include (1) an evaluation of reuse/recycle options in river basin planning; (2) legal and institutional barriers to planned reuse/recycle in the Colorado River Basin; (3) applications of water balance models to reuse planning; (4) economic analyses for industrial reuse/recycle; and (5) development of models for evaluation of reuse/recycle in total water management systems.

Recent accomplishments include:

- An entirely new treatment process started under the OWRT reuse program is the micro-gas dispersion process (MGD) which produces a sonically-generated charged "double-bubble" of extremely small diameters. The

unique bubble structure has resulted in a foam stripping process with a large surface area to volume ratio resulting in extremely effective removal of metals, oils and a wide variety of other contaminants. A large scale pilot plant is now being fabricated for on-site testing at a large Pennsylvania industrial laundry. Completion of this phase will result in a new technology ready for widespread application.

- A biological low energy wastewater aquaculture research project has been completed. The City of Hercules, California, has used the technology to construct a full scale treatment system.

- A fish hatchery recycling project in Maine has been successfully completed, recycling over 90 percent of the water used, shortening the rearing period of the young fish, and recovering energy by recirculating the heated water. This solar heated research project has attracted wide interest in the seafood industry. Private companies now appear ready to apply the concept on a large scale.

Research expected to be started in FY 1982 includes work on ultra-violet catalyzed ozonation; advanced research on solvent sublation; application of biologically extended adsorption; nutrient film treatment technology; application of inorganic oxide adsorption research; removal of metals by poroplastic membranes; and application of ozonation oxidation for industrial reuse of municipal wastewater. In addition, research will be continued on legal and institutional problems of water reuse; reuse opportunities for high water-using industries, and planning and economic analyses methods for water reuse in water resources development projects.

OWRT efforts for water reuse/recycling in 1982 include further research and follow-up development of processes and systems with significant potential based on current results. Projects to be supported in follow-on R&D include:

- Ozonation catalyzed with ultraviolet light for application to industrial process waters.

- Low energy biological processes for recovery of municipal wastewater.

- Ultrasound catalyzed oxidation pretreatment systems.

- Micro-gas dispersion and innovative solvent extraction processes.

Each of these projects was selected because earlier worked produced promising results but left some critical questions unanswered. Current research projects are listed in Appendix III.

Workload Factors

	1980	1981	1982
Proposals Reviewed	100	125	140
Projects Selected	12	10	15
Projects Monitored	38	45	50
Reports Reviewed	15	20	25

Increase for 1982:	1982 Base	1982 Estimate	Increase
$	1,550	1,953	+403
(FTP)	(2)	(2)	(--)

The additional funding requested will allow the start of new research aimed at overcoming water supply barriers to energy development. A large portion of new potential energy sources in the United States are located in water-short areas of the country. Many of these areas are facing current or near-term shortages of groundwater and surface water that will result in conflicts between major water using sectors such as agriculture, industry and municipalities. Water shortages in portions of these areas are resulting in domestic supply shortages, decreasing groundwater tables, deteriorating water quality, subsidence, increasing salinity and other serious problems. Large scale energy development in these areas will undoubtedly complicate the adequacy of existing supplies even further. In some cases the adequacy of water supplies may be the limiting constraint in the development of new energy sources. The most promising coal gasification processes require about 25 gallons of water per one million BTU produced. A Lurgi Process gasification plant could require close to 1.5 billion gallons of water per year while a 50,000 barrel per day liquification plant could require twice that amount. A 50,000 barrel per day oil shale plant using the Tosco II Process could use more than 2.5 billion gallons of water per year. Coal slurry pipelines could require more than 18 billion gallons of water per year to transport 100 million tons of coal per year. In addition, water quality will be a major factor in every development. Many of the processes will require a high quality feedwater and will produce wastewaters that are toxic or have other adverse environmental effects. If these wastewaters can be renovated and reused, demands on other water supplies can be significantly reduced and adverse environmental impacts reduced or eliminated.

The additional funding will allow a start in research for some of the most promising new potential energy sources. Projects anticipated include:

- Recycling of wastewaters from coal gasification processes, including the Hygas Process, CO_2 Acceptor Process, Bi-Gas Process, Lurgi Process and the Synthane Process.

- Reuse of coal slurry pipeline water including use of municipal wastewaters in slurry lines, recycling of slurry wastewaters and reuse for other beneficial applications.

- Reuse and recycling of wastewaters for oil shale development processes such as the Tosco II Process. Projects selected will focus on process and cooling water applications.

These projects are aimed at overcoming water supply barriers to energy development. Most new energy sources in the United States are where current or near-term shortages of both surface water and groundwater will result in conflicts between energy developers, farmers, industries and cities. In some cases, water is the limiting factor in the development of new energy resources. Reuse/recycling of wastewaters, cooling waters or process waters can expand water available for use and may prove to be a major factor in meeting future energy needs.

Object Classification Distribution

The object classification breakdown for the $403,000 increase is as follows:

Other Services (25.0) $403,000

Water Conservation

Objectives: To reduce demands for water, to improve efficiency in use, and to decrease waste.

Base Program: Water has been accepted historically as a free or relatively cheap good. However, the number of water-short regions and communities will continue to increase, particularly in arid or semi-arid Western States. Demands for water are increasing as a result of agricultural, industrial, energy and urban development, primarily in Western States. The search for techniques to conserve water supplies has been the focus of this subprogram since 1979, based on the understanding that demand management and use efficiency within a given water supply system would lower water costs, sustain water levels in existing aquifers, prolong use of existing storage facilities, reduce the need for government regulation, help to maintain water quality and preserve natural rivers and streams for fish, wildlife and recreational needs. Current research projects are listed in Appendix III.

The FY 1981 and FY 1982 projects will include work to:

- Develop techniques for increased efficiency in irrigation.
- Reduce waste in water distribution systems.
- Study the potential for conservation in water consuming industries, especially in manufacturing processes.
- Develop reservoir management techniques for saving water.
- Develop conservation techniques for mining and processing of minerals.
- Study methods to remove institutional and legal barriers to conservation, especially in States with prior appropriation laws.
- Study behavioral approaches to stimulate adoption of urban water conservation programs.
- Develop incentives and identify disincentives for conservation in chronically water-short regions.

The four research areas selected as highest priority within existing budget constraints for FY 1982 are: economics of irrigation water conservation, impacts of pricing policies on water use, incentives and disincentives for promoting and accepting conservation, and conservation techniques for mining and mineral processing. Most projects selected in FY 1979 and FY 1980 are not yet completed. One important completed project is:

Project: Incentives for Agricultural Water Conservation

Problem: The greatest use of water is by farmers for irrigation. Any decrease in demand for irrigation water will have the highest impact on conservation goals. The disaggregate nature of agricultural water users and the comparatively low level of data on conservation alternatives for irrigation present difficulties for water managers in agricultural regions.

Study: Farmers in three large irrigated-agriculture regions were interviewed to identify existing and potential water conservation practices acceptable to them. This study showed the most dramatically successful water conservation method to be laser-controlled land leveling, allowing maximum use of water for increased productivity. A second finding was that long-term, low-interest loans for installation of equipment would be the best incentive to water saving for farmers.

74-939 O—80——22

Examples of ongoing projects:

- Analysis of institutional and legal constraints on conservation in the western United States.
- Optimal reservoir management practices for water conservation.
- Development of consumer and cooperative approaches for reduced residential water consumption.
- Reduction of consumptive losses in the pulp and paper industry.
- Incentives and strategies for developing Statewide conservation policies.

Workload Factors

	1980	1981	1982
Proposals Reviewed	23	28	28
Projects Selected	12	15	15
Projects Monitored	22	36	41
Reports Reviewed	1	10	11

Increase for 1982:

There are no funding changes proposed for Water Conservation in FY 1982.

Water Problems of Urbanizing Areas

Objectives: To solve water-related problems resulting from or associated with the development of new urban areas.

Base Program: Areas of the American landscape undergoing rapid transformation from rural to residential, commercial or industrial use pose complex technical and procedural water problems. A research program focused on water problems of urbanizing areas was initiated in 1979. Current research projects are listed in Appendix III.

Approximately 75 percent of the Nation's population now live in urban and urbanizing areas; this figure is projected to be 85 percent by the year 2000. Associated with the urbanizing process are characteristic problems such as deteriorating quality of surface and groundwater, erosion and sediment transport from new construction sites, alteration of natural drainage channels with increased potential for flooding, and disruption or destruction of wildlife habitat and recreational waters accompanied by increased demands for recreation. Individual interests, local customs, and established water rights make resolution of these problems difficult. In newly urbanizing areas, institutional problems are among the first to require resolution. For this reason, a first task of this program has been to analyze and summarize the

institutional problems encountered and described in Section 208 plans prepared in accord with Public Law 92-500. Using previously formulated Section 208 plans as bases of information, three small studies were funded in FY 1979. Two have been completed and one is nearing completion. Five additional studies involving institutional problems were initiated in FY 1980.

As a second task, a technology assessment of the water problems of urbanizing areas was begun in 1979 by a consortium of engineering firms, augmenting a previously conducted workshop by the academic community. The assessment has now been completed; it, together with the workshop proceedings and input from the OWRT staff, will provide the basis for selection of future research. The report covered five categories: Hydrology, Nonpoint Source Pollution, Recreation, Water Supply, and Institutions. Eighteen research recommendations were made.

OWRT in 1981 and 1982 will support work to:

- Study persistence of contaminants in aquifers and ecosystems.
- Compare natural assimilative capacities of marshes with waste disposal sites on or underground.
- Determine value of wetlands as wildlife habitat vis-a-vis their value as landfilled construction sites.
- Determine the impact of landfills upon the quality of surface waters and groundwater.
- Develop strategies for mitigation of stormwater damages resulting from flooding, erosion and sediment transport.
- Determine detailed surface water quality parameters within potential urbanizing development areas for use as data bases for water quality evaluation, modeling and management.
- Identify and evaluate chemical and biological factors involved in solving water quality problems.
- Develop strategies to control nonpoint source pollution and to minimize impacts on groundwater.
- Assess the degree to which management strategies are transferable from one area to another.
- Analyze institutional impediments involved in planning and management of water resources including such issues as groundwater protection.
- Measure hydrologic parameters needed to develop or calibrate models for developing urban areas.
- Study the effect of rainfall intensity and frequency on runoff from urbanizing water sheds.
- Study surface and groundwater interrelationships including flux and storage in the unsaturated zone.

Studies of water problems associated with urbanization have been and are now being made by various Federal agencies, each pursuing its own mission. No single agency has attempted to carry out a comprehensive research program. Few local government units have technical staffs competent to perform research relative to needs or to identify sources of useful information. It is incumbent upon the States and the Federal Government, in the interests of responsible water resources management, to evaluate needs, conduct research and provide information. Because of the nature of these problems, OWRT, in association with the State Water Resources Research Institutes, provides the vehicle for conducting this program. Every effort is made to prevent duplication of studies being pursued by mission-oriented Federal agencies and to incorporate into the overall program the investigations by State Institutes.

The 1982 program will fund an estimated 10 new projects, including:

- Surfacewater-groundwater interactions with particular regard to groundwater recharge and quality protection.

- Phenomenologic modeling of the drainage basin as a nonpoint source pollution generator and/or reactor, taking into account physical, chemical and biologic transformations that occur.

Workload Factors

	1980	1981	1982
Proposals Reviewed	35	35	45
Projects Selected	11	8	10
Projects Monitored	14	20	24
Reports Reviewed	2	6	8

Increase for 1982: There are no funding changes proposed for FY 1982.

Special Research Projects

Objectives: To support concepts in water research which offer unique opportunities for regional or national problem-solving; to develop new foci for the national program through assessments, research and development projects supported and review innovative proposals directed at high-priority national problems.

Base Program: While most of the funds in the national water R&D program are allocated by OWRT to projects in focused areas of inquiry, OWRT supports in this subcategory proposals which are innovative and/or relevant to high-priority national water problems and which do not fit within other OWRT programs.

The national five-year water resources research priority agenda completed this year by the OSTP/DOI Interagency Water Research Priority Policy Group is being used to assist OWRT in the identification of new and developing areas of interest for focused water R&D. In 1981 and 1982, OWRT will support research on groundwater management, brackish water utilization, and energy development/water management relationships; in addition, OWRT will select projects which technical staff have determined offer unusual opportunities for problem-solving.

Examples of projects supported to date:

- Legal, institutional, technical and policy problems of inter-basin transfer of water via coal slurry pipelines during drought conditions.
- Effectiveness of drip irrigation, metabolic inhibitors and anti-transpirant materials.
- Agricultural use of small-scale sporadic flash floods on the Papago Indian Reservation.
- Sources and kinds of salts which contribute to the salinity of the Colorado River by natural processes acting within tributary watersheds in the upper Colorado River Basin.
- Water, energy and economic development options in an integrated regional system.

An additional category of research supported under this subprogram was established through a supplemental appropriation of $2,000,000, to be available until expended, directed toward water-related problems resulting from the volcanic eruptions of Mt. St. Helens. The Institutes in five Northwest States (Washington, Oregon, Idaho, Montana and Wyoming) are providing an assessment of research priorities and advisory assistance to OWRT; $688,325 has been committed from these funds. Examples of current projects:

- Runoff response of watersheds impacted by volcanic ash.
- Effects of suspended volcanic ash on the survival and migration of Pacific salmon.

Current research projects are listed in Appendix III.

Workload Factors

	1980	1981	1982
Proposals Reviewed	50	50	70
Projects Selected	7	8	20
Projects Monitored	--	11	26
Reports Reviewed	4	5	8

Increase for 1982:	1982 Base	1982 Estimate	Increase
$	350	695	345
(FTP)	(1)	(1)	(--)

An increase of $345,000 is proposed for FY 1982. OWRT will support innovative research in several categories which have been identified by the OSTP/DOI Interagency Water Research Priority Group as being of critical or urgent priority for water-related R&D. The increased funds requested will be used to support work in areas of research interest which are candidates for new focused programs, as follows:

- Groundwater management; proposals will be encouraged to:

  determine pathways, transformations and fate of contaminants in groundwater and to develop methods to curtail their movement;

  determine the suitability of brackish water for use in the development of new crops to fill strategic needs (i.e., jojoba for lubricating oil, guayule for rubber, canegria for tanin).

- Energy development and water management relationships proposals will be encouraged to:

  provide technologies and improved management systems for water development and protection where energy development increases demands on water resources.

  develop better methods for overcoming legal, technical, and policy barriers to management of water allocation between energy production and agriculture.

  determine the water use required for synfuels development and assess impacts on other water users.

  develop models for determining the fate and pathways of groundwater affected by coal mining, with emphasis on interbasin groundwater transfer.

  determine detrimental impacts of in-situ uranium mining on groundwater and develop alternative methodologies for protection of water resources where necessary.

Recent high interest in hazardous waste disposal related to groundwater contamination has not yet been supported with research. Neither the identification of existing contaminated groundwater nor the regulation of waste disposal to prevent future groundwater contamination properly address the problems which already pose a threat to health in some locations. OWRT will encourage research and development projects which offer knowledge or innovative technologies or systems to mitigate contamination, create barriers to movements of contaminants, or protect groundwater resources.

In most parts of the semiarid West, brackish water is gradually increasing in quantity as freshwater supplies decrease. Finding beneficial uses for brackish water will release freshwater for domestic or agricultural purposes. This has become an important research objective in those parts of the nation where population increases and industrial growth are putting extreme pressures on limited water supplies. OWRT will encourage research and development projects to find beneficial uses for naturally occurring brackish water.

A special area for research and development related to increasing brackish water use is the study of crops which may be grown with less water or with brackish water. Three crops under consideration are: (1) jojoba, which produces lubricating oil; (2) guayule, which produces rubber; and (3) canegria, which produces tanin. Each of these products is listed as a strategic material in critical short supply and must be imported. All three plants grow naturally in semiarid regions; however, intensive research is required to grow these plants commercially. Water requirements for commercial production are not known. OWRT will encourage research related to water needs for these three crops.

In most cases, development of energy resources and synfuels depends on adequate water supplies for both processing and for development-related urban growth. OWRT will encourage research to solve the water problems related to energy development.

Object Classification Distribution

The object classification breakdown for the $345,000 increase is as follows:

Other Services (25.0)	+$345,000

Justification of Program and Performance

Activity: Saline Water Research and Development

Subactivity: Research

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted to date	FY 1982 Base	FY 1982 Estimate	Inc.(+) or Dec.(-)
Membrane	$	1,860	1,860	1,860	--
	(FTP)	(5)	(5)	(5)	(--)
Thermal	$	350	350	510	+160
	(FTP)	(1)	(1)	(1)	(--)
New Concepts	$	800	800	800	--
	(FTP)	(2)	(2)	(2)	(--)
(Common Program Services)	$	(305)	(320)	(341)	(+21)
Total Requirements	$	3,010	3,010	3,170	+160
	(FTP)	(8)	(8)	(8)	(--)

Authorization: 42 USC 7832, P.L. 95-467, as amended, Title II, Sec. 201(a)(d)(e)
42 USC 7873, P.L. 95-467, as amended, Title IV, Sec. 402(a)(b)

Sec. 201. The Secretary is authorized and directed to (a) conduct, encourage, and promote basic scientific research and fundamental studies to develop effective and economical processes and equipment for the purposes of converting impaired water into water suitable for beneficial uses;...

(d) study methods for recovery, beneficial uses and disposal of residuals, and marketing of byproducts resulting from the improvement or conversion of impaired water in an environmentally acceptable manner;

(e) undertake economic studies and surveys to determine present and prospective costs of producing water for beneficial purposes in various parts of the United States by saline water conversion processes and, by means of models, or other methodologies, prepare and maintain information concerning the relation of such conversion processes and systems to other aspects of State, regional, and national comprehensive water resources planning.

Sec. 402(a). There is authorized to be appropriated to carry out the provisions of Title II of this Act...for the fiscal year ending September 30, 1982, the sum of $17,400,000, all of which is to remain available until expended. The categories for which such funds are authorized are research, development and demonstration plant studies. The funds appropriated to such authorization shall be distributed to the foregoing categories as determined by prevailing budgetary priorities.

(b) Not more than 5 per centum of the funds to be made available in any fiscal year for research under the authority of this Title may be expended for foreign activities subject to the approval of the Secretary of State to assure that such activities are consistent with the foreign policy objectives of the United States, in cooperation with public or private agencies in foreign countries for research useful in the programs in the United States.

Membrane

Objective: To expand scientific knowledge leading to more effective membrane processes for desalting.

Base Program: The growing importance of membrane processes to desalt water is directly attributable to the research and development supported by OWRT and its predecessor, the Office of Saline Water (OSW). As a result of this work, brackish waters, seldom seen as part of the usable water resources of the Nation, are potential water supply sources for water-short areas. Many communities are already meeting their needs by converting such waters into potable supplies. By 1980, new polymers, membranes, and processing techniques resulting from this research had lowered the 1950's cost of desalting brackish water about 80 percent.

The success achieved with brackish waters has encouraged application of similar techniques to seawater. While moderate successes are being achieved, the higher salinity and complexity of seawater require improved membranes and processes to operate relatively as economically as with brackish water conversions. Consequently, current research in membrane processes places great emphasis on reducing the cost of membranes for seawater applications, extending their life, and decreasing energy required for operation. Knowledge gained from this research is expected to also find applications in the treatment of wastewater for production of useful water supplies and for the recovery of valuable dissolved constituents.

The three principal membrane processes are reverse osmosis (RO), electrodialysis (ED) and ultrafiltration. Ultrafiltration has great potential as a pretreatment process for RO or ED. Current research projects are listed in Appendix IV.

REVERSE OSMOSIS (40% of subactivity funding)

Research in reverse osmosis is aimed at the development of a one-pass seawater desalination membrane. A successful membrane must not only produce water at a satisfactory rate, it must have long-term resistance to compaction under the high pressures used in seawater systems and be resistant to attack by chlorine.

Although the program contains basic research seeking a better understanding of the phenomenon of concentration polarization and its effects on water production rates using membranes, the primary emphasis is on applied research involving synthesis and testing of the new polymers having resistance to chemical and biological attack, compaction, and effects of temperature and pH variations. Projects have been added to study new polymer families and to increase knowledge of the relationships between polymer composition, structure and performance in reverse osmosis.

The thin film composite membrane emerged as a result of OSW-sponsored research and is of increasing importance for seawater applications. Lowering the resistance of the subsurface layers of the membranes to water flow decreases the energy

requirements that makes possible the use of costly polymers in the thin barrier layer or film, while allowing the membrane to derive its physical strength from less costly but stronger membrane support material. Recent projects include new techniques for membrane formation as well as studies of new polymers for the salt-rejecting layer.

ELECTRODIALYSIS (10% of subactivity funding)

As a production process, electrodialysis is the oldest of the membrane processes. Historically, its application has been limited to brackish waters of fairly low salinity and waters with unusual constituents. Recent reappraisals led to the conclusion that the process has the potential to economically desalt water of high salinity. The dominant requirement is for the creation of membranes specifically designed for use with seawater. Basic research is underway to discover more about how membranes foul and how membrane composition affects fouling resistance. The greatest need, however, is for membranes with increeased electrical conductance and, hence, lower energy requirements, a critical factor in the cost of water production. Cost will continue to be the yardstick for necessary progress.

PRETREATMENT (15% of subactivity funding)

Seawater and brackish water contain organic and inorganic substances ranging from dissolved salts to suspended and colloidal materials. The suspended and colloidal materials acculate on membrane surfaces and adversely affect membrane function and lifetime. Pretreatment of the feedwaters using chemicals and filtration removes some of the fouling materials. Relatively little research has been done on chemical pretreatment because its cost, despite improvements, is seen higher than that potentially achievable with other techniques, particularly ultrafiltration. OWRT is sponsoring research to improve UF membranes and to increase knowledge of the removal of solutes and colloids and their interaction with membranes. Through applied research, development of nonfouling UF membranes that make use of piezoelectric resins is underway. Through research on porous support materials for RO membranes, new candidate materials have been identified.

Workload Factors

	1980	1981	1982
Proposals Reviewed	20	25	26
Projects Selected	18	18	16
Projects Monitored	37	46	52
Reports Reviewed	9	10	11

Increase for 1982: There is no proposed increase for 1982.

Thermal

Objective: To expand basic scientific knowledge which will lead to improvements in the performance and economics of heat-dependent desalting processes.

Base Program: Thermal processes for separating salts from water may be observed in nature. In the hydrologic cycle, pure water is evaporated from the sea in the form of the vapor that later falls as rain; the sun, of course, is the heat source. The partial melting and refreezing of ice on saline ponds in winter is used to advantage in some parts of the world since the ice formed eventually becomes pure. Distillation processes were known and used by ancient Romans; about half of the world's desalting plants still use this principle.

The sudden reduction of funding in 1973 for the OSW program stopped distillation research. Such funds as were available enabled only membrane research to continue. With no R&D in distillation processes, improvements in distillation processes have been minimal since that time. While research on freeze processes was also reduced to a low level, some work continued and some progress has been made.

Opportunities exist for improvements in thermal processes. These are likely to come from basic laboratory studies on scale formation, corrosion, heat transfer, and phase separations. Research on thermal processes is particularly attractive because of the potential to operate economically using waste heat as the driving force. Current research projects are listed in Appendix IV.

FREEZING PROCESSES (9% of subactivity funding)

Freezing processes have inherent advantages for distillation: feedwater pretreatment requirements are minimal; there are few corrosion problems, and theoretical energy requirements are low. Research is needed to improve absorption, stripping, phase separation and heat transfer. All ongoing projects in freezing are basic research.

EVAPORATION PROCESSES (5% of subactivity funding)

Distillation is the most widely used of all desalting processes. The major block to increasing operating efficiency is scale formation. Elimination or prevention of scale buildup will permit higher operating temperatures and greater water recovery. Distillation could be economically competitive with other desalination processes if problems of scale formation and corrosion are solved. OWRT research places greatest emphasis on understanding the mechanisms of calcium sulfate scale deposition and its prevention. Basic research is also needed on properties and behavior of materials resistant to corrosion.

Workload Factors

	1980	1981	1982
Proposals Reviewed	10	12	14
Projects Selected	3	5	6
Projects Monitored	8	11	15
Reports Reviewed	2	2	3

Increase for 1982:	1982 Base	1982 Estimates	Increase
$	350	510	+160
(FTP)	(1)	(1)	(--)

Research in thermal processes has received minimum support in recent years. The progress being made in membrane research has enabled a minor shift in program direction to now include some work in thermal processes. As evaporation or distillation are the processes of choice in some water-short areas, research is expected to produce results which can permit these processes to achieve higher levels of efficiency than are now attainable, particularly with respect to energy consumption, as well as decreased capital and operating costs. Two requisites for this to be accomplished are the control or elimination of calcium sulfate scale and the replacement of expensive materials in distillation plants with inexpensive materials. The increase requested would address these two problems.

Calcium sulfate scale limits thermal efficiency by limiting the maximum operating temperature to 250°F. Under present operating conditions, exceeding this temperature accelerates the formation of scale and results in costly shutdowns for removal of scale from the heat exchanger tubes. In extreme cases, complete replacement of tubes is required. This problem is well demonstrated in distillation plants in the U.S. Virgin Islands.

It has been shown in earlier work by the Office of Saline Water that calcium sulfate scale suppression can double the performance ratio. This was accomplished through mechanical techniques at a cost acceptable only as an experiment for determining the effects of such scale suppression. Because the use of additives and inhibitors has been successful in the suppression of scale formation of other mineral salts, which has led to plant operation improvements, there is reason to believe that an inhibitor can be developed for calcium sulfate scale.

Corrosion has always been the most serious problem in plants distilling seawater. Plants in the U.S. Virgin Islands and at Key West, Florida, have been virtually destroyed by corrosion. Under present practices, corrosion can be limited by using substantial amounts of copper, titanium, copper-nickel alloys, and stainless steels. Such materials are not only expensive, they are of critical importance in times of national emergency. These metals are in themselves or contain materials classified as strategic. Research aimed at controlling corrosion could result in finding the means of using less costly, non-strategic materials or formulating less costly materials for plant construction. The reduced capital costs for plants together with lower maintenance costs, would be reflected in lower costs for desalted waters.

Object Classification Distribution

The object classification breakdown for the $160,000 increase is as follows:

Other Services (25.0)	+$160,000

New Concepts

Objective: To seek out and explore ideas for new desalting processes or improving known processes.

Base Program: (21% of subactivity funding). Progress in desalination requires a continuing effort to improve existing processes and to find new approaches. The fact that the processes presently used do not sufficiently approach theoretical

minimum energy requirements indicate potential for improvement. Research into new concepts looks for greater efficiency. For example, biological processes may be studied to determine whether the transport processes and the natural membranes involved provide clues useful for improving the synthetic membranes. New processes having a thermodynamic chance of success also may deserve investigation.

Preliminary study of the biophase nozzle, a new concept in desalination, has been completed. It has been shown that this device can separate pressurized, hot, saline water into a stream of waste brine and a stream of pure water as vapor while generating useful shaft energy. Work now underway includes studies of biological (animal) membranes and investigation of a novel process which may make it possible to distill seawater with high feedwater yields, but without the complication of scale formation, although the residual brine is at a higher concentration. Current research projects are listed in Appendix IV.

Workload Factors

	1980	1981	1982
Proposals Reviewed	6	10	14
Projects Selected	4	7	8
Projects Monitored	7	12	17
Reports Reviewed	2	3	4

Increase for 1982: There is no proposed increase for FY 1982.

Justification of Program and Performance

Activity: Saline Water Research and Development

Subactivity: Development

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted to date	FY 1982 Base	FY 1982 Estimate	Inc.(+) or Dec.(-)
Membrane	$	4,405	4,405	4,405	--
	(FTP)	(9)	(9)	(9)	(--)
Thermal	$	1,375	1,375	1,625	+250
	(FTP)	(2)	(2)	(2)	(--)
Reuse	$	1,550	1,550	1,550	--
	(FTP)	(4)	(4)	(4)	(--)
(Common Program Services)	$	(769)	(807)	(859)	(+52)
Total Requirements	$	7,330	7,330	7,580	+250
	(FTP)	(15)	(15)	(15)	(--)

Authorization: 42 USC 7832, P.L. 95-467, as amended, Title II, Sec. 201(a-e)
42 USC 7873, P.L. 95-467, as amended, Title IV, Sec. 402(a)

Sec. 201. The Secretary is authorized and directed to: (a) conduct, encourage, and promote basic scientific research and fundamental studies to develop effective and economical processes and equipment for the purpose of converting impaired water into water suitable for beneficial uses; (b) pursue the findings of research and studies authorized by this title having potential practical applications, including application to matters other than water conversion, and to other supply sources such as brackish waters, staged development, and use with energy sources; (c) conduct engineering and technical work including the design, construction, and testing of various processes, systems, and pilot plants to develop saline water conversion processes to the point of demonstration; (d) study methods for recovery, beneficial uses and disposal of residuals, and marketing of byproducts resulting from the improvement or conversion of impaired water in an environmentally acceptable manner; (e) undertake economic studies and surveys to determine present and prospective costs of producing water for beneficial purposes in various parts of the United States by saline water conversion processes and, by means of models, or other methodologies, prepare and maintain information concerning the relation of such conversion processes and systems to other aspects of State, regional, and national comprehensive water resources planning.

Sec. 402(a). There is authorized to be appropriated to carry out the provisions of Title II of this Act...for the fiscal year ending September 30, 1982, the sum of $17,400,000, all of which is to remain available until

expended. The categories for which such funds are authorized are research, development and demonstration plant studies. The funds appropriated to such authorization shall be distributed to the foregoing categories as determined by prevailing budgetary priorities.

Background: OWRT manages a diversified saline water conversion development program, largely carried out with private industry, universities, Federal agencies, and State agencies through contracts and grants. Major component and process development work is carried out at two test facilities. The development program for seawater processes is carried out primarily at the Wrightsville Beach Test Facility in North Carolina, and the brackish water program at the Roswell Test Facility in New Mexico. The test facilities provide settings for comparative testing and evaluation of competing technologies, and minimize program costs through the use of common work forces and utility systems for a multiplicity of test units. Test units vary from simple modules to complete pilot plants. Current activities include:

1. Performance testing of advanced reverse osmosis membranes and modules for conversion of seawater, brackish water, or other impaired water.

2. Optimization of pretreatment systems and components for membrane processes including work on coagulation, settling and filtration systems, and spiral-wound and hollow fiber ultrafiltration units.

3. Evaluation of high temperature electrodialysis units for seawater conversion.

4. Testing of low pressure RO membranes and modules for brackish and other impaired water conversion.

5. Development of vacuum and indirect secondary refrigerant freezing processes for seawater desalination.

6. Development of secondary refrigerant freezing processes for ultra-concentration of brines and other impaired waters.

7. Testing of devices that minimize overall energy requirements in RO plants.

8. Evaluation of advanced scale control and heat transfer enhancement techniques for distillation processes.

In addition to the major effort in testing of processes, contracts are awarded for conceptual design studies including economic analyses of production-size plants, and for technical analysis of new desalination process concepts. The development program is closely integrated with research activities as research is the source of the physical/chemical data and phenomena which are considered in the subsequent development and testing phases. The programs also reveal specific applied research needs.

The output of the development program is measured in terms of reduced costs for conversion of seawater, brackish water, or other impaired water. Workload is directly related to the number of active projects. Project activity is directly related to the finding level which determines the time required to achieve short-term objectives and to attain long-range goals.

Even small refinements in desalting technology can result in lower costs for the water user. However, improvements usually occur in steps and can only be measured with reasonable accuracy at the completion of the demonstration phase. Because cost reductions are not achievable on an annual basis, other measures must be used to determine progress. Changes that indicate improvements:

- Modular unit production
- Process dependability
- Component life expectancy
- Plant life
- Unit energy consumption
- Operation and maintenance costs
- Pretreatment costs
- Materials life and costs

Membrane

Objectives: To advance the technology of membrane desalination to permit economical conversion of saline and other impaired waters into water suitable for beneficial use.

Base Program: The program is keyed to development of improved membranes as well as large-size modules and membrane elements to save on capital and operating costs.

In addition, there are associations with other OWRT programs in direct support of membrane and module research and development activity. These primarily involve pretreatment studies and component development, including high pressure pumps and energy recovery systems for reverse osmosis plants.

The reverse osmosis process has received major emphasis in the OWRT research and development programs. Although this process has a substantial degree of process maturity, improvements in both overall performance and economics are still obtainable.

The membrane development program in FY 1981 consists of about 20 new and ongoing projects related to seawater desalting. In addition, there are 15 other development projects that apply equally to seawater and brackish water desalination. Most of these projects deal with development of new membranes and module designs with emphasis on field-testing and evaluation to obtain operating data. They also involve pretreatment, component development investigations, and evaluation of energy recovery designs for reverse osmosis plants.

The level of work on module and systems development is dependent on the position of reverse osmosis in the projected seawater desalting market. Acquisition of fundamental operating data through field testing and evaluation is stressed. The tests will produce data on competing membrane systems and identify those systems offering the best potentials for cost reduction. The tests offer continuing demonstrations of the technical and economic viability of seawater membrane desalting systems undergoing evaluation.

Current work in the membrane program includes testing of several single-pass seawater membrane modules, as well as testing of pressure recovery systems designed to minimize energy consumption. Continued effort on feedwater pretreatment systems for both seawater and brackish water is needed to assure reliability of such cost

factors as membrane life and product output. Work in FY 1981 and FY 1982 will seek to:

- Improve systems design and the performance of membranes, large size modules, and membrane elements.

- Reveal current costs of membrane desalination for seawater conversion and identify aspects which, through further development can affect cost reduction.

- Minimize overall energy requirements in seawater and brackish water membrane plants through development of efficient energy recovery systems or methods for operation at pressures considerably lower than those in use today.

- Produce conceptual designs and cost estimates for commercial process plants.

The brackish water membrane development program in FY 1981 will consist of 16 to 18 projects. There are approximately 15 additional development projects which affect both sea- and brackish water desalination. In FY 1981 and FY 1982 efforts will be essentially balanced between seawater and brackish water membranes.

Despite the relative maturity of brackish water membrane processes, there are significant potentials for advancements in this technology which can enhance operational capability and overall economics. Specifically, in FY 1981 and FY 1982, development of economical pretreatment and/or interstage treatment techniques to permit attainment of high product recoveries in brackish water plants will receive attention. This is important because of the possibility of minimizing the volume of waste brine. Achievement of low operating pressure represents another important field of study for FY 1981 and FY 1982, as low pressure can have a pronounced effect on product water costs. Besides savings in energy, low pressurpermits use of lower cost materials of construction throughout the plant, while increasing membrane life and productivity, the latter due to reduced fouling.

Accomplishments include:

- Development of a large (12" diameter) prototype experimental seawater reverse osmosis spiral-wound module with a design capacity three times greater than current modules. It is estimated that this will reduce plant capital costs 15 to 20 percent.

- Improvement of thin film composite (TFC) membrane technology. Initial seawater field test data on new TFC membranes show improved chlorine resistance, flux, and salt rejection properties over other known TFC reverse osmosis membranes. Flux improvements up to 20 percent in freshwater have been attained.

- Demonstration of the feasibility of eliminating the use of acid in seawater reverse osmosis plants through substitution of antiscalant compounds.

- Demonstration of the feasibility of operating RO brackish water plants at low pressure. More than 10,000 hours of evaluation testing were recently completed with experimental prototype low pressure modules.

74-939 O—80——23

- Completion of design and successful fabrication of several 16-inch diameter low pressure brackish water hollow fiber membrane modules. Such modules have potential product water capacities up to 100,000 gpd, representing a five-fold increase in module size compared with the largest hollow fiber modules commercially available. Current priority projects are listed in Appendix IV.

Workload Factors

	1980	1981	1982
Proposals Reviewed	50	55	55
Projects Selected	28	25	23
Projects Monitored	50	53	48
Reports Reviewed	18	22	28

Increase for 1982: There is no proposed increase for FY 1982.

Thermal

Objective: To develop practical and economically feasible thermal components for the conversion of saline and other impaired waters.

Base Program: Distillation processes have been the mainstay for seawater desalting for many years. The technology for land-based plants was brought to an advanced stage by 1973 largely through the efforts of the Office of Saline Water. Although multistage flash (MSF) technology was established, and some improvements have taken place, not enough has been done since. Consequently, the United States has lost the leadership in world sales as well as in technical advancements of thermal desalting. Current cost and availability of energy indicate a growing need to investigate and establish those new distillation technologies that can make more efficient use of available energy supplies. OWRT continues to evaluate new design concepts for high performance, energy-efficient distillation processes. Early results indicate a need for expanded concept and component testing in the OWRT program.

The OWRT program in freeze processes established the technical feasibility of a number of process variations. Full-scale demonstrations required to bring these processes to commercial viability have not yet been accomplished. In general, the basic vacuum freezing process offers the best opportunity for providing the technology that can successfully compete in the seawater desalting market, while the secondary refrigerant processes, both direct and indirect, offer advantages for recovery of dissolved minerals through the ultraconcentration of reject brines and other impaired waters. Because freeze processes are relatively insensitive to the composition of the feedwater, capital costs are estimated to be relatively low and well defined for most applications. Feedwater pretreatment is not normally required and therefore would be a site specific add-on cost at the desalting plant.

The OWRT thermal program has put emphasis on the development of a reliable cost-effective vacuum freezing process for seawater conversion. A 25,000 gpd pilot plant based on the adsorption freezing vapor compression (AFVC) cycle is being tested at Wrightsville Beach. A vacuum freezing ejector adsorption process is being studied with the possibility of testing it in FY 1983 using the AFVC plant with suitable modifications.

Interest is being renewed in secondary refrigerant processes. A 6,000 gpd indirect freezing pilot plant, constructed in 1980-1981, will be tested on seawater at the Wrightsville Beach Test Facility in 1982. Bench-scale tests on the indirect freezer in 1980 confirmed the potential of this process concept for converting reject brine streams and other impaired waters to residual brines of extremely high concentrations. Indirect freezing has no limit on the types of feedwater that can be processed. The process is insensitive to pH, concentration of scale-forming compounds and the nature of the contaminant--whether volatile, non-volatile, organic, or inorganic. Indirect freezing processes inherently are simple in component design but also are higher in direct energy requirements as compared to vacuum or direct contact secondary refrigerant processes. The present seawater pilot plant will provide information on the unit product cost for the proposed application.

A eutectic freezing pilot plant is being installed at the Roswell Test Facility in 1981. This 2,500 gpd plant will be tested to evaluate its prospect for reducing reject brine streams to a wet salt. A secondary refrigerant indirect freezer has been incorporated into the design, following successful bench-scale tests in 1980 in which the feedwater stream was processed and reconcentrated to approximately eight times that of seawater. Operation at such a high TDS level means that recovery conversion of up to 98% of the source water input is achievable and cost associated with inland brine disposal practically eliminated. This new program thrust results from a technical breakthrough made in indirect freezing. Operating conditions and heat transfer surface configurations have been tested with continuous partial freezing occurring at high ice formation rates without fouling by ice build up on the surfaces.

Other new process concepts for freezing and hybrid distillation are being evaluated for seawater conversion. Expected energy efficiencies are much higher than those for existing processes, including reverse osmosis with pressure energy recovery. Not all of these studies can be vigorously pursued to the point of demonstration, and critical selections must be made within funding levels. Continuing evaluation of new concepts in thermal processes will be retained as a priority program activity. Current priority projects are listed in Appendix IV.

Projects to be supported in FY 1982 are:

- Completion of testing and analysis of the 25,000 gpd AFVC process pilot plant for seawater desalination - $250,000

- Modification and testing of the 6,000 gpd indirect freezing plant built in 1981 - $350,000

- Startup and testing of the eutectic freezing plant being constructed at the Roswell Test Facility - $400,000

- Completion of test on novel two-phase flow concept for improving heat transfer and scale control in MSF distillation plants - $100,000

- Continuing support of advanced design analysis on hybrid thermal process systems and combinations - $115,000.

- Investigation of coupling of the AFVC process with LNG vaporization facilities to conserve energy by making efficient use of cold BTU's - using data supplied by several public utilities - $160,000 (see justification for increase request below).

Distribution of Funds by Process Technology

(Dollar Amounts in Thousands)

	1980	1981	1982
Distillation	100	300	225
Vacuum Freezing	511	475	650
Secondary Refrigerant, Indirect	639	600	750
Total	1,250	1,375	1,625

A priority listing for projects in the Thermal Process Development Program is given in the Appendix. Several accomplishments are as follows:

- Demonstration of simplified indirect freezing process at brine concentrations up to 24% total dissolved solids (26% is the approximate eutectic point of sodium chloride brines).

- Development of design data and specification criteria for variable output high-performance multistage flash desalting plants.

- Fabrication of the 6,000 gpd indirect freezing pilot plant for testing at the Wrightsville Beach Test Facility.

- Establishment of technical capability of the new absorption freezing vapor compression process for seawater conversion through initial pilot plant tests at the Wrightsville Beach Test Facility.

- Establishment of technical capability of combining freeze desalination with LNG vaporization.*

*Makes use of "cold BTU's resulting from the phase change that occurs when liquified natural gas expands to its normal gas state by removing the compressing restraint which forces it into a liquid state. The "cold BTU's" are below the freezing temperature of water and can be recovered and used in some processes involving freezing, only a few of which can use this form of heat economically.

Workload Factors

	1980	1981	1982
Proposals Reviewed	25	30	30
Projects Selected	9	7	11
Projects Monitored	11	11	17
Reports Reviewed	7	5	5

Increase for 1982:	1982 Base	1982 Estimate	Increase
$	1,375	1,625	+250
(FTP)	(2)	(2)	(--)

The requested increase of $250,000 will be used to integrate the AFVC desalting process pilot plant with liquified natural gas (LNG) vaporizing facilities. This project will be jointly funded with several public utilities. These utilities will provide the test site and LNG vaporizing facilities, and pay for the modifications required to provide refrigeration capabilities for the AFVC pilot plant. The desalting pilot plant adopted for use of this unusual waste energy resource will be provided by OWRT.

The United States will be receiving progressively greater amounts of LNG. In the near future, the thermal energy released in vaporizing LNG could be 300 billion BTU's per day, the equivalent of 20 million barrels of oil per year. Direct use of this energy in a freeze desalting process could produce up to 250 million gallons of fresh water per day at less than half the cost of conventional seawater distillation. In addition, our studies show that the minimum energy requirement to run the desalting process pumps would be more than offset by reduction of energy for pumping in the LNG vaporizing plants.

Water-short coastal communities, particularly in Southern California and along the Gulf of Mexico where LNG terminals are planned, would benefit significantly from the development of this source of relatively low cost high purity water. Use of the cold BTU's from LNG vaporization in a freeze desalting process is an environmentally acceptable method of dissipating this thermal energy which would otherwise be an environmental liability. It is, perhaps, the only application capable of using the huge quantities of energy in a productive manner. The requested increase is necessary to advance this concept beyond paper studies and make the technology available so that the new LNG facilities will be operating at high efficiency.

Object Classification Distribution

The object classification breakdown for the $250,000 increase is as follows:

Other Services (25.0) +$250,000

Reuse

Objective: To develop, improve and apply saline water conversion technology for the reuse/recycle of previously used waters.

Base Program: Reuse under the saline water development subactivity is directed at the development of thermal and membrane technologies and associated biological/physical/chemical processes. Emphasis is on conversion of industrial process wastewaters, cooling water, municipal wastewaters and agricultural return flows.

A mobile treatment facility has been fabricated to include advanced membrane and ion-exchange processes and appropriate combinations of pretreatment processes. The mobile facility has been taken to plants in high water-using industries and tested for effectiveness in renovating process wastewaters for reuse. The OWRT mobile facility has treated wastewaters in the chemical, food processing, paper and aluminum industries and is currently testing at a major kraft pulping plant. The 1982 program will include appropriate development of these processes for various recycle applications based upon complete evaluation of the testing results. The mobile facility will continue to test membrane and ion-exchange processes at selected industrial sites.

A secondary refrigerant freeze concentration pilot plant has been designed and is under construction. The plant will be tested and operated in 1982 on a dilute acetic acid waste stream from a propylene oxidation plant producing acrylic acid. At present, this waste stream is disposed of either by incineration at an energy cost of $30 per 1,000 gallons or by biological treatment in an aerated lagoon at an energy cost of $7.50 per 1,000 gallons. The freeze concentration plant is expected to have an energy cost of $1.50 per 1,000 gallons, which would be offset by process credits of $0.75 to $2.50 for the recycled water and approximately $0.80 for the fuel value of the concentrate. The concentrate may be suitable for industrial use, making even higher credits possible.

Development of demineralization technology will continue to focus on wastewater treatment processes and systems showing a significant potential for water reuse/recycling based upon completed and current research. The 1982 program will include the development of pretreatment systems needed for removing organic constituents from the wastewater prior to membrane treatment. Also included are the ultrasound-catalyzed processes to reduce organic fouling and air-stripping processes for removal of volatile trace organics from municipal wastewaters prior to membrane treatment for water recovery. Development will continue on wiped-film-rotating-disk evaporators for recovery and reuse of wastewaters from high water-using industries, using waste heat from manufacturing processes. Development of membranes having properties required for reclamation and recovery of specific municipal and industrial wastewaters will continue as will the development of ion-exchange and membrane processes used conjunctively to demineralize agricultural return flows for reuse in domestic water supply systems.

Current research projects at laboratory and bench scale indicate significant potential for ultrafiltration and oxidation/adsorption processes for recovery and recycling of industrial and municipal wastewaters. Development work in 1982 should bring ultrafiltration as pretreatment and final treatment processes closer to being technically and economically feasible for reuse applications.

The work in reuse/recycling described will enable large quantities of water to be recycled and will allow industries and municipalities to reduce pollutant discharge, thereby releasing substantial quantities of fresh water for other priority uses. Current priority projects are listed in Appendix IV.

Workload Factors

	1980	1981	1982
Proposals Reviewed	50	50	50
Projects Selected	8	14	12
Projects Monitored	18	24	28
Reports Reviewed	8	8	18

Increase for 1982: There is no proposed increase for 1982.

Justification of Program and Performance

Activity: Saline Water Research and Development

Subactivity: Demonstrations

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted to date	FY 1982 Base	FY 1982 Estimate	Inc.(+) or Dec.(-)
Demonstrations	$	380	380	200	-180
	(FTP)	(3)	(3)	(3)	(--)
(Common Program Services)	$	(135)	(142)	(79)	(-63)
Total Requirements	$	380	380	200	-180
	(FTP)	(3)	(3)	(3)	(--)

N.B.: An FY 1981 Supplemental in the amount of $22,852,000 is included in the FY 1982 Budget for the construction of demonstration plants in Alamogordo, New Mexico, and Virginia Beach, Virginia, and for the design of demonstration plant number 4.

Demonstrations

Authorization: 42 USC 7833, P.L. 95-467, as amended, Title II, Sec. 202(a)
42 USC 7873, P.L. 95-467, as amended, Title IV, Sec. 402(a)
42 USC 1959i, P.L. 95-84, as amended, Sec. 2(a)(b)(c)(d)

P.L. 95-467, Sec. 202(a). The Secretary is authorized to conduct preliminary investigations and explore potential cooperative agreements with non-Federal utilities and governmental entities in order to develop recommendations for Federal participation in the design, construction, operation, and maintenance of demonstration and prototype plants utilizing advanced saline water technologies for the production of water for beneficial use.

P.L. 95-467, Sec. 402(a). There is authorized to be appropriated to carry out the provisions of Title II of this Act for the fiscal year ending September 30, 1981, the sum of $14,000,000 and for the fiscal year ending September 30, 1982, the sum of $17,400,000, all of which is to remain available until expended. The categories for which such funds are authorized are research, development and demonstration plant studies. The funds appropriated to such authorization shall be distributed to the foregoing categories as determined by prevailing budgetary priorities.

P.L. 95-84, Sec. 2(a). The Secretary of the Interior is authorized and directed to demonstrate the engineering and economic viability of membrane and phase-change desalting processes. Such demonstrations shall include the study, design, construction, operation and maintenance of desalting plants at locations in the United States (which may include the District of Columbia, the Commonwealth of Puerto Rico, American Samoa, Guam, the

Virgin Islands, the Mariana Islands, and the Trust Territory of the Pacific Islands): Provided, that at least two such plants shall demonstrate desalting of brackish groundwater: And provided further, that the plants constructed pursuant to this section shall be for the purpose of showing that the technology being demonstrated is ready for application; such plants shall be sufficient to demonstrate the specific application of the technology, and shall be significantly different in operation and process so as not to duplicate any other demonstration plant constructed pursuant to this section. The Secretary is further authorized to conduct such demonstrations or any portion thereof by means of cooperative agreements (as defined and authorized by 41 U.S.C. 504 et seq. (the Federal Grant and Cooperative Agreement Act of 1977; Public Law (95-224) with duly authorized non-Federal public entities. Title to demonstration facilities constructed by the non-Federal entity under a cooperative agreement shall vest in the non-Federal public entity.

P.L. 95-84, Sec. 2(b). Funds appropriated pursuant to the authority provided by this section may not be expended until thirty calendar days (excluding days on which the House of Representatives or the Senate is not in session because of an adjournment of more than three calendar days to a day certain) have elapsed following transmittal of a report to the Chairman of the Committee on Interior and Insular Affairs of the House of Representatives and the Chairman of the Committee on Environment and Public Works of the United States Senate. Such report shall present information that includes, but is not limited to, how the plant being proposed differs from others, if any, already constructed under this section, the location of the demonstration plant, the characteristics of the water proposed to be desalted, the process to be utilized, the water supply problems confronting the area in which the plant will be located, alternative sources of water and their probable cost, the capacity of the plant, the initial investment cost of the demonstration plant, the annual operating cost of the demonstration plant, the source of energy for the plant, and its cost, the means of reject brine disposal and its environmental consequences, and the unit cost of product water, considering the amortization of all components of the demonstration plant and ancillary facilities.

Such report shall be accompanied by a proposed contract (or cooperative agreement) between the Secretary and a duly authorized non-Federal entity, in which such entity shall agree to provide not less than 15 per centum and not more than 35 per centum of the total cost of the demonstration; such cost to include, without being limited to, necessary water rights, water supplies, rights-of-way, power source interconnections, brine disposal facilities, land, construction, ancillary facilities, and the operation and maintenance costs for a period of four years following final acceptance of the non-Federal entity under such proposed contract may be in-kind. During the participation by the Secretary in the construction and the operation and maintenance of such demonstration, access to the demonstration and its operating data will not be denied by the Secretary or his representatives. The period of participation by the Secretary in the operation and maintenance of any such demonstration shall be four years. The Secretary is authorized to include in the proposed contract a provision for conveying as appropriate, and in such amounts as are appropriate, rights, title, and interest of the Federal Government in the demonstration project to the non-Federal public entity.

P.L. 95-84, Sec. 2(c). There is authorized to be appropriated, to remain available until expended, for the fiscal year ending September 30, 1978, and

thereafter, the sum of $50,000,000 to finance the total federal share of the cost of the demonstration plants authorized by this section; such cost to include without being limited to, necessary water rights, water supplies, rights-of-way, power source interconnections, brine disposal facilities, land, construction, ancillary facilities, and the operation and maintenance costs for the four-year period of Federal participation in such costs.

P.L. 95-84, Sec. 4(d). When appropriations have been made for the commencement or continuation of design, construction, or operation and maintenance of any demonstration plant authorized under this Act, the Secretary may, in connection with such design, construction, or operation and maintenance, enter into contracts and cooperative agreements for miscellaneous services, for materials and supplies, as well as for construction, which may cover such periods of time as the Secretary may consider necessary but in which the liability of the United States shall be contingent upon appropriations being made therefor.

Objectives: To demonstrate the engineering and economic viability of membrane and phase change desalting processes where a water problem can be alleviated through these technologies and where the demonstration will be of value to other communities with similar water problems.

Base Program: Solutions to water supply problems, particularly of quantity, have traditionally been sought by developing new or expanding old sources when such potentials existed. Problems of quality, especially those of mineral content, seldom could be corrected except by finding new water sources of acceptable quality. Today's problems frequently cannot be solved as simply as was done when unexploited water sources lay nearby and the cost of development and conveyance to the community was relatively low. Expanding cities and industries, including agriculture, have essentially exhausted many water sources. Those still available are more costly to develop. Alternatives once held too expensive are now among the choices that should be considered.

The saline water conversion demonstration plant program is intended to enhance the acceptability of desalting technologies as alternatives to conventional methods of providing water supplies. Desalting processes can, in virtually all situations, convert water of unsuitable quality to water suitable for use.

In general, desalination is not yet seen as an alternative by those who make decisions about investments in water supplies. For some, the technology is considered too new to be reliable, or appears too costly. Technical aspects of desalting are less well known that conventional supply and treatment plant methods. However, new desalting technologies, process variants and the diminishing availability of conventional supply sources have changed cost relationships, so that desalting is a better choice in many cases. Acceptance of desalting may not come, in spite of its effectiveness in solving water problems, until it has been demonstrated and is supported with reliable data on operations and costs. Because many communities are unwilling to risk public funds on what is still viewed as unconventional technology, it is desirable to assuage these concerns by conducting demonstrations of various processes using different types of water in actual community water supply situations.

A collateral benefit of the demonstration program is that it provides a Federal showcase for new technology that is watched with interest abroad. The United States once led the world in desalting technology and sales. There is a continuing

leadership in membrane technology. A U.S. Government/OWRT program demonstrating successful new desalting technologies would help establish credibility, and contribute to improved sales by American manufacturers here and abroad.

In December 1978, following a study that examined 37 sites nominated chiefly by State water officials, Alamogordo, New Mexico, and Virginia Beach, Virginia, were selected for the first two of five authorized demonstration plants. The study (Boyle report) considered source water problems, community needs and resources, and the applicability of saline water conversion or other technologies to correct the problem. The report, concluding in essence that all the sites would be suitable, ranked them in groups based on locations and source water types. Alamogordo was highest in the island brackish groundwater group, while Virginia Beach ranked first in the seacoast group. In its review, OWRT confirmed the findings of the study, and selected these two cities for the first demonstrations. These actions were followed by an evaluation and predesign study (Kaiser reports) for each site. In August 1980, the third site, Grand Isle, Louisiana, was similarly identified and will demonstrate energy-efficient single-pass reverse osmosis technology for use on seawater.

OWRT set up a schedule that anticipated the identification of a new plant site each year, and the beginning of construction of one new plant. The resulting overlaps in various phases in the process from selection to completion would be such as to provide opportunities later in the program to consider technologies not at this time fully developed. The schedule permits the workload to remain relatively constant as opposed to being "peaked" if all plants were started at once. Less staff is needed to carry out the program and smaller annual appropriations for planning, construction, and operation and maintenance (O&M) could be requested. The exception to OWRT's schedule is that the first two plants would be planned and constructed concurrently.

The sequence for each plant in the OWRT schedule is as follows:

1st phase: Selection consists of identifying technology ready for demonstration, reviewing prior candidates and identifying new candidate sites with a study such as the Boyle report, followed by selection of the site. This will require 6-9 months.

2nd phase: Evaluation consists of a detailed study of the nominated site together with a predesign study as exemplified by the work done in the Kaiser reports for the first two sites. The report includes an analysis of technologies and process variation considered for that site. The Evaluation phase concludes with the identification of the process/technology to be demonstrated, appropriate agreements with the selected community and a report to the Congress. This phase is approximately one year in duration.

3rd phase: Design includes engineering, detail design, and preparation of construction plants and specifications which are brought to the point for issuance of Invitation for Bids. This phase varies in time with plant size. For a small plant, it may be done in the same year as Evaluation, while for a larger plant, it would be in the year following Evaluation.

4th phase: Construction commences with the advertisement for Invitation for Bids and ends with the start of the O&M phase. For planning purposes, it is assumed that plants with capacities of 1 MGD or less will require one year, and plants larger than 1 MGD will require two years, or more.

5th phase: O&M is the period between completion of construction and the end of a four-year period of operation and maintenance.

Prior estimates submitted to the Congress on time and costs were based on best available information. Now that some prior unknowns such as site conditions, plant type and size, brine disposal, raw water quality, and supply conditions are better understood, the basis for estimates has improved. Between the time of site selection and the completion of the predesign studies, costs have risen due to inflation and to improved information on which the estimates are made. The Boyle group used a rule-of-thumb cost of $3.00 per "daily installed gallon;" the Kaiser estimates convert to a cost of $5.31. The daily installed gallon is used for rough estimates of desalting plant costs. At $3, a 1 MGD plant would be estimated to cost $3 million. On a similar basis, Boyle's O&M was $1.26 per 1,000 gallons; with better information, Kaiser's averaged $1.31.

The next refinement in cost estimate will occur when construction plans and specifications are issued, at which time an engineer's estimate will be prepared based on the precise requirements of the plans and specifications. The exact cost will still not be known until a construction contract is awarded and even this may change when the construction is completed.

In the table which follows, the estimates for Federal costs are shown for six sites. For sites 3, 4, 5, and 6, the Federal costs are arbitrarily set at 85% of total, with the actual percentages to be determined when sites are selected and investigations and negotiations are completed. The assumption used is that the value of the in-kind contributions by the local community would be at least 15%. Estimates are based on averages derived from the Kaiser reports and may not truly represent other technologies, sites, plant sizes, and conditions. Plant sizes for Nos. 3, 4, 5 and 6 are also assumed.

Recently enacted legislation, P.L. 96-457, clarified the relationships of Federal costs and locally required contributions by valuing each demonstration in its entirety including four years of O&M. The costs are then divided on a percentage share, based on local conditions at the rate of 15 to 35 percent for the non-Federal entity. The legislation also removed the limit on the number of plants while retaining the authorization of $50 million; and authorized the use of cooperative agreements with the local entity. The detailed design phase is expected to begin for these first two plants in FY 1981. During 1980, the two cities selected engineering firms for design of the plants and preparation of construction plans, specifications, and bidding documents. It is expected that the construction phase will begin toward the end of 1981, pending appropriation of the proposed $22,852,000 FY 1981 supplemental.

The reports, concerning selection, evaluation and predesign for Alamogordo and Virginia Beach, and terms of the proposed contracts between the Secretary and each of the non-Federal entities, were transmitted to the Congress in July 1980, as directed in P.L. 95-84, as amended.

Cooperative agreements with Alamogordo and Virginia Beach, covering the design phase of the projects, were executed in October 1980, with Alamogordo contributing 15 percent of the total cost and Virginia Beach contributing 35 percent of the total cost.

A feasibility/predesign study (evaluation phase) for Grand Isle, Louisiana, will be initiated in 1981, preliminary to the final design. Site four will be selected in 1981.

Proposed Schedule

Demonstration Plant Program-Federal Costs (Planning and Construction)
(Dollar Amounts in Thousands)

		Fiscal Years						
	Phases	1980	1981	1982	1983	1984	1985	1986
Alamogordo								
cost share:	Design--------	(420)**						
85/15	Construction		*	--	--			
2 mgd	O &M				239	662	489	314
Virginia Beach								
cost share:	Design--------	(420)						
65/35	Construction		*	--	--			
2 mgd	O & M				--	--	--	--
Grand Isle								
cost share:	Selection-----	(50)						
85/15	Evaluation		(150)					
0.5 mgd	Design		(180)					
	Construction				1,312	1,308		
	O & M					120	123	135
Site 4								
cost share:	Selection-----		(50)					
85/15	Evaluation			(150)				
0.1 mgd	Design			40*	531			
	Construction					22	23	27
	O & M							
Site 5								
cost share:	Selection-----			(50)				
85/15	Evaluation				(162)			
3 mgd	Design				1,259			
	Construction					5,836	6,228	4,544
	O & M							
Site 6								
cost share:	Selection-----				(54)			
85/15	Evaluation					(174)		
0.1 mgd	Design					45		
	Construction						619	
	O & M							24
Totals -	Construction	--	22,852*	--	3,341	7,993	7,482	5,044
	(Planning)**	(890)	(380)	(200)	(216)	(174)	(--)	(--)

N.B. Plant capacities and cost shares, except for Alamogordo and Virginia Beach were selected for budget planning purposes to produce the highest possible Federal costs. The number of plants and plant sizes are indeterminate except as limited by the authorization for appropriation.

* An FY 1981 supplemental budget request for $22,852,000 will provide for the construction of demonstration plants in Alamogordo and Virginia Beach and for the design of demonstration plant number four (scheduled for FY 1982).

** Amounts shown in parenthesis are for demonstration planning, site selection and evaluation phases, justified under Saline Water Demonstration.

Workload Factors

	1980	1981	1982
Selection Phases	1	1	1
Evaluation Phases	--	1	1
Design Phases	--	3	1*
Construction Phases (initiated)	--	2*	--

*Contingent on approval of FY 1981 Supplemental

Decrease for 1982:	1982 Base	1982 Estimate	Decrease
$	380	200	-180
(FTP)	(3)	(3)	(--)

A decrease of $180,000 is proposed for demonstration plant planning. $200,000 will be sufficient to select an additional site (selection phase) and perform on-site and process/technology evaluation (evaluation phase).

Object Classification Distribution

The object classification breakdown for the $180,000 decrease is as follows;

Other Services (25.0) -$180,000

Justification of Program and Performance

Activity: Technology Transfer and Information Dissemination

Subactivity: Technology Transfer

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted to date	FY 1982 Base	FY 1982 Estimate	Inc.(+) or Dec.(-)
Technology Transfer	$	500	500	750	+250
	(FTP)	(9)	(9)	(9)	(--)
(Common Program Services)	$	(177)	(186)	(198)	(+12)
Total Requirements	$	500	500	750	(+250)
	(FTP)	(9)	(9)	(9)	(--)

Technology Transfer

Authorization: 42 USC 7851, P.L. 95-467, Title III, Sec. 300
42 USC 7874, P.L. 95-467, Title IV, Sec. 403

Sec. 300. The Secretary is authorized to conduct a research assessment and technology transfer program which transfers research and development results to other organizations and individuals for further development and practical application to water and water-related problems. The Secretary may enter into agreements with the State and local governments and with other public and private organizations and individuals, including cost-sharing or cost-participation agreements, for the transfer or application of research results for the solution of water-related problems and to further the transfer developed by programs authorized under this Act. The Secretary may issue publications and may conduct seminars, conferences, training sessions, or use other such techniques he deems necessary to expedite the transfer of research results and technology development. The technology transfer activities will be coordinated with activities undertaken under titles I and II of this Act.

Sec. 403. There is authorized to be appropriated the sum of...$5,100,000 for the fiscal year ending September 30, 1982, to carry out the sections of titles I, II, and IV of this Act other than those for which special specific authorizations are made.

Objective: To expedite the useful application of water-related research and development results through transfer of evaluated information.

Base Program: The application of new or improved technology resulting from research and development is dependent on useful information being available to the appropriate person at the correct time. The confidence a decision-maker places in technical and economic information is a key factor in his acceptance and use; to accomplish this, the OWRT technology transfer program is associated with

a non-commercial, broad-based and national scientific R&D program. A further purpose of a technology transfer and information dissemination program is to provide researchers and scientists with current information to preclude reinvention of the wheel where possible and to accelerate successful research through coordination of research results, specifically with respect to small-scale specific-problem research like that supported in OWRT programs. Ongoing technology transfer products are shown in Appendix V.

Designing a technical information system requires knowledge of the needs of research scientists, plant and system managers, process design engineers, corporate executives and government policymakers; a further requirement is access to ongoing and impending research and development information from industry, the academic community and government programs. OWRT's technology transfer program is planned to take full advantage of these R&D information sources and to make a continuing assessment of water problems and existing or developing water technologies to solve those problems. Following this application analysis, priorities for technology transfer projects are set, products are designed and produced, and dissemination strategies are developed.

Technology transfer products for this program range from highly technical manuals to workshops and seminars for water officials and the general public. A portion of the work is performed by contract. Program development, program management, application analysis, and product quality control are performed within OWRT.

A technology transfer steering committee with an Institute representative from each region provides major connection between OWRT and the Institute network. The Institutes provide technical support, where appropriate, disseminate, and collect technology information at the local and State levels.

Technology transfer products are tailored to specific beneficiaries, including Federal, regional and local planning agencies, legislators, public interest groups, engineers and scientists, industry, and the general public. The program routinely produces:

- Summary Reports, typically 20 pages long, present a synthesis of information relative to a specific technology for technical managers, engineers, and policymakers.

- Capsule Reports, typically 12 to 15 pages long, describe a new process, technique, or technology for a nontechnical reader.

- Technical Update Reports describe state-of-the-art developments in a field of research or management for scientists and managers.

- Water Resource Manuals present an extensive review of a technology, with sufficient information to define design needs for engineers, water professionals, and other technically trained persons.

- Technical Update Bulletins provide moderately technical information of regional or national interest in a concise format for a broad general audience.

- A Research Report Series documents important results from OWRT research.

- Audiovisual Presentations dramatize, for a broad general audience, the issues and considerations involved in water problems and research programs.

- Seminars, Workshops, and Conferences provide the opportunity for direct communication between technical managers, engineers, researchers, and policymakers relative to water problems.

- Description Sheets, one page summaries of publications, programs, or reports.

Technology transfer material completed and disseminated in 1979 and 1980 in priority research and development categories includes:

Conversion of Saline or Other Impaired Water to Water for Beneficial Use:

- Desalting Plans and Progress - a technical update report.
- Reverse Osmosis Technical Manual
- Desalting Handbook for Planners
- The Role of Desalting Technology in Water Supply, Wastewater Reuse and Industrial Applications.
- Electrodialysis Technology - a capsule report.
- Revere Osmosis - A capsule report
- Scale-Free-Vapor Compression - a capsule report.
- Water Factory 21 - a capsule report.
- OWRT Desalting Technology Project Description Report
- Freshwater - The Desalting Alternative - a 30 minute film

Reuse and Recycling of Wastewater:

- Water Reuse Highlights - a summary report
- Municipal Wastewater Reuse Update Bulletins (12/year, 7,000 circulation)
- Water Reuse and Recycling - two manuals:
  Volume I: Evaluation of Needs and Potential
  Volume II: Treatment Technologies
- Industrial Water Reuse - a manual
- OWRT Reuse/Recycling R&D Project Description Report
- Alternative Wastewater Treatment: Aquatic and Land Systems - a capsule report
- Municipal Wastewater and Sludge Recycling - symposium and proceedings

Water Supply and Management:

- Community Planning for Water Resources Management - a guidebook
- Water Well Location by Fracture Trace Mapping - a capsule report
- Water Conservation Devices - a capsule report
- Urban Water Problems League of Cities Special Supplements (4)
- Water Management Simulator - a computer tool
- Water Resources Protection Handbook
- A Process for Community Flood Plain Management - a manual
- Summary Report on Community Flood Plain Management
- Saving the Lakes - a capsule report

The effectiveness of the OWRT technology transfer program in addressing a major water problem is illustrated in the combination of products for flood plain management. Following an indepth analysis of existing information resulting from OWRT R&D and the work of other agencies nationwide, OWRT took the following actions:

- Published a concise briefing report for mayors, county officials, and other policymakers, highlighting management problems in developing effective flood plain management.

74-939 O—80——24

- Published a detailed manual for community planners to provide flood plain management strategies and available assistance guides.

- Published a summary report of the Flood Plain Management Manual

- Published a one page fact sheet for general public on flood plain management needs and options.

Each of these products was disseminated through the Institutes, through other Federal agencies and through water community organizations. The Department of Housing and Urban Development distributed 6,000 copies of the Summary to field personnel and provided 4,000 copies to mayors of cities applying for funds under HUD's Community Development Program, at HUD expense for reprinting. The Army Corps of Engineers is providing 600 copies to its field personnel who are responsible for flood prevention and mitigation. The State of Minnesota has provided copies of the Manual to all mayors of towns subject to flooding. The State of Montana has requested copies of the Manual and the Summary for its Civil Defense offices. The Summary has received the Award of Merit for 1980-81 from the Society of Technical Communicators.

Technology transfer scheduled for FY 1981 and FY 1982 includes:

- a training manual for using a computer program to graphically display flooding under various flow conditions and physical changes in a flood plain.

- a capsule report on the technology for a solar-heated fish hatchery which recycles 98% of water used.

- a technical update report on municipal wastewater treatment using land application methods.

- an audio-visual program, including a film and slide presentation, on land application of wastewater (jointly with EPA).

- a capsule report on salt-tolerant crops for water-short regions.

- a handbook on fracture trace method of locating groundwater.

- summary report on water reuse/recycling applications and potential.

- technical manual on water reuse and coal gasification.

- update report on applications of reverse osmosis desalting.

- workshop for scientists and engineers on computerized procedures for operating reservoirs.

- conference on water conservation.

- conference on effects of acid precipitation in the Great Lakes.

- symposium on reuse technologies and applications.

- capsule report on municipal wastewater treatment using commercially valuable animals and plants to convert pollutants into usable biomass.

- capsule report on use of microgas dispersion to remove pollutants.

- update report on water use in food processing.

- planning manual on reuse of municipal wastewater.

- capsule report on recycling in the textile industry.

- capsule report on industrial cooling water.

The technology transfer program has established the Water Resources Center at the Desert Research Institute, University of Nevada, as the storage, distribution, and response center for OWRT technology transfer products. This enables efficient and timely dissemination of material at low cost to the government.

Workload Factors

	1980	1981	1982
Proposals Reviewed	205	215	255
Projects Monitored	40	33	66
Capsule, Summary and Update Reports	5	5	9
Water Resources Manuals	2	0	2
Seminars, Conferences, Workshops	5	5	11
Report Series	15	11	35
Technical Update Bulletins	2	2	5
Description Sheets, Brochures, Audiovisual (News Releases not included)	10	6	35

Increase for 1982:	1982 Base	1982 Estimate	Increase
$	500	750	+250
(FTP)	(9)	(9)	(--)

The combination of a technology application manual and a summary report has proved to be a valuable technology transfer tool. The manual provides detailed information for engineers, planners and technicians; the summary provides guidance and nontechnical background for public officials and planning groups. An excellent example of this combination is OWRT's recent Community Flood Plain Management manual and summary, reported under the Base Program.

The $250,000 increase requested will be used to support two projects of this type:

- The results of water reuse/recycling R&D completed by OWRT (see page 28) and other researchers can substantially benefit water supply system planning

for urban areas. Many municipalities find demand increasing at the same time their out-of-date water systems are deteriorating; equally, in regions of urban growth, planning for water supplies is made more difficult if adequate future supplies cannot be assured. While R&D results are frequently accepted and used by industry, technical information of this kind is seldom available or understandable to city planners and public officials. OWRT will produce a manual on water reuse/recycling for municipal planners, presenting an extensive review of available technology for cities, defining design needs, and providing detailed information for city engineers. A summary will be prepared offering public officials, city planners, and nontechnical public groups information on options and benefits of water reuse/recycling. Substantial savings can be made by municipal planners if this information is available to them at the proper time. Cost of the project, including the manual and summary, is $130,000.

- An application manual and handbook on computer graphics technology applied to water resources planning and management will be prepared for use by State and regional officials and planners. The newest techniques can effect substantial savings in both dollars and water. Computer graphics has developed in recent years into a valuable planning tool. Several OWRT projects have resulted in the development of systems for using this tool in natural resources management. Cost for the project, including the manual and the handbook, is $120,000.

Object Classification Distribution

The object classification detail for the $250,000 increase is as follows:

Other Services (25.0)	+$250,000

Justification of Program and Performance

Activity: Technology Transfer and Information Dissemination

Subactivity: Water Resources Scientific Information Center

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted to Date	FY 1982 Base	FY 1982 Estimate	Inc.(+) or Dec.(-)
Water Resources Scientific Information Center	$	900	900	900	--
	(FTP)	(13)	(13)	(13)	(--)
(Common Program Services)	$	(328)	(345)	(368)	(+23)
Total Requirements	$	900	900	900	--
	(FTP)	(13)	(13)	(13)	(--)

Water Resources Scientific Information Center

Authorization: 42 USC 7852, P.L. 95-467 as amended, Title III, Sec. 301
42 USC 7874, P.L. 95-467 as amended, Title IV, Sec. 403

Sec. 301. The Secretary is further authorized to maintain a national center for the acquisition, processing, and dissemination of information dealing with all areas of water resources research, technology development, and demonstration. Each Federal agency engaged in water resources including research, technology development, and demonstration, shall cooperate by providing the center with documents and other pertinent information. The center shall (a) maintain for general use a collection of water resources information provided by Federal and non-Federal government agencies, colleges, universities, private institutions, and individuals; (b) issue publications or utilize other media to disseminate research, technology development, and demonstration information for the purposes of this Act and enter into agreements with public or private organizations or individuals to stimulate acquisition and dissemination of information, thus contributing to a comprehensive, nationwide program of research and development in water resources and the avoidance of unnecessary duplication of effort; (c) make generally available abstracts and other summary type information concerning water resources activities including research projects accomplished and in progress by all Federal agencies and by non-Federal agencies, private institutions, and individuals, to the extent such information can be obtained, and reports completed on research projects funded under provisions of this Act; and (d) in carrying out the information dissemination activities authorized by this section, the Secretary shall to the extent feasible use the resources and facilities of other agencies and of the clearinghouse for scientific, technical, and engineering information established in the Department of Commerce pursuant to sections 1151 through 1157 of title IV, United States Code.

Sec. 403. There is authorized to be appropriated the sum of $6,500,000 for the fiscal year ending September 30, 1981...to carry out the sections of titles I, II, III, and IV of this Act other than those for which special specific authorizations are made.

Objective: To maintain a national center for the dissemination of scientific and technical information on water resources research, technology development and demonstration.

Base Program: The Water Resources Scientific Information Center (WRSIC) abstracts, indexes and processes water research reports and literature into two computer-searchable data bases available to water resources planners, researchers, students and professionals. WRSIC prepares summaries of research in progress, and publishes abstracts, bibliographies, and contributions to the literature.

The data bases contain approximately 147,000 abstracts and 12,500 ongoing project summaries. They can be searched from 60 widely dispersed remote terminals, of which 17 are owned or supported by OWRT, for use by State Institutes and Federal and State agencies. Five of the OWRT terminals are accessible to the public. In addition to use through the OWRT on-line network of 17 terminals, data-base files are also served by 43 terminals in the DOE/RECON system.

To standardize input into the data base from State Water Resources Research Institutes, Federal agencies, and WRSIC constractors, WRSIC publishes the Water Resources Thesaurus and provides a precoded abstract-index form for reporting bibliographic data.

The abstracts data-base file is updated monthly, and the research-in-progress file is updated quarterly. To avoid duplication of research and other efforts, the research-in-progress base is searched as part of the processing of each grant proposal.

Twice monthly, WRSIC publishes selected water resources abstracts and cumulative indexes. Official distribution of the 2,500 copies printed is primarily to State Institutes and Federal water resources agencies, with the remainder going to universities, State agencies, contractors, and water resources professionals. NTIS sells approximately 500 subscriptions for this service independently. Fifty-two topical bibliographies have been developed and are available on request.

Several program refinements have been made. WRSIC has negotiated with the National Technical Information Service (NTIS) for open lease of the abstract files in an effort to increase access to the general public. Two private vendors have made commitments with NTIS to lease the file; on-line users will be able to search the files without making special arrangements with OWRT or DOE. This arrangement will provide greater convenience to a large number of users and affect internal administrative economies.

WRSIC is using new procedures for contracting with suppliers of the abstracts that are to be entered into the data base. Previously suppliers of abstracts were selected on the basis of expertise in one or more specialized areas or "subsets" of water resources research (e.g., eutrophication, wetlands, arid lands). This procedure permitted the selection of highly qualified suppliers on a sole source basis. The disadvantages were that (1) it was difficult to capture all relevant research literature in the field with only a limited number of specialty areas, and (2) although contractors were asked to identify and abstract only reports within their assigned specialty area, they all reviewed the same literature and duplication of effort was inevitable. Despite contractors' efforts to coordinate their work, OWRT estimated a 15 percent duplication of work.

Under the new procedure, the literature of the field is divided into two categories: (1) scientific and technical journals and similar periodical publications, and (2) non-periodical publications such as books, technical reports, monographs, and proceedings.

WRSIC establishes criteria to be followed by contractors in selecting literature for abstracting and indexing; these are incorporated into Requests for Proposals. These criteria accept the concept of water as a resource in the context of various disciplines; they refer directly to the language of the Water Research and Development Act and the subject field classification developed by the Federal Council on Science and Technology. This approach decreases duplication.

Several recent accomplishments include:

- New index terms (e.g. words in title) have been incorporated into procedures for adding to bibliographic base, thus permitting more flexibility in computer searches and allowing a higher return on the fixed costs incurred in maintaining the data bases.

- The third edition of the Water Resources Thesaurus is ready for publication; this state-of-the-art document assures that data base entries reflect current knowledge in water science and related fields.

- WRSIC's bibliographic files (1977-79) have been leased to a regional information center.

The last two accomplishments will make public access to WRSIC data bases more convenient, and have been undertaken to maximize program effectiveness.

Arrangements have been completed with NTIS for public leasing with two commercial search services of the abstracts file.

Workload Factors

	1980	1981	1982
Responses to Requests for Information and Documents	1,800	1,800	1,800
Documents Processed for Listing in Research Reports and Accession through NTIS	1,000	1,000	1,000
Information Searches Performed	500	400	400
Abstracts from Journals and Literature Reviewed and Processed	4,500	4,000	5,000
Abstracts of Technical Reports, Books, and Proceedings Reviewed and Processed	4,500	4,000	5,000

Increase for FY 1982: There is no proposed increase for FY 1982.

Justification of Program and Performance

Activity: General Program Support

Subactivity: Executive Direction

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted to date	FY 1982 Base	FY 1982 Estimate	Inc.(+) or Dec.(-)
Executive Direction	$	471	471	471	--
	(FTP)	(10)	(10)	(10)	(--)
Total Requirements	$	471	471	471	--
	(FTP)	(10)	(10)	(10)	(--)

Executive Direction

Authorization: 42 USC 1959; P.L. 95-84, as amended
42 USC 7811, P.L. 95-467, as amended

Objectives: To provide executive policy, overall direction, program guidance, program development, and coordination within the Deartment of the Interior and with other agencies in the Federal Government for all programs authorized in P.L. 95-467, as amended, and P.L. 95-84, as amended, and delegated by the Secretary to the Office of Water Research and Technology.

Base Program: This subactivity provides for the Office of the Director, the Deputy Director and staff to assist in interagency coordination, budget, planning, program guidance, and management of all programs carried out by OWRT. Although the OWRT is a small office, it is charged with all of the general functions of the larger Bureaus. The Director and his immediate staff represent the Office in contacts with Members of Congress, Department officials, other Federal agencies, State and local governments, professional organizations, and the public.

A planning guide is maintained and updated regularly for the establishment of program goals and time-phased intermediate objectives reflecting changing water resources needs and problems. Information is generated from research, development and demonstration projects of OWRT and other agencies.

Budget estimates are developed for one-to five-year periods, and justifications are prepared for program budgets, in coordination with the Secretary and OMB. Rules, regulations, guidelines, and other management directives are developed. Reports to Congress required by P.L. 95-467, as amended, and P.L. 95-84, as amended, are prepared as required. Assistance is given as requested to Members of Congress, Committees of the Congress, the Office of Technology Assessment, and the General Accounting Office.

Intradepartmental and interagency coordination is supported under this subactivity. This effort accomplishes the requirements of P.L. 95-467, as amended, Title I, Sec. 103(b) and Title IV, Sec. 406(a) and (b). As part of this activity, OWRT sponsored a national conference in April 1979 on Water Research Priorities for the 1980's, bringing researchers, Institute Directors, and government agency officials together to comment on the Federal water research programs. The Director and his staff continue to participate fully with the Office of Science and Technology Policy and other Federal agencies in the development of national water research priorities at the direction of the President. OWRT continues to comply with Section 108 of the Department of the Interior Appropriations Act of 1979 (P.L. 95-465), to coordinate research and development activities with other agencies in order to avoid duplication of effort. A more complete report of activity to date can be found in Appendix VI.

The Director has initiated policies and actions to respond directly to Congressional Committee comments. These policies and actions give greater direction to programs and strengthen staff capabilities to manage and carry out programs. Specifically, these items include the following:

- Priorities have been set for the matching grant program to increase the focus of the research being supported. Guidelines now require that proposals be relevant to national problems and identified State priorities. These have been sent to the Institutes for dissemination to researchers in the academic community to guide submission of proposals.

- Reports on five-year research objectives and priorities have been received from the Institutes and incorporated into the OWRT five-year agenda scheduled for submission to the President and the Congress in 1981, as required by P.L. 95-467.

- Institute policy has been established, setting new reporting procedures, clarifying responsibilities, narrowing scope of research eligibilities, including the non-eligibility of delinquent investigators.

- Review procedures have been tightened in the matching grant and focused research programs by screening off those which are not relevant or whose principal investigator(s) are delinquent in making final reports on previous projects.

- A procedure has been established which encourages submission of preproposals in all programs. These two- to four-page submittals are reviewed for suitability in OWRT programs. The researcher is asked to submit a full proposal if the project looks good. It is estimated that 50 percent more ideas for research are being received under this new system. Proposal preparation can cost from $2,000 to $10,000. Researchers are able to effect considerable savings with preproposals, while OWRT is able to increase the number of ideas considered.

- A new agreement is being negotiated with host universities of Institutes, in conformity with P.L. 95-467, as amended. Completion is expected in 1981.

- OWRT has prepared criteria for assuring the adequacy of Institute programs to achieve their and OWRT's goals. Site reviews of Institutes are being conducted to examine compliance with OWRT policy.

- A procedure for intradepartmental and interagency screening of proposals for the elimination of duplication is in place.

- OWRT is working closely with other Federal agencies and with other professional organizations to coordinate research and technology transfer. OWRT has formal agreements with Geological Survey (USGS), Water and Power Resources Services (WPRS), Environmental Protection Agency (EPA), Department of Energy (DOE), Science and Education Administration of the Department of Agriculture (SEA), and the U.S. Committee on Desertification. OWRT is jointly supporting projects with the Corps of Engineers, Water Resources Council, USGS, EPA, and DOE.

- OWRT worked closely with Congressional staff to provide information for Committees and Members relative to passage of P.L. 96-457, reauthorizing OWRT programs for FY 1981 and FY 1982 and amending P.L. 95-84 to create flexible cost sharing in the saline conversion demonstration program.

Direct improvements to the OWRT staff capability include:

- Nationwide recruitment has taken place to fill the position of Assistant Director for Technology Development; an acting Assistant Director is in place. Selection for appointment has been completed and is being processed.

- Management of technical programs has been improved through the addition of a surface water hydrologist, physical scientist, and technology transfer specialist, biologist, technology development engineer, and a marine biologist. An additional general engineer for technology development is being recruited.

- One additional technical staff member has been added through the Intergovernmental Personnel Act (IPA). Nationwide recruiting has been completed for two others.

- A rotation policy for test facility managers is established. The rotation plan provides for assignments for two years at the facility, extendable for two additional years. At the end of field assignment, the manager is reassigned to Washington, bringing "hands-on" technical experience from the field to the program.

- An OWRT staff position in the Director's Office is designated for assuring nonduplication of research in Interior programs and to provde OWRT leadership in the Interior-OSTP national policy group to develop water resources research priorities.

- End of year unfilled vacancies decreased from 13 in FY 1979 to 8 in FY 1980, despite the partial freeze calling for one hire for two persons leaving.

Workload Factors

Workload factors include the following:

1. Program goals and objectives selected and updated.
2. Activities related to relationships with other executive agencies, Congress, and constituencies.
3. Preparation of budget justifications and budget execution on an annual cycle.
4. Co-leadership with OSTP of committee to establish national research priorities.
5. Direction of personnel (83 FTP) and management policies.
6. Decisionmaking process related to final selection of about 600 contracts and grants per year.

Increase for 1982	1982 Base	1982 Estimate	Increase
$	471	471	--
(FTP)	(10)	(10)	(--)

The level for 1982 is unchanged.

Justification of Program and Performance

Activity: General Program Support

Subactivity: Common Program Services

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted to date	FY 1982 Base	FY 1982 Estimate	Inc.(+) or Dec.(-)
Common Program Services	$	2,804	2,968	3,119	+151
	(FTP)	(65)	(65)	(65)	(--)
Total Requirements	$	2,804	2,968	3,119	+151
	(FTP)	(65)	(65)	(65)	(--)

Common Program Services

Authorization 42 USC 7874, P.L. 95-467, Title IV, Sec. 403

> Sec. 403. There is authorized to be appropriated the sum of $8,500,000 for the fiscal year ending September 30, 1982, to carry out the sections of Titles I, II, III, and IV of this Act other than those for which special authorizations are made.

Objectives: To provide general program administration and support to permit the Office of Water Research and Technology (OWRT) to carry out required functions.

Base Program: This subactivity provides for technical staff and overall administrative operations of OWRT including common program services. Policies and procedures memoranda, instructions for the submittal of R&D proposals, and other directives necessary for implementation of the overall program are processed. Various reports, including OWRT's annual report to the President and the Congress, are prepared.

The technical staff within OWRT are assigned to three organizational units -- Research, Technology Development, and Technology Transfer. Staff work assignments are interdisciplinary, and recognize training and experience. Disciplines include specializations in engineering, biology, chemistry, hydrology, political science, law, and economics. Primary duties include evaluating the merits of research and development proposals; monitoring progress of ongoing contracts and grants including review of interim reports, reviewing contractor and grantee reports on completed projects; developing new and/or updating existing programs, priorities and operating procedures; participating in meetings with contractor and grantee representatives and with local, State and Federal water resources officials; and providing interoffice liaison to assure coordinated programs.

OWRT's Reports and Proposals Control Center (RPCC) each year receives, acknowledges, distributes, processes, returns, and disposes of approximately 1,000 research and development proposals and preproposals from prospective contractors and grantees. The RPCC also receives and, after checking for completion, acknowledges technical project completion reports and processes them for review, distribution and retention. The RPCC maintains records and prepares management reports on 500 to 600 ongoing research and development projects by location and research category.

The Contracts and Grants Center is responsible for managing OWRT's contracts, grants and other funding agreement requirements, including carrying out OWRT's contracts and grants administrative management policies and procedures; developing formal advertising and notices; preparation of contract and grant documents; administering and monitoring the nontechnical, scientific, or engineering elements of ongoing grants and contracts; maintaining contract files and records; and preparing required contract and grant procurement, management and control reports. Approximately 400 new contracts, grants, and amendatory actions are processed each year.

Management service support is provided for OWRT, including personnel, training, mail and records management and disposal, procurement of office supplies and services, office equipment and maintenance, travel and transportation assistance, safety and space management.

Other nontechnical functions provided in this subactivity are committee management, Federal Register liaison, incentive awards, equal opportunity program, Freedom of Information Act and Privacy Act activities, employee conduct actions, small and minority business actions, security, organization planning, logistical support to OWRT-sponsored meetings, and directives management.

Workload Factors

Workload factors for administrative support activities are indicated in the above Base Program. Workload factors for the technical staff are shown by activity in the preceding justifications.

Increase for 1982:	1982 Base	1982 Estimate	Increase
$	2,968	3,119	+151
(FTP)	(65)	(65)	(--)

The $151,000 increase for FY 1982 is composed of a decrease in personnel costs, an increase in other services, and small increases for travel and transportation of things. These categories are discussed in more detail as follows:

- Total Personnel Compensation: -$108,000. Personnel positions are being reviewed within a policy of reducing the average GS grade. An average grade reduction from 11.00 in FY 1980 to 10.61 in FY 1982 is projected. This, coupled with the same full time permanent position level and the same lapse rate allows a projected reduction of $108,000.

- Other Services: +$239,000. This increase results from more accurate accounting as well as raises in charges and assessments from the Department for services including personnel, fiscal, and auditing. Also included in this amount are office equipment rental, maintenance contracts, and employee training.

- Travel and Transportation of Persons: +$10,000. During fiscal years 1979 through 1980, OWRT conducted its program consistent with limitations on use of funds for travel. Due to an increase in the number of projects, a corresponding increase in travel is required for site visits. Also, the two desalting demonstration plants, during construction, will require frequent travel to the sites for inspections and resolution of problems.

- Transportation of Things: +$10,000. The increase of $10,000 will provide funds for moving equipment and supplies to and from OWRT's test facilities at Roswell and Wrightsville Beach and between contractors. This will reduce duplicating purchases and improve the utilization of Government-owned property.

Object Classification Distribution

The object classification breakdown for the $151,000 increase follows:

Permanent Positions (11.0)	-$168,000
Other Personnel Compensation (11.5)	+ 60,000
Total Personnel Compensation	-108,000
Travel and Transportation of Persons (21.0)	+ 10,000
Transportation of Things (22.0)	+ 10,000
Other Services (25.0)	+239,000
TOTAL	+$151,000

Object Classification Distribution

(Dollar Amounts in Thousands)

		1982 Base	1982 Estimate	Inc.(+) Dec.(-)
11.1	Permanent Positions	2,471	2,303	-168
11.3	Positions Other than Permanent	121	121	--
11.5	Other Personnel Compensation	13	73	+ 60
	Total Personnel Compensation	2,605	2,497	-108
12.1	Personnel Benefits	230	230	--
13.0	Benefits for Former Personnel	11	11	--
21.0	Travel & Transportation of Persons	100	110	+ 10
22.0	Transportation of Things	6	16	+ 10
23.1	Standard Level User Charges	325	325	--
23.2	Communications, Utilities & Other Rent	44	44	--
24.0	Printing and Reproduction	75	75	--
25.0	Other Services	31	270	+239
26.0	Supplies and Materials	10	10	--
31.0	Equipment	2	2	--
	Total 1/	3,439	3,590	+151

1/ Includes Executive Direction

Office of Water Research and Technology

(Dollar Amount in Thousands)

Activity: General Program Support	1981 Currently Available		1982 Base		1982 Estimate		Inc.(+) or Dec.(-)	
	Perm. Pos.	Amount	Perm. Pos.	Amount	Perm. Pos.	Amount	Perm. Pos.	Amount
General Program Support prorated to:								
Salaries and Expenses								
I. Water Resources Research & Development								
a. State Water R&D Institutes	10	558	10	586	10	624	--	+38
b. Matching Grants	10	539	10	566	10	603	--	+37
c. Water R&D	(7)	(464)	(7)	(487)	(7)	(518)	(--)	(+31)
1. Reuse	2	211	2	222	2	236	--	+14
2. Conservation	2	116	2	122	2	130	--	+8
3. Water Problems of Urbanizing Areas	2	89	2	93	2	99	--	+6
4. Special Research Projects	1	48	1	50	1	53	--	+3
II. Saline Water Research & Development								
a. Research	(8)	(305)	(8)	(320)	(8)	(341)	(--)	(+21)
1. Membrane	5	188	5	197	5	210	--	+13
2. Thermal	1	36	1	38	1	41	--	+3
3. New Concepts	2	81	2	85	2	90	--	+5
b. Development	(15)	(769)	(15)	(807)	(15)	(859)	(--)	(+52)
1. Membrane	9	462	9	485	9	516	--	+31
2. Thermal	2	144	2	151	2	161	--	+10
3. Reuse	4	163	4	171	4	182	--	+11
c. Demonstrations	3	135	3	142	3	79	--	-63
III. Technology Transfer & Info. Dissem.								
a. Technology Transfer	9	177	9	186	9	198	--	+12
b. Water Resources Scientific Info. Center	13	328	13	345	13	368	--	+23
Total Requirements	75	3,275	75	3,439	75	3,590	--	+151
Total General Program Support								
Executive Directorate	(10)	(471)	(10)	(471)	(10)	(471)	(--)	(--)
Program Support	(65)	(2,804)	(65)	(2,968)	(65)	(3,119)	(--)	(+151)
Total Requirements	(75)	(3,275)	(75)	(3,439)	(75)	(3,590)	(--)	(+151)

Justification of Program and Performance

Activity: International Reimbursable Programs

Subactivity: U.S./Israel Desalination Project

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted to Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
U.S./Israel	$	230	230	230	--
	(FTP)	(3)	(3)	(3)	(--)
Total Requirements	$	230	230	230	--
	(FTP)	(3)	(3)	(3)	(--)

U.S./Israel Desalination Project

Authorization: 42 USC 7871, P.L. 95-467, Title IV, Sec. 400(b)(7) and (9); Section 219 Foreign Assistance Act, as amended.

Sec. 400(b)(7) cause onsite inspections to be made of promising projects, domestic and foreign,...(9) accept financial and other assistance from any local, State, Federal, or other agency or entity in connection with studies or surveys relating to water problems and facilities and enter into contracts with regard to such assistance;...

Objective: To improve existing technology, develop and advance new technology, and gain experience in the design and construction of large-scale desalting plants of advanced concepts, so as to contribute materially to lowering the cost of desalination; to deepen and extend cooperative working relations and facilitate the exchange of desalting and related technology between the technical and scientific communities of the two countries; and to make feasible, through improvements in technology, the large-scale production of desalted water for use in the two countries. The Office of Water Research and Technology's specific objective is to participate with the Government of Israel in research, development, design, construction, operation and testing in support of a large scale, multieffect distillation plant, and to evaluate and transfer the technology.

Base Program: In 1969, the Congress authorized this project by adding Section 219 to the Foreign Assistance Act which provides for joint U.S./Israeli development of advanced desalination technology for worldwide application. In 1970 the Congress appropriated $20 million for participation by the United States on a matching basis with the Government of Israel. The Government of Israel submitted its proposal in 1971; technical and other considerations delayed initiation of the project until 1975 when the Joint Agreement was signed.

The U.S. provides 50 percent of the project costs, not to exceed $20 million, including technical and administrative expertise. Israel provides land, certain existing facilities, technology and funds sufficient to assure completion of the project. The cost is estimated to exceed $40 million. The project is managed by the Office of the Project Manager in Tel Aviv. The general contractor is Israel Desalination Engineering.

OWRT-83

74-939 O—80——25

The project includes study, design, construction, testing, operation and maintenance of a prototype dual-purpose desalting plant using a multieffect, low temperature (MELT) distillation process developed in Israel. The prototype plant will produce 5-million-gallons per day.

Accomplishments include:

- The preliminary design has been completed and approved. Final design is expected to be completed in FY 1981.

- A unique method for coupling the desalting plant to its power source has been developed. The method isolates the desalting plant from the power plant and is applicable for coupling with any type of power plant so that if the desalting plant is down, for any reason, the power plant remains operational. The plant is under construction.

OWRT has contributed substantially to the design of the flash chamber, power plant condenser, desalination plant condenser, and coupling modes for the power and desalination plants. Joint investigation of a geothermal resource, as an alternative energy supply, is in progress. Completion of the MELT plant is scheduled for late 1981. A program to develop other advanced concepts and incorporate them into the plant is underway.

During 1981 and 1982, OWRT will continue its participation in all phases of the Joint Project. Evaluation of test data resulting from operation of the plant will enable OWRT to assess the economic advantages of this process. Other FY 1982 objectives include (1) evaluating the applicability of the Ashdod geothermal resource to the energy requirements of the desalting plant, (2) evaluating advanced technology for incorporation into the plant, and (3) operating the plant in a variety of modes to evaluate technical and economic factors.

OWRT participates through an agreement with the Agency for International Development. Two desalting experts are stationed in Israel to work on the project and to represent the U.S. interests. A staff member in Washington maintains liaison with the Project Office and other agencies, assists in transfering technology to and from the project, and gives technical and administrative support.

Patents and technology derived from the project will be shared between the U.S., including Federal, State and municipal governments, and the Government of Israel. The derived patents and technology will be available to U.S. firms on a non-exclusive, non discriminatory basis for use anywhere in the world. Royalty arrangements which have not yet been established will reflect the U.S. share of funding. Because of cost-sharing, this technology will be available at lower cost than would have been possible had the program been carried and funded solely by the U.S.

OWRT's costs are reimbursed by the Agency for International Development.

Workload Factors

	1980	1981	1982
Invitations For Bid: issued	10	20	20
Procurements completed	14	20	10
Designs completed and approved	2	1	2
Technical reports and analysis of plant operational modes completed	20	30	20

Increase for 1982:

No change in the level of support is proposed for FY 1982.

Justification of Program and Performance

Activity: International Reimbursable Programs

Subactivity: U.S./Saudi Arabian Desalination Project

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted to Date	FY 1982 Base	FY 1982 Estimate	Inc.(+) or Dec.(-)
Joint Economic Commission	$	370	370	595	+225
	(FTP)	(5)	(5)	(5)	(--)
Total Requirements	$	370	370	595	+225
	(FTP)	(5)	(5)	(5)	(--)

U.S./Saudi Arabian Desalination Project

Authorization: 42 USC 7871, P.L. 95-467, Title IV, Sec. 400(b)(7) and (9), as amended Foreign Assistance Act of 1967, as amended

Sec. 400(b)(7) cause onsite inspections to be made of promising projects, domestic and foreign;... (9) accept financial and other assistance from any local, State, Federal, or other agency or entity in connection with studies or surveys relating to water problems and facilities and enter into contracts with regard to such assistance;...

Objective: Establish a research, development and training center in and for the Kingdom of Saudi Arabia to provide scientific, technical and developmental services related to water desalination and to train Saudis to design, construct and maintain desalting facilities.

Initiate, in Saudi Arabia, projects to develop technology for building and operating very large single-unit multistage flash (MSF) desalination plants, to include construction of a test module to verify innovative concepts set forth in the design of a very large plant.

Initiate large-scale seawater reverse osmosis (RO) desalination projects in Saudi Arabia in FY 1982.

Base program: OWRT provides technical assistance in desalination to Saudi Arabia in accordance with the U.S.-Saudi Arabia Joint Commission Agreement on Economic Cooperation through the U.S. Treasury Department. The specialized experience in desalination available at OWRT was recognized by the U.S. Department of the Treasury and the Saudi Arabia Ministry of Finance and National Economy in formulating the Agreement. Under this agreement, there are specific provisions for technical cooperation in desalination between OWRT and the Saudi Arabian government's Saline Water Conversion Corporation (SWCC). The entire funding for the program is provided by SWCC. OWRT has three (3) desalination specialists stationed in Riyadh, Saudi Arabia, and a coordinator in Washington, D.C. The program is conducted under the technical direction of a U.S.-SWCC Joint Team. Based on recommendations of the Joint Team, SWCC awarded contracts supporting the first two objectives. The third objective, the initiation of a seawater RO desalination project, has been proposed

as an expansion of the Agreement.

During FY 1981 and FY 1982 OWRT will continue to provide technical assistance to the Saudi Arabian Government. In FY 1982, the program will: (1) complete approximately fifty per cent of the construction of the Research, Development and Training Center at Jubayl, Saudi Arabia; (2) initiate requests for research and development proposals for work to be conducted at the Center; (3) award a contract for operation and maintenance of the Center; (4) complete the detailed design of the MSF distillation test module; (5) complete the conceptual designs of large scale seawater reverse osmosis plants; and (6) complete the detail design of the facility for evaluation of reverse osmosis membranes in the Saudi Arabian environment. The center is expected to commence operations in FY 1984. The verification tests will be used as the basis for the final design of the large-scale MSF plant. This is anticipated to occur between 1988 to 1990.

Milestones recently reached include:

- A contract was awarded for the detailed design of a Research, Development and Training Center.
- The Joint U.S.-SWCC Team initiated work on a research and development program plan for the Training Center.
- The U.S. Team prepared a Scope of Work for implementation of a desalination training program.
- An RFP was prepared for a detailed design of test module and test plan following completion by the Joint U.S.-SWCC Team of its review of the three conceptual designs of large capacity, multistage flash desalting plants and test module. A reverse osmosis development project plan was prepared by the U.S. Team for review by SWCC.

Workload Factors

	1980	1981	1982
Requests for proposals prepared	3	4	7
Proposals reviewed	40	40	50
Technical project reviews completed	20	17	20
Contract negotiations completed	5	4	7
Contracts monitored	3	4	7

If inventions result from this project, the U.S. will receive royalty-free, non-exclusive irrevocable licenses to use the inventions, with the right to sublicense in the U.S. OWRT has an opportunity to participate in the development and use of new technology both here and abroad while generating substantial income to the U.S. Funding is entirely reimbursed by the Government of Saudi Arabia through the Department of the Treasury.

The Joint Commission program substantially contributes to the foreign policy interests of the U.S. and has proved over the past five years to be a positive element in our relationship with the Kingdom of Saudi Arabia. This was acknowledged in a letter dated June 16, 1980 from OMB to the Secretary of the Treasury, exempting the program from the government-wide hiring limitations.

Increase for 1982:	1982 Base	1982 Estimate	Increase
$	370	595	+225
(FTP)	(5)	(5)	(--)

Large scale RO desalination development is important for Saudi Arabia because it offers a lower cost for desalting seawater.

The $225,000 increase will provide increased technical assistance to Saudi Arabia to manage additional development tasks in seawater reverse osmosis and to add technical depth to the existing staff as the current projects move into the training, construction and operation phases. The conceptual design stage for large RO plants will be initiated in FY 1982 as will the testing of new seawater membranes in the Saudi environment.

The increase will be funded by the Government of Saudi Arabia through the Treasury Department.

Office of Water Research and Technology
Summary of Requirements by Object Class
(Dollar Amount in Thousands)

Appropriation: Salaries and Expenses	1982 Base			1982 Estimate			Inc.(+) or Dec.(-)		
	Pos.	Avg. No.	Amount	Pos.	Avg. No.	Amount	Pos.	Avg. No.	Amount
Direct Program									
Object Class									
11 Personnel Compensation:									
11.1 Permanent positions	75	75	2,471	75	75	2,303	--	--	-168
11.3 Positions other than permanent	8	8	121	8	8	121	--	--	--
11.5 Other personnel compensation			13			73	--	--	+60
Total personnel compensation	83	83	2,605	83	83	2,497	--	--	-108
Other Objects									
12.1 Personnel benefits			230			230			--
13.0 Benefits for former personnel			11			11			--
21.1 Travel & transportation of persons			100			110			+10
22.0 Transportation of things			6			16			+10
23.1 Standard level user charges			325			325			--
23.2 Communications, utilities & other rent			323			323			--
24.0 Printing and reproduction			141			141			--
25.0 Other services			26,080			27,547			+1,467
26.0 Supplies and materials			439			439			--
31.0 Equipment			389			389			--
Direct requirements			30,649			32,028			+1,379
Reimbursable Program									
Object Class									
11. Personnel compensation									
11.1 Permanent positions	8	8	365	8	8	395	--	--	+30
Total personnel compensation	8	8	365	8	8	395	--	--	+30
Other Objects									
12.1 Personnel benefits			36			39			+3
21.0 Travel & transportation of persons			88			103			+15
22.0 Transportation of things			24			26			+2
25.0 Other services			84			259			+175
26.0 Supplies and materials			1			1			--
31.0 Equipment			2			2			--
Reimbursable requirements			600			825			+225
Less reimbursements			-600			-825			-225
Total requirements	91	91	30,649	91	91	32,028	--	--	+1,379

OWRT-89

U.S. Department of the Interior
Office of Water Research and Technology

Appropriation Language Sheet

Salaries and Expenses

For expenses necessary in carrying out the provisions of the Water Research and Development Act of 1978 (Public Law 95-467, as amended) and provisions of Public Law 95-84, as amended (42 USC 1959-19591), [$30,485,000] $32,028,000 of which [$10,720,000] $10,925,000 shall remain available for obligation until September 30, [1982] 1983. (Public Law 96-514, making appropriations for the Department of the Interior and related agencies, 1981.)

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
800-101

Department of the Interior
Office of Water Research and Technology
Program and Financing
Salaries and Expenses
(in thousands of dollars)

Identification code 14-0115-0-1-301	19 80 actual	19 81 estimate	19 82 estimate
Program by activities:			
Direct Program:			
1. Water Resources Research and Development	12,769	16,954	15,838
2. Saline Water Research and Development	10,858	12,085	10,950
3. Technology Transfer and Information Dissemination	1,624	1,400	1,650
4. General Program Support	3,088	3,275	3,590
Total Direct Program	28,339	33,714	32,028
Reimbursable Programs	448	600	825
Total Program Costs Funded	28,787	34,314	32,853
Change in Selected Resources (Undelivered orders)	1,263		
10.00 Total Obligations	30,050	34,314	32,853
Financing:			
11.00 Offsetting collections from Federal Funds	-448	-600	-825
21.40 Unobligated balance available, start of year	-258	-3,229	--
24.40 Unobligated balance available, end of year	3,229	--	--
25.00 Unobligated balance lapsing	167	--	--
39.00 Budget Authority	32,740	30,485	32,028
Budget Authority:			
40.00 Appropriation	32,781	30,485	32,028
41.00 Transferred to other accounts	-41	--	--
43.00 Appropriation (adjusted)	32,740	30,485	32,028

OWRT-91

(Memo cost: 31.8) (Memo cost: 8) (Memo cost: 8) (Memo cost: 4.9)

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

Identification code 14-0115-0-1-301	19 80 actual	19 81 estimate	19 82 estimate
Relation of obligations to outlays:			
71.00 Obligations incurred, net.....	29,602	33,714	32,028
72.40 Obligated balance, start of year.....	26,383	27,818	32,875
74.40 Obligated balance, end of year.....	-27,818	-32,875	-35,679
77.00 Adjustments in expired accounts.	-308	--	--
90.00 Outlays.....	27,859	28,657	29,224
(Mono cast: 21.8)	(Mono cast: 5)	(Mono cast: 5)	(Mono cast: 4.9)

OWRT-92

STANDARD FORM 304
May 1969, Bureau of the Budget
Circular No. A-11, Revised
304-103

Department of the Interior
Office of Water Research and Technology
Salaries and Expenses

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 14-0115-0-1-301	1980 actual	1981 estimate	1982 estimate
Direct obligations:			
Personnel compensation:			
11.1 Full-time permanent positions---	2,166	2,303	2,303
11.3 Positions other than full-time permanent----------	123	121	121
11.5 Other personnel compensation	73	73	73
Total personnel compensation	2,362	2,497	2,497
Personnel benefits:			
12.1 Civilian	216	230	230
13.0 Benefits for former personnel	9	11	11
21.0 Travel and transportation of persons	99	100	110
22.0 Transportation of things	35	16	16
23.1 Strd. level user charges--------	176	176	325
23.2 Rent, communications, and utilities	308	308	323
24.0 Printing and reproduction	128	134	141
25.0 Other services	25,518	29,453	27,547
26.0 Supplies and materials	398	418	439
31.0 Equipment	353	371	389
32.0 Lands and structures	--	--	--
33.0 Investments and loans	--	--	--
41.0 Grants, subsidies, and contributions	--	--	--
42.0 Insurance claims and indemnities	--	--	--
43.0 Interest and dividends	--	--	--
44.0 Refunds	--	--	--
99.0 Subtotal obligations	29,602	33,714	32,028
	(Mono cast: 20.11)	(Mono cast: 5.9)	(Mono cast: 5.9)	(Mono cast: 5)

OWRT-93

STANDARD FORM 304
May 1969, Bureau of the Budget
Circular No. A-11, Revised
304-103

Department of the Interior
Office of Water Research and Technology
Salaries and Expenses

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 14-0115-0-1-301	1980 actual	1981 estimate	1982 estimate
Reimbursable obligations:			
Personnel compensation:			
11.1 Full-time permanent positions----	330	365	395
11.3 Positions other than full-time permanent----------	--	--	--
11.5 Other personnel compensation	--	--	--
11.8 Special personal services payments	--	--	--
Total personnel compensation	330	365	395
Personnel benefits:			
12.1 Civilian	45	36	39
13.0 Benefits for former personnel	41	88	103
21.0 Travel and transportation of persons	15	24	26
22.0 Transportation of things	--	--	--
23.0 Rent, communications, and utilities	--	--	--
24.0 Printing and reproduction	--	--	--
25.0 Other services	15	84	259
26.0 Supplies and materials	1	1	1
31.0 Equipment	1	2	2
32.0 Lands and structures	--	--	--
33.0 Investments and loans	--	--	--
41.0 Grants, subsidies, and contributions	--	--	--
42.0 Insurance claims and indemnities	--	--	--
43.0 Interest and dividends	--	--	--
44.0 Refunds	--	--	--
99.0 Subtotal, reimbursable obligations	448	600	825
99.9 Total obligations	30,050	34,314	32,853
	(Mono cast: 20.11)	(Mono cast: 5.9)	(Mono cast: 5.9)	(Mono cast: 5)

OWRT-94

STANDARD FORM 306
July 1968, Bureau of the Budget
Circular No. A-11, Revised.
306-108

Department of the Interior
Office of Water Research and Technology
Salaries and Expenses

DETAIL OF PERMANENT POSITIONS

14-0115-0-1-301	1980 actual	1981 estimate	1982 estimate
ES-6	1	1	1
ES-5	1	1	1
ES-4	2	2	2
ES-3	2	2	2
GS/GM-15	13	12	11
GS/GM-14	15	14	13
GS/GM-13	9	8	8
GS-12	1	2	2
GS-11	6	6	6
GS-10	2	2	2
GS-9	4	5	6
GS-8	5	5	5
GS-7	6	6	7
GS-6	2	3	3
GS-5	3	3	3
GS-4	2	2	2
GS-3	2	2	2
GS-2	1	1	1
Subtotal	77	77	77
Grades established by authority in Sec. 625 (d)(1) of Foreign Assistance Act of 1961:			
FC-12	4	4	4
FC-11	1	1	1
FC-5	1	1	1
Subtotal	6	6	6
Total permanent positions	83	83	83
Unfilled positions, end of year	-8	--	--
Total permanent employment, end of year	75	83	83
OWRT-95			
(Mono cast: 16.8)	(Mono cast: 4.9)	(Mono cast: 4.9)	(Mono cast: 4)

GPO : 1969 O - 352-652

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

Department of the Interior
Office of Water Research and Technology
Program and Financing
Consolidated Working Fund
(in thousands of dollars)

Identification code 14-3930-0-4-306	1980 actual	1981 estimate	1982 estimate
Program by Activities:			
Research and development (Program cost funded).....	--	--	--
Change in selected resources (Undelivered orders).....	--	--	--
10.00 Total Obligations.....	--	--	--
Financing:			
21.98 Unobligated balance available, start of year: Fund balance....	--	--	--
24.98 Unobligated balance available, end of year:			
Fund balance.....	86	86	86
Budget Authority.....	--	--	--
Relation of obligations to outlays:			
71.00 Obligations incurred, net.....	--	--	--
72.10 Receivables in excess of obligations, start of year.....	4	--	--
77.00 Adjustments in expired accounts.	-4	--	--
99.00 Outlays.....	--	--	--
(Mono cast: 21.5)	(Mono cast: 5)	(Mono cast: 5)	(Mono cast: 4.9)

OWRT-96

GPO:1966-O-757-469

FY 1982

Consulting Services

Bureau: Office of Water Research and Technology

(dollars in thousands)

There are no funds proposed for consulting services in FY 1982.

OFFICE OF WATER RESEARCH AND TECHNOLOGY

1982 Budget Appendix

APPENDIX CONTENTS

I. INSTITUTE PROGRAM

A. Institute Locations and Regions
B. Institute Addresses
C. Allocation and Sources of Institute Funds

II. MATCHING GRANT PROGRAM

A. Ongoing Projects

III. WATER RESEARCH AND DEVELOPMENT

A. Ongoing Water Reuse Projects
B. Ongoing Conservation Projects
C. Ongoing Urbanizing Areas Projects
D. Ongoing Special Projects
E. Ongoing Mt. St. Helens Projects

IV. SALINE WATER RESEARCH, DEVELOPMENT AND DEMONSTRATION

A. Ongoing Research Projects
B. Development Program Priority Listing
C. Test Facility Projects

V. TECHNOLOGY AND INFORMATION TRANSFER

A. Ongoing Products

VI. INTERAGENCY COORDINATION

I. INSTITUTE PROGRAM

A. Institute Locations and Regions

OWRT-A-2

January 1981

State Water Resources Research Institutes

Prof. James C. Warman
Director, Water Resources
Research Institute
Auburn University
Auburn, Alabama 36830
205—826-5075

Dr. Robert F. Carlson
Director, Institute of
Water Resources
University of Alaska
College, Alaska 99701
907—479-7775

Prof. Sol D. Resnick
Director, Water Resources
Research Center
University of Arizona
Tucson, Arizona 85721
602—626-1172

(Vacancy)
Director, Arkansas Water
Resources Research Center
University of Arkansas
223 Ozark Hall
Fayetteville, Arkansas 72701
501—575-4403

Dr. J. Herbert Snyder
Director, Water
Resources Center
University of California
2102 Wickson Hall
Davis, California 95616
916—752-1544

*Dr. Norman A. Evans
Director, Colorado Water
Resources Research Institute
Room 203, Administration
Colorado State University
Fort Collins, Colorado 80523
303—491-5371

Dr. Carroll N. Burke
Director, Institute of
Water Resources
The University of Connecticut
Storrs, Connecticut 06268
203—486-4523

Dr. Robert D. Varrin
Director, Water Resources Center
University of Delaware
Newark, Delaware 19711
302—738-2191

Dr. Mamadou H. Watt
Director, Water Resources
Research Center
University of the District of
Columbia
Van Ness Campus
4200 Connecticut Avenue, N.W.
Washington, D. C. 20008
202—282-7333

Dr. James P. Heaney
Director, Water Resources
Research Center
University of Florida
220 A. P. Black Hall
Gainesville, Florida 32611
904—392-0840

Dr. Bernd Kahn
Director, Environmental
Resources Center
Georgia Institute of Technology
205 Old Civil Engineering Building
Atlanta, Georgia 30332
404—894-2375

Dr. Stephen J. Winter
Director, Water Resources
Research Center
University of Guam, UOG Station
Mangilao, Guam 96913
(Country Code: 617) 734-3132

Dr. L. Stephen Lau
Director, Water Resources
Research Center
University of Hawaii
2540 Dole Street
Holmes Hall, Room 283
Honolulu, Hawaii 96822
808—948-7847

Dr. Arthur Gittens
Acting Director, Water Resources
Research Institute
University of Idaho
Room B-40, Janssen Engineering Bldg.
Moscow, Idaho 83843
208—885-6429

Dr. Glenn E. Stout
Director, Water Resources Center
University of Illinois
2535 Hydrosystem Laboratory
Urbana, Illinois 61801
217—333-0536

NOTE: Changes from previous directory occur only for those Institutes where an asterisk (*) is shown.

January 1981

State Water Resources Research Institutes

Dr. Daniel Wiersma
Director, Water Resources
Research Center
Purdue University
Lilly Hall
West Lafayette, Indiana 47904
317—494-8815

Dr. Marvin D. Dougal
Director, Iowa State Water
Resources Research Institute
355 Town Engineering Building
Iowa State University
Ames, Iowa 50011
515—294-8921 (FTS: 8/865-8921)

*Dr. Floyd W. Smith
Director, Kansas Water Resources
Research Institute
Waters Annex
Kansas State University
Manhattan, Kansas 66506
913—532-5729

Dr. Robert B. Grieves
Director, Water Resources
Research Institute
165 Anderson Hall
University of Kentucky
Lexington, Kentucky 40506
606—258-5937

Dr. Elvin J. Dantin
Director, Water Resources
Research Institute
Louisiana State University
Room 2514 CEBA Building
Baton Rouge, Louisiana 70803
504—388-8508

Dr. Paul D. Uttormark
Director, Land & Water
Resources Center
University of Maine at Orono
11 Coburn Hall
Orono, Maine 04469
207—581-709?

Dr. Edward P. Karlander
Acting Director, Water
Resources Research Center
Symons Hall - Room 1109
University of Maryland
College Park, Maryland 20742
301—454-6406

Dr. Paul J. Godfrey
Acting Director
Water Resources Research Center
University of Massachusetts
Room A-211 Graduate Research Center
Amherst, Massachusetts 01003
413—545-2842

Dr. Howard E. Johnson
Director, Institute of Water
Research
Michigan State University
East Lansing, Michigan 48823
517—353-3742

Dr. George R. Blake
Director, Water Resources
Research Center
866 Biological Sciences Center
University of Minnesota
St. Paul, Minnesota 55108
612—376-5668

Dr. Marvin T. Bond
Executive Director, Water
Resources Research Institute
Mississippi State University
P. O. Drawer AD
Mississippi State, Mississippi 39762
601—325-3620

Dr. George E. Smith
Director, Water Resources
Research Center
University of Missouri
424 Clark Hall
Columbia, Missouri 65211
314—882-3421

Dr. William A. Hunt
Interim Director, Montana University
Joint Water Resources Research
Center
Montana State University
207 Montana Hall
Bozeman, Montana 59717
406—994-2891

Dr. William L. Powers
Director, Nebraska Water
Resources Center
University of Nebraska
310 Ag Hall - East Campus
Lincoln, Nebraska 68503
402—472-3305

January 1981

State Water Resources Research Institutes

Dr. Peter Krenkel
Director, Water Resources Center
Desert Research Institute
University of Nevada System
P. O. Box 60220
Reno, Nevada 89506
702—673-7365

Prof. Gordon L. Byers
Chairman, Water Resources
Research Center
108 Pettee Hall
University of New Hampshire
Durham, New Hampshire 03824
603—862-2144

Dr. Alan McIntosh
Acting Director, Water Resources
Research Institute
Rutgers—The State University
New Brunswick, New Jersey 08903
201—932-9817 or 9818

Dr. Thomas Bahr
Director, Water Resources
Research Institute
New Mexico State University
P. O. Box 3167
Las Cruces, New Mexico 88001
505—646-4337

Prof. Gilbert Levine
Director, Center for
Environmental Research
Cornell University
468 Hollister Hall
Ithaca, New York 14850
607—256-7535

Dr. James M. Stewart
Acting Director, Water Resources
Research Institute of The
University of North Carolina
North Carolina State University
124 Riddick Building
Raleigh, North Carolina 27607
919—737-2815 or 2816

Dr. Robert Koob
Director, Water Resources
Research Institute
North Dakota State University of
Agriculture & Applied Science
Fargo, North Dakota 58102
701—237-7765

Dr. Robert C. Stiefel
Director, Water Resources Center
The Ohio State University
1791 Neil Avenue
Columbus, Ohio 43210
614—422-2334

Dr. Norman N. Durham
Director, Oklahoma Water
Resources Research Institute
Oklahoma State University
203 Whitehurst Hall
Stillwater, Oklahoma 74078
405—624-6368

Dr. Peter C. Klingeman
Director, Water Resources
Research Institute
Oregon State University
Corvallis, Oregon 97331
503—754-4022

Dr. John C. Frey
Director, Institute for Research
on Land and Water Resources
The Pennsylvania State University
103 Land & Water Research Building
University Park, Pennsylvania 16802
814—863-0291

Dr. Rafael Munor-Candelario
Director, Water Resources Research Inst.
University of Puerto Rico
Mayaguez, Puerto Rico 00708
809—832-4040 Ext. 2048

*Dr. William E. Kelly
Director, Rhode Island Water
Resources Center
University of Rhode Island
Kingston, Rhode Island 02881
401—792-2267

Dr. Paul Zielinski
Director, Water Resources
Research Institute
Rhodes Engineering Research Center
Clemson University
Clemson, South Carolina 29631
803—656-3271

Dr. John L. Wiersma
Director, South Dakota Water
Resources Institute
South Dakota State University
Brookings, South Dakota 57006
605—688-4910

January 1981

State Water Resources Research Institutes

Mr. William F. Brandes
Director, Water Resources
Research Center
The University of Tennessee
The White Avenue Building
Knoxville, Tennessee 37916
615—974-2151

Dr. J. R. Runkles
Director, Texas Water
Resources Institute
Texas A & M University
College Station, Texas 77843
713—845-1851

Dr. L. Douglas James
Director, Center for Water
Resources Research
Utah State University
Logan, Utah 84322
801—750-3157

Dr. E. Alan Cassell
Director, Water Resources
Research Center
The University of Vermont
601 Main Street
Burlington, Vermont 05401
802-656-4057

Dr. William R. Walker
Director, Virginia Water
Resources Research Center
Virginia Polytechnic Institute
and State University
617 North Main Street
Blacksburg, Virginia 24060
703—961-5624

*Dr. Richard D. Champoey
Director, Water Resources Research Center
Caribbean Research Institute
College of the Virgin Islands
St. Thomas, Virgin Islands 00801
809—774-9200 Ext. 250

Dr. John J. Cassidy
Director, State of Washington
Water Research Center
Washington State Universtiy
Pullman, Washington 99163
509—335-5531

Prof. Chester L. Dodson
Director, Water Research Institute
West Virginia University
204 Knapp Hall
Morgantown, West Virginia 26506
304—293-2757

Dr. Gordon Chesters
Director, Water Resources Center
The University of Wisconsin
1975 Willows Drive - 2nd Floor
Madison, Wisconsin 53706
608—262-3577

Prof. Paul A. Rechard
Director, Water Resources
Research Institute
The University of Wyoming
P. O. Box 3067
University Station
Laramie, Wyoming 82071
307—766-2143

ALABAMA

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	88,910	NA	--	142,435	--	231,345
2. OWRT Matching Grant Projects	NA	60,721	NA	84,520	--	145,241
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	387,102	--	--	387,102
Subtotal	88,910	60,721	387,102	226,955	--	763,688
Five-Year Water Research Priorities Development	--	--	--	1,000	--	1,000
State Research Program Development and Coordination	12,036	--	--	62,275	--	74,311
Technology Transfer and Information Dissemination	--	--	--	13,371	3,600	16,971
Administration	9,054	NA	2,400	16,682	--	28,136
Total	110,000	60,721	389,502	320,283	3,600	884,106

OWRT-A-7

INSTITUTE ADVISORY COMMITTEE MEMBERS

Dr. Rex K. Rainer, Advisory Committee Chairman, Executive Vice President, Auburn University
Dr. Curtis H. Adams Chairman, Environmental Sciences Program, University of Alabama in Huntsville
Dr. Fouad Basiouny Professor, Plant and Soil Sciences, Tuskegee Institute
Mr. John Bloomer Chairman, Alabama Environmental Quality Council
Dr. Ralph H. Brooks, Assistant Director, Division of Water Resources, Tennessee Valley Authority
Dr. A. Ray Cavender, Associate Dean of Tension, Auburn University
Mr. James R. Cooper, Jr., Vice President for Conservation, The Alabama Conservancy
Mr. Tom E. Corley, Assistant Director, Agricultural Experiment Station
Mr. Joseph E. Downey, Environmental Health Administration, Alabama Department of Public Health
Prof. James C. Farrow Manager, Roberts & Company Associates
Mr. Stanley Graves, Past President, Alabama Water Well Contractors Association
Mr. Charles D. Kelley Chief, Alabama Department of Conservation and Natural Resources
Dr. George M. Lamb Chairman, Department of Geology, University of South Alabama
Mr. William B. Lingle, State Conservation Director, U.S. Department of Agriculture, Soil Conservation Service
Mr. Richard Raymond Chief, Operations, Geological Survey of Alabama
Mr. Charles A. Pascale, Alabama District Chief, U.S. Geological Survey
Mr. Robert H. Ryan Chief, Mobile District, Corps of Engineers
Dr. James W. Shuford, Associate Dean for Research, Alabama A & M University
Mr. James H. Coil Jr. Chairman, Environmental Resources Committee, Associated Industries of Alabama
Mr. Walter Stevenson, State Planner, Alabama Development Office
Mr. James W. Warr, Chief Administrative Officer, Alabama Water Improvement Commission

ALASKA

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	72,195	NA	--	60,000	--	132,195
2. OWRT Matching Grant Projects	NA	40,869	NA	41,000	--	81,869
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	281,167	108,592	--	389,759
Subtotal	72,195	40,869	281,167	209,592	--	603,823
Five-Year Water Research Priorities Development	5,000	--	--	5,000	--	10,000
State Research Program Development and Coordination	10,000	--	--	11,834	--	21,834
Technology Transfer and Information Dissemination	--	--	--	42,000	--	42,000
Administration	15,204	NA	--	40,000	--	55,204
Total	102,399*	40,869	281,167	308,426	--	732,861

* Differences from the state's allotment of $110,000 reflect expenditures as of the reporting date and may include carry-over from the preceeding year.

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Phillip Hubbard, Commissioner, Department of Commerce and Economic Development
Mr. Ernst W. Mueller, Commissioner, Department of Environmental Conservation
Mr. Robert E. LeResche, Commissioner, Department of Natural Resources
Mr. Frances A. Ulner, Director, Division of Policy Development and Planning, Office of the Governor
Mr. Lee McAnerney, Commissioner, Department of Community and Regional Affairs
Mr. Ronald O. Skoog, Commissioner, Department of Fish and Game
Mr. Donald Harris, Commissioner, Department of Transportation and Public Facilities
Mr. Jim Wiedeman, Department of Commerce and Economic Development
Mr. Glenn Akins, Department of Environmental Conservation
Mr. Brent Petrie, Department of Natural Resources
Mr. Ed Busch, Department of Community and Regional Affairs
Mr. Dick Logan, Department of Fish and Game
Chris Lowe, Department of Transportation and Public Facilities Municipality of Anchorage

ARIZONA

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	88,800	NA	--	20,000	--	108,800
2. OWRT Matching Grant Projects	NA	180,200	NA	5,000	--	185,200
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	120,100	153,600	--	273,700
Subtotal	88,800	180,200	120,100	178,600	--	567,700
Five-Year Water Research Priorities Development	--	--	--	4,000	--	4,000
State Research Program Development and Coordination	--	--	--	6,000	--	6,000
Technology Transfer and Information Dissemination	10,000	--	--	20,000	--	30,000
Administration	11,200	NA	--	40,000	--	51,200
Total	110,000	180,200	120,100	248,600	--	658,900

INSTITUTE ADVISORY COMMITTEE MEMBERS

Dr. William Allen, Jr., Arizona State Land Department
Mr. Phillip C. Briggs, Arizona Water Commission
Mr. C.C. Cooper, Jr., Arizona Water Resources Committee
Mr. David Roe, Arizona Game and Fish Department
Dr. Kel Fox, Arizona Water Quality Control Council
Mr. Thomas Burbey, Water and Power Resources Service, DOI
Mr. William D. Moss, Arizona State Department of Health
Dr. Robert Sternberger, Water Quality Control Council
Honorable Stan Turley, Arizona State Senate
Mr. Art Vondrick, City of Phoenix Water and Sewer Department
Mr. William Warskow, Salt River Project
Mr. John Little, Arizona State Land Department
Mr. Robert A. Jantzen, Arizona Game and Fish Department
Mr. Ron Miller, Arizona State Department of Health
Mr. Wesley E. Steiner, Arizona Water Commission

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ARKANSAS

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	111,653	NA	--	61,061	--	172,714
2. OWRT Matching Grant Projects	NA	85,652	NA	111,923	--	197,575
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	292,000	142,883	--	434,883
Subtotal	111,653	85,652	292,000	315,867	--	805,172
Five-Year Water Research Priorities Development	--	--	--	--	--	--
State Research Program Development and Coordination	--	--	--	--	--	--
Technology Transfer and Information Dissemination	--	--	--	--	--	--
Administration	--	NA	--	--	--	--
Total	111,653*	85,652	292,000	315,867	--	805,172

* Differences from the state's allotment of $110,000 reflect expenditures as of the reporting date and may include carry-over from the preceeding year.

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Dave Burroughs, Corps of Engineers
Mr. Tom Herrin, State Department of Local Services
Mr. Bob Jenkins, U.S. Fish and Wildlife Service
Mr. Mike Malloy, Department of Economic Development
Mr. Tom McRae, Rockefeller Foundation
Mr. John Saxton, State Soil and Water Resources
Mr. Dick Sniegocki, U.S. Geological Survey
Mr. Jarrell Southall, State Pollution Control and Ecology Department
Mr. Whitey Spears, U.S. Department of Argiculture

CALIFORNIA

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	100,500	NA	--	139,401	--	239,901
2. OWRT Matching Grant Projects	NA	104,866	NA	220,829	--	325,695
3. OWRT Focused Research Projects	NA	--	--	754,553	--	754,553
4. Non-OWRT Projects	NA	NA	--	--	--	--
Subtotal	100,500	104,866	--	1,114,783	--	1,320,149
Five-Year Water Research Priorities Development	1,500	9,350	--	8,200	--	19,050
State Research Program Development and Coordination	5,000	--	--	37,100	--	42,100
Technology Transfer and Information Dissemination	3,000	--	--	168,280	2,000	173,280
Administration	--	NA	--	47,500	--	47,500
Total	110,000	114,216	--	1,375,863	2,000	1,602,079

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. W.A. Alexander, Consulting Engineer, Lower Tule River Irrigation District
Ms. Carla M. Bard, Chairwoman, State Water Resources Control Board
Mr. Irving S. Bengelsdorf, California Institute of Technology
Mr. Linden R. Burzell, General Manager & Chief Engineer, San Diego County Water Authority
Mr. William I. DuBois, Director, Natural Resources, California Farm Bureau Federation
Ms. Mary Ann Eriksen, Sierra Club
Mr. John Fraser, Executive Director & General Counsel, Association of California Water Agencies
Mr. Soledad Garcia, Director, Metropolitan Water District of Southern California
Mr. Frederick V.H. Garretson Oakland Tribune
Mr. Myron B. Holburt, Chief Engineer, Colorado River Board of California
Mr. William L. Kahrl
Mr. Arthur L. Littleworth, Best, Best & Krieger,
Mr. Clyde McDonald, Consultant, Assembly Committee on Water, Parks and Wildlife
Mr. Richard May, President, California Trout Inc..
Ms. Sylvia C. McLaughlin
Mr. Adolph Moskovitz, Kronick, Moskovitz, Tiedemann & Girard
Mr. Langdon W. Owen, Don Owen & Associates
Mr. Ronald B. Robie, Director, Department of Water Resources
Mr. Thomas M. Stetson, Stetson Engineers, Inc.
Mr. Don Twogood, Manager, Imperial Irrigation District
Dr. W.R.Z. Willey, Staff Economist, Environmental Defense Fund

COLORADO

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	64,500	NA	--	42,000	--	106,500
2. OWRT Matching Grant Projects	NA	195,358	NA	187,000	--	382,358
3. OWRT Focused Research Projects	NA	67,0	--	4,000	--	71,000
4. Non-OWRT Projects	NA	NA	110,000	56,637	18,000	184,637
Subtotal	64,500	262,358	110,000	289,637	18,000	744,495
Five-Year Water Research Priorities Development	5,000	--	--	--	--	5,000
State Research Program Development and Coordination	10,000	--	--	--	--	10,000
Technology Transfer and Information Dissemination	20,300	8,000	--	10,000	--	38,300
Administration	10,200	NA	--	25,720	--	35,920
Total	110,000	270,358	110,000	325,357	18,000	833,715

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Paul T. Barrows, Chief, Environmental Resources, Division of Wildlife
Mr. James Blakey, District Chief, U.S. Geological Survey
Dr. M.W. Bittinger, Resource Consultants, Inc.
Dr. David Carlson, Resource Information Section, Colo. Dept. of Agriculture
Mr. Al Clebsch, Regional Hydrologist, U.S. Geological Survey, Water Resources Division
Mr. William C. Fecke, Asst. State Conservationist, Soil Conservation Service
Mr. William Lidster, Lower Missouri Region, U.S. Bureau of Reclamation
Mr. Robert McWhinnie, President, Ken R. White Company
Mr. Kenneth Jiwirk, Asst. to the Manager of Environment & Quality Control, Denver Board of Water Commissioners
Mr. W.M. McDonald Director, Colorado Water Conservation Board
Mr. George O'Malley, Director, Division of Parks and Outdoor Recreation
Mr. Earl Phipps, Northern Colorado Water Conservancy District
Dr. Gene R. Reetz, Water Planning Branch, Environmental Protection Agency
Mr. John Rold, State Geologist
Mr. Frank Rozich, Director, Colorado Water Quality Control Division
Mr. Elroy F. Spitzer, Director of Research, American Water Works Assn.
Mr. William R. Smith, Deputy State Engineer
Mr. Scott Tucker, Manager, Urban Drainage and Flood Control District
Mr. Ken Wright, Wright McLaughlin Engineers

CONNECTICUT

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	60,575	NA	--	142,838	--	203,413
2. OWRT Matching Grant Projects	NA	51,098	NA	94,970	--	146,068
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	--	--	--	--
Subtotal	60,575	51,098	--	237,808	--	349,481
Five-Year Water Research Priorities Development	10,922	--	--	--	--	10,922
State Research Program Development and Coordination	22,789	--	--	29,117	--	51,906
Technology Transfer and Information Dissemination	7,706	--	--	29,117	--	36,823
Administration	9,915	NA	--	--	--	9,915
Total	111,907*	51,098	--	296,042	--	459,047

* Differences from the state's allotment of $110,000 reflect expenditures as of the reporting date and may include carry-over from the preceeding year.

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mrs. Aline Booth, Mansfield Conservation Commission, League of Women Voters, Mansfield Center Connecticut
Mr. Jack C. Davis, State Conservationist, (1979-), U.S.D.A.Soil Conservation Service, Storrs, Connecticut.
Ms. Carolyn Gimbrone, Nat.. Res. Cen. of Envir.
Mr. David McCartney, District Chief, U.S. Geological Survey, Hartford, Connecticut
Mr. Stanley Pac, Commissioner, Connecticut Department of Environmental Protection, Hartford, Connecticut
Mrs. Sally Richards, Chairperson, Guilford Inland Wetlands Commission Guilford, Connecticut
Mr. George Russell, Director of Staff Services, Connecticut Department of Environmental Protection, Hartford, Connecticut
Chester Thomas, Assistant District Chief, U.S. Geological Survey, Hartford, Connecticut
Dr. Hugo Thomas, Director, Natural Resource Center, Connecticut Department of Environmental Protection, Hartford, Connecticut
Mr. John W. Tipple, State Conservationist, (1976-1979), Soil Conservation Service, U.S. Department of Agriculture
Mr. Richard Woodhull, Chief, Water Supplies Section, State Department of Health, Hartford, Connecticut

DELAWARE

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	69,886	NA	--	68,551	--	138,437
2. OWRT Matching Grant Projects	NA	--	NA	--	--	--
3. OWRT Focused Research Projects	NA	69,253	--	3,011	--	72,264
4. Non-OWRT Projects	NA	NA	--	--	--	--
Subtotal	69,886	69,253	--	71,562	--	210,701
Five-Year Water Research Priorities Development	7,878	--	--	6,421	--	14,299
State Research Program Development and Coordination	9,454	--	--	7,704	--	17,158
Technology Transfer and Information Dissemination	10,242	--	--	8,347	--	18,589
Administration	11,818	NA	--	9,631	--	21,449
Total	109,278*	69,253	--	103,665	--	282,196

* Differences from the state's allotment of $110,000 reflect expenditures as of the reporting date and may include carry-over from the preceeding year.

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Bernard L. Dworsky, Administrator, Water Resources Agency for New Castle County
Mr. Thomas P. Eichler, Director Division of Environmental Control
Mr. Walter L. Fritz, Jr. County Engineer, Kent County
Mr. Grady E. Griggs, Soil Conservation Service
Mr. Robert R. Jordan, Director Delaware Geological Survey
Mr. William H. McCoy, Office of Water Research & Technology
Mr. Fred M. McKee County Engineer, Sussex County
Mr. Warren O'Sullivan, Assistant County Engineer, New Castle County
Mr. N.C. Vasuki, General Manager, Delaware Solid Waste Authority
Mr. Norman G. Wilder, Executive Director, Delaware Nature Education Society

DISTRICT OF COLUMBIA

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	48,929	NA	--	--	--	48,929
2. OWRT Matching Grant Projects	NA	14,417	NA	7,959	14,417	36,793
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	--	--	--	--
Subtotal	48,929	14,417	--	7,959	14,417	85,722
Five-Year Water Research Priorities Development	2,431	--	--	656	--	3,087
State Research Program Development and Coordination	19,449	--	--	5,246	--	24,695
Technology Transfer and Information Dissemination	9,312	--	--	32,859	--	42,171
Administration	17,018	NA	--	4,591	--	21,609
Total	97,139*	14,417	--	51,311	14,417	177,284

* Differences from the state's allotment of $110,000 reflect expenditures as of the reporting date and may include carry-over from the preceeding year.

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. John Tydings, Executive Vice President, The Metropolitan Washington Board of Trade
Mr. Robert A. Canham, Executive Director, Water Pollution Control Federation
Mr. Paul W. Eastman, Executive Director, Interstate Commission on the Potomac River Basin
Dr. Daniel Sheer, Planning Engineer (Alternate), Interstate Commission on the Potomac River Basin
Mr. Francis B. Francois, Prince Georges County Council, Council of Governments
Honorable Walter E. Fauntroy, Delegate from the District of Columbia
Mr. Howard Lee, Esq. (Alternate) Legislative Assistant and Counsel
Mr. paul V. Freese, Vice President, Camp Dresser and McKee, Inc., American Consulting Engineers Council
Mr. Jean B. Levesque, Director, Water Resources Management Administration, D.C. Department of Environmental Services
Mr. Daniel J. Snyder, III, Regional Administrator, U.S. Environmental Protection Agency
Mr. Daniel Gelier (Alternate), U.S. Environmental Protection Agency
Mr. William E. Trieschman, Chief, Planning Division, U.S. Army Engineer District, Baltimore
Mr. harold L. Nelson (Alternate), Planning Division, U.S. Army Engineer
Rev. John P. Whalen, Executive Director, Consortium of Universities
Mr. Francis Patrick (Alternate), Consortium of Universities
Councilmember Nadine Winter, D.C. City Council

FLORIDA

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	45,580	NA	--	39,062	--	84,642
2. OWRT Matching Grant Projects	NA	38,459	NA	60,007	--	98,466
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	--	--	--	--
Subtotal	45,580	38,459	--	99,069	--	183,108
Five-Year Water Research Priorities Development	--	--	--	--	--	--
State Research Program Development and Coordination	--	--	--	--	--	--
Technology Transfer and Information Dissemination	--	--	--	--	--	--
Administration	35,339	NA	--	9,448	--	44,787
Total	80,919*	38,459	--	108,517	--	227,895

* Differences from the state's allotment of $110,000 reflect expenditures as of the reporting date and may include carry-over from the preceeding year.

INSTITUTE ADVISORY COMMITTEE MEMBERS

Dr. George Fisher, Northwest Florida Water Management District
Mr. E.D. (Sonny) Vergara St. Johns Water Management District
Mr. Peter B. Rhoads, South Florida Water Management District
Mr. Irwin Kantrowitz, U.S. Geological Survey
Mr. Ed Salem U.S. Army Corps of Engineers
Mr. Jesse Livingston, U.S. Department of Agriculture
Mr. William Allee, Southwest Florida Water Management District
Mr. Donald Morgan, Suwannee River Water Management District
Mr. Al Bishop, Department of Environmental Regulation
Mr. James M. Harvey, State Energy Office
Mr. Herbert F. Berger, National Council on Air & Stream Improvement
Mr. David P. Borris, Florida Institute of Phosphate Research
Mr. Patrick M. McCaffrey, Kissimmee Coordinating Council

GEORGIA

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	72,100	NA	--	50,000	--	122,100
2. OWRT Matching Grant Projects	NA	90,400	NA	90,400	--	180,800
3. OWRT Focused Research Projects	NA	24,600	--	12,800	--	37,400
4. Non-OWRT Projects	NA	NA	20,000	120,000	--	140,000
Subtotal	72,100	115,000	20,000	273,200	--	480,300
Five-Year Water Research Priorities Development	9,400	--	--	6,200	--	15,600
State Research Program Development and Coordination	13,000	--	--	7,300	--	20,300
Technology Transfer and Information Dissemination	7,500	--	--	4,200	--	11,700
Administration	8,000	NA	--	4,500	--	12,500
Total	110,000	115,000	20,000	295,400	--	540,400

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Joe D. Tanner, Commissioner, Department of Natural Resources
Brig. Gen. James N. Ellis, Regional Adm., Environmental Protection Agency
Dr. Bernd Kahn, Director, Environmental Resources Center, Georgia Institute of Technology
Mr. Gene Welsh, Chief, Water Protection Branch, Department of Natural Resources
Mr. John Rushing, Chief, Environmental Resources Branch, U.S. Army Corps of Engineers
Mr. John T. Marlar, Chief Technical Support Branch, Environmental Protection Agency
Mrs. Pat Jeanson, Member, Georgia Conservancy, Inc.
Dr. Ronald M. North, Director, Institute of Natural Resources, University of Georgia

GUAM

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	69,626	NA	--	50,043	--	119,669
2. OWRT Matching Grant Projects	NA	17,3'	NA	17,304	--	34,655
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	68,378	146,119	6,290	220,787
Subtotal	69,626	17,351	68,378	213,466	6,290	375,111
Five-Year Water Research Priorities Development	--	--	--	4,387	--	4,387
State Research Program Development and Coordination	--	--	--	20,000	--	20,000
Technology Transfer and Information Dissemination	3,000	--	--	--	--	3,000
Administration	37,374	NA	--	19,244	--	56,618
Total	110,000	17,351	68,378	257,097	6,290	459,116

OWRT-A-18

INSTITUTE ADVISORY COMMITTEE MEMBERS

Dr. Stephen J. Winter, Director, Water Resources Research Center
Mr. Frank Dayton, Director, Guam's Operations Office, U.S. Army Corps of Engineers
Mr. Gorman Dorsey, Director, Laboratory Services, Fena Lab, U.S. Navy Public Works Center
Mr. Richard Duenas, Administrator, Guam Environmental Protection Agency
Ms. Betty Guerrero, Director, Bureau of Planning
Mr. Jose E. Guiterrez, Jr., Director, Public Works
Mr. Charles Huxel, Guam Subdistrict Chief, U.S. Geological Survey
Mr. Antonio S. Quituqua, Director, Department of Agriculture
Mr. Antonio Q. Salas, Chief Officer, Public Utility Agency of Guam
Mr. Stefan Buzdugan, Agricultural Experiment Station, College of Agriculture and Life Sciences
Mr. Oscar Levand, Division of Physical Sciences, College of Arts and Sciences
Mr. James A. Marsh, Jr., Marine Lab
Mr. C. Lynn Raulerson, Division of Biosciences, College of Arts & Sciences

HAWAII

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	88,645	NA	--	105,859	--	194,504
2. OWRT Matching Grant Projects	NA	57,530	NA	88,412	--	145,942
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	--	--	--	--
Subtotal	88,645	57,530	--	194,271	--	340,446
Five-Year Water Research Priorities Development	--	--	--	--	--	--
State Research Program Development and Coordination	--	--	--	--	--	--
Technology Transfer and Information Dissemination	--	--	--	--	--	--
Administration	--	NA	--	--	--	--
Total	88,645*	57,530	--	194,271	--	340,446

* Differences from the state's allotment of $110,000 reflect expenditures as of the reporting date and may include carry-over from the preceeding year.

INSTITUTE ADVISORY COMMITTEE MEMBERS

Manager-Chief Engineer, Department of Water Supply, County of Kauai
Mr. T. Chuck Manager-Chief Engineer, Division of Water and Land Development, Department of Land and Natural Resources
Don J. Heiner Director, Experiment Station, Hawaaiian Sugar Planters Association
Mr. N.M. Sewake Manager-Chief Engineer, Department of Water Supply, County of Hawaii
Benjamin L. Jones District Chief, Water Resources Division, U.S. Geological Survey

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

IDAHO

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	76,366	NA	--	55,037	--	131,403
2. OWRT Matching Grant Projects	NA	158,0	NA	--	--	158,033
3. OWRT Focused Research Projects	NA	6,93[illegible]	--	--	--	6,935
4. Non-OWRT Projects	NA	N[illegible]	233,598	68,721	--	302,319
Subtotal	76,366	164,963	233,598	123,758	--	598,690
Five-Year Water Research Priorities Development	3,501	--	--	--	--	3,501
State Research Program Development and Coordination	--	--	--	--	--	--
Technology Transfer and Information Dissemination	17,639	--	--	--	--	17,639
Administration	45,040	NA	--	--	--	45,040
Total	142,546*	164,963	233,598	123,758	--	664,870

* Differences from the state's allotment of $110,000 reflect expenditures as of the reporting date and may include carry-over from the preceeding year.

INSTITUTE ADVISORY COMMITTEE MEMBERS

George Bloomsburg Professor, Engineering Experiment Station University of Idaho
Race Davies Public Policy Research Center, Idaho State University
Max Fletcher Head, Department of Economics, University of Idaho
Robert Furgason Academic Vice President, University of Idaho
Art Gittins Acting Director, Idaho Water Resources Research Inst.,University of Idaho
Doug Grant Professor, College of Law, University of Idaho
Wayne Haas Division of Resource Analysis, Idaho Dept. of Water Resources Statehouse
Charles Hatch Associate Dean of Research College of Forestry, Wildlife and Range Science University of Idaho
Raymond J. Miller Dean & Director, Agricultural Experiment Station, University of Idaho
Al Murrey Water Quality Bureau Chief Idaho Dept. of Health & Welfare Statehouse
Warren Reynolds Chairman, Citizen at Large
Roger Snider Bureau of Public Affairs Research, College of Letters and Science of Idaho
Richard Wallace Associate Professor Zoology, University of Idaho
Roy Williams Professor, College of Mines & Earth Resources, University of Idaho
Spencer Wood Assistant Professor Geology Boise State University

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ILLINOIS

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	46,491	NA	--	--	--	46,491
2. OWRT Matching Grant Projects	NA	194,912	NA	177,758	--	372,670
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	--	103,545	--	103,545
Subtotal	46,491	194,912	--	281,303	--	522,706
Five-Year Water Research Priorities Development	2,141	--	--	2,286	--	4,427
State Research Program Development and Coordination	19,267	--	--	16,002	--	35,269
Technology Transfer and Information Dissemination	7,493	--	--	13,716	--	21,209
Administration	6,779	NA	--	6,096	--	12,875
Total	82,171*	194,912	--	319,403	--	596,486

* Differences from the state's allotment of $110,000 reflect expenditures as of the reporting date and may include carry-over from the preceeding year.

INSTITUTE ADVISORY COMMITTEE MEMBERS

Richard V. Anderson, Aquatic Biologist, Department of Biological Sciences, Western Illinois University
Juh Wah Chen Professor, Department of Thermal and Environmental Engineering, Southern Illinois University
Leonard Durham Professor and Head, Division of Biological Sciences, Eastern Illinois University
Robert S. Gemmell Professor, Department of Civil Engineering, Northwestern University
James P. Hartnett Head, Department of Energy Engineering, University of Illinois
Bill J. Mathis Professor, Department of Biology, Bradely University
Joseph Berta Superintendent, Illinois Division of Soil and Water Conservation
Robert P. Clarke, Division of Water Pollution Control, Environmental Protection Agency
Mike Conlin, Illinois Department of Conservation, Dividion of Fisheries
Warren J. Fitzgerald, U.S.D.A. Soil Conservation Service
David Jones, Illinois Institute of Natural Resources
Frank Kudrna, Director, Division of Water Resources
Richard Lanyon, Engineer of Flood Control, Metropolitan Sanitary District of Greater Chicago
James H. Phillips, U.S. Environmental Protection Agency, Region V
Larry G. Toler, District Chief, U.S. Geological Survey

INDIANA

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	59,314	NA	--	70,317	--	129,631
2. OWRT Matching Grant Projects	NA	173,107	NA	173,611	--	346,718
3. OWRT Focused Research Projects	NA	159,502	--	8,640	--	168,142
4. Non-OWRT Projects	NA	NA	204,600	10,768	--	215,368
Subtotal	59,314	332,609	204,600	263,336	--	859,859
Five-Year Water Research Priorities Development	4,270	--	--	--	--	4,270
State Research Program Development and Coordination	28,800	--	--	--	--	28,800
Technology Transfer and Information Dissemination	1,100	26,952	--	--	--	28,052
Administration	16,516	NA	--	--	--	16,516
Total	110,000	359,561	204,600	263,336	--	937,497

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. William Andrews, Deputy Director, Indiana Department of Natural Resources
Mr. Robert Edelsan, State Conservationist, Soil Conservation Service
Mr. Dennis K. Stewart, District Chief, U.S. Geological Survey
Mr. Charles E. Thomas, State Leader Watershed Planning, USDA/SCS
Lt. Governor Robert Orr
Dr. Allan Perry, Office of Surface Mining
Mr. Ed Hood, Ohio River Basin Commission
Mr. Oral Hert, Bureau of Environmental Sanitation, Indiana State Board of Health
Mr. Jack Costello, Deputy Director, Department of Natural Resources
Mr. Edgar L. Whistler, Agricultural Stabilization Conservation Service
Mr. Glen V. Sachse, National Weather Service
Mr. Ronald Mross, State Planning Service
Mr. Neal Jenkins Chief, Planning Division, Louisville District Corps of Engineers
Mr. Doug Wilcox, Water Resources Specialist, Indiana Dunes National Lakeshore
Mr. John F. Connell, Chief, U.S. Environmental Protection Agency

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

IOWA

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	71,955	NA	--	83,686	--	155,641
2. OWRT Matching Grant Projects	NA	38,000	NA	45,000	--	83,000
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	--	--	170,000	170,000
Subtotal	71,955	38,000	--	128,686	170,000	408,641
Five-Year Water Research Priorities Development	8,740	--	--	10,000	--	18,740
State Research Program Development and Coordination	11,430	--	--	12,000	--	23,430
Technology Transfer and Information Dissemination	12,100	--	--	8,000	35,000	55,100
Administration	5,775	NA	--	10,193	10,000	25,968
Total	110,000	38,000	--	168,879	215,000	531,879

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Kenneth C. Choquette, Iowa State Dept. of Health
Mr. Darell D. Coy, Highway Div., Iowa Dept. of Transportation
Mr. Larry Crane, Exec. Dir., Dept. of Envir. Quality
Mr. Robert G. Fagerland, Act. Dir., Iowa Conservation Comm
Dr. John Fuller, Dir., Institute of Urban & Regional Research
Mr. Douglas Getter, Iowa Development Commission
Mr. Louis Gieske, Water Comm., Iowa Nat. Res. Council
Dr. Stanley Grant, Iowa Geological Survey
Dr. Robt. S. Hansen, Dir., Energy & Mineral Res. Inst.
Dr. William J. Hausler, Medical Laboratories
J Brune, State Con., U.S. Dept. of Agric.
Mr. Raymond L. Kassel, Dir., Iowa Dept. of Transportation
Dr. John F. Kennedy, University of Iowa
Mr. Mark F. Looschen, Highway Div., Iowa Dept of Transportation
Hon. Robt. H. Lounsberry, Secr'y of Agric. State of Iowa
Dr. John P. Mahlstede, Agric. Res. Admin. Iowa State Univ.
Mr. Vernon Marks, Res. Office, Iowa Dept. of Trans.
Mr. James Mayhew, Chariton Res. Station, Red Haw State Park
Dr. Wayne B. Merkley, Dept. of Biology, Drake University
Ms. Elizabeth Ozenbaugh, Environmental Protection Division
Mr. Norman L. Pawlowski, Pub. Health Comm. State of Iowa
Dr. Paul Peterson, Dir., Engr. Res. Inst., Iowa State Univ.
Mr. Ronald Sagraves, Director of State Economics, Capitol A
Dr. Vaughn A. Seaton, Professor & Head, Iowa State Univ.
Mr. Arnold Sohn, Planning & Coord., Iowa Cons. Comm
Dr. Edward Stanek, Director, Energy Policy Council
Ms. Susan Stewart, Iowa Geological Survey
Mr. Robert F. Tyson Dir., Off. of Planning and Programs
Mr. Larry Vance, Dir., Dpt. of Soil Con., State of Iowa
Mr. James R. Webb, Dir., Iowa Natural Resources Council
Mr. Bruce Brakke, Fed. Highway Admin., Dept. of Trans.
Mr. Warren C. Caldwell, National Weather Service
Dr. Kathleen Camin, Reg. VII, Envir. Prot. Agency
Mr. Mildred W. Hall, Chairman, Missouri River Basin Commiss
Mr. Alfred A. Harrison, Mo. R. Div., Army Corps of Eng.
Mr. Neil Haugerud, Chm., Upper Miss. River Basin Comm.
Mr. George E. Johnson, Water Con. Sec., Army Corps Engrs.
Mr. Oscar Lara, Water Res. Div., U.S. Geological Survey
Col. Frederick W. Mueller, Rock Is. Dist., Army Corps Engrs
Mr. Lloyd Scott, Chief Community Programs, Federal Bldg.
Dr. John McLaflen, ARS, USDA, Iowa State University
Mr. Darrell P. Thompson, Bu. of Outd. Rec., Denver Fed. Ctr

KANSAS

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1990

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	86,870	NA	125,190	138,235	--	350,295
2. OWRT Matching Grant Projects	NA	59,033	NA	58,108	--	117,141
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	--	--	--	--
Subtotal	86,870	59,033	125,190	196,343	--	467,436
Five-Year Water Research Priorities Development	1,459	--	--	--	--	1,459
State Research Program Development and Coordination	10,106	--	--	--	--	10,106
Technology Transfer and Information Dissemination	1,000	--	--	--	--	1,000
Administration	10,565	NA	--	--	--	10,565
Total	110,000	59,033	125,190	196,343	--	490,566

OWRT-A-24

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Walter C. Bell Dist. Engineer, U.S. Army Corps of Engineers
Mr. Charles Bredahl, Exec. Secretary, State Conservation Comm.
Mr. W.W. Duitsman, Secretary, Department of Agriculture
Mr. John B. Kemp, Secretary, Department of Transportation
Ms. Francine Neubauer, Exec. Dir., Kansas Water Res.
Dr. Kay Camin, Environmental Protection Agency
Mr. Leroy Balke, National Weather Service
Mr. John W. Tippie Soil Conservationist, Soil Conservation Ser.
Mr. James W. Decoursey, Secretary, Department of Economic Dev.
Dr. Joseph Rosenshein, Dist. Chief, Water Res. Div. U.S. G.S.
Dr. W.W. Hambleton, State Geologist, State Geological Survey
Mr. Gerald Stoltenberg, Department of Health and Environment
Mr. Joe D. Hall, Regional Director, U.S. Bureau of Reclamation
Mr. Glen Kirk, U.S. Bureau of Reclamation
Mr. Guy Gibson, Div. of Water Res., State Board of Agric.
Mr. Keith Lebbin, Western Kansas Groundwater Management District #1
Mr. Rick Illgner, Southwest Kansas Groundwater District #3
Mr. Richard Sloan, Big Bend Groundwater Management District #5
Mr. Jerry M. Conley, Director, Kansas Fish and Game Service
Mr. Tom Bell, Equus Beds Groundwater Management District #2

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

KENTUCKY

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	59,726	NA	--	59,260	--	118,986
2. OWRT Matching Grant Projects	NA	119,648	NA	116,920	--	236,568
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	--	--	--	--
Subtotal	59,726	119,648	--	176,180	--	355,554
Five-Year Water Research Priorities Development	7,980	--	--	10,459	--	18,439
State Research Program Development and Coordination	5,985	--	--	30,672	--	36,657
Technology Transfer and Information Dissemination	2,993	--	--	7,632	--	10,625
Administration	2,994	NA	--	10,266	--	13,260
Total	79,678*	119,648	--	235,209	--	434,535

* Differences from the state's allotment of $110,000 reflect expenditures as of the reporting date and may include carry-over from the preceeding year.

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Dave Rosenbaum Chairman, Division of Water Quality, Kentucky Department for Natural Resources and Environmental Protection
Mr. Robert Blanz, Division of Water Quality, Kentucky Department for Natural Resources and Environmental Protection
Mr. Mark Matuszewki, Division of Forestry, Kentucky Department for Natural Resources and Environmental Protection
Mr. James Villines, Bureau of Surface Mining, Kentucky Department for Natural Resources and Environmental Protection
Mr. Nick Johnson, Division of Sanitary Engineering, Kentucky Department for Natural Resources and Environmental Prot.
Mr. James R. Charles, Department of Fish and Wildlife, Kentucky Department of Natural Resources and Environmental Protection
Mr. Don Harker, Kentucky Nature Preserves Commission
Mr. James E. Jones JR., Kentucky Department of Energy
Mr. Donald C. Haney Director, Kentucky Geological Survey
Mr. Steve M. Thrasher, Ohio River Basin Commission

LOUISIANA

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	50,266	NA	--	50,886	--	101,152
2. OWRT Matching Grant Projects	NA	17,576	NA	22,026	--	39,602
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	--	--	--	--
Subtotal	50,266	17,576	--	72,912	--	140,754
Five-Year Water Research Priorities Development	--	--	--	--	--	--
State Research Program Development and Coordination	--	--	--	--	--	--
Technology Transfer and Information Dissemination	--	--	--	--	--	--
Administration	58,930	NA	--	41,177	--	100,107
Total	109,196*	17,576	--	114,089	--	240,861

* Differences from the state's allotment of $110,000 reflect expenditures as of the reporting date and may include carry-over from the preceeding year.

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Albert N. Cameron, U.S. Geological Survey
Mr. Darrell Primeaux, La. Division of Public Works
Dr. Charles Groat, Director & State Geologist
Mr. R.M. Hansen, Kaiser Aluminum & Chemical Corporation
Mr. Kai Midboe, Dept. of Transportation & Development
Dr. Bobby E. Price,
Colonel Thomas A Sands, U.S. Corps of Engineers
Mr. Charles S. Staples, Soil and Water Conservation Committee

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

MAINE

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	54,900	NA	--	23,200	--	78,100
2. OWRT Matching Grant Projects	NA	105,100	NA	90,800	14,300	210,200
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	--	2,300	--	2,300
Subtotal	54,900	105,100	--	116,300	14,300	290,600
Five-Year Water Research Priorities Development	10,900	--	--	26,100	--	37,000
State Research Program Development and Coordination	19,000	--	--	16,200	--	35,200
Technology Transfer and Information Dissemination	18,800	--	--	30,000	--	48,800
Administration	6,400	NA	--	11,700	--	18,100
Total	110,000	105,100	--	200,300	14,300	429,700

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Richard E. Barringer, Commissioner, Department of Conservation
Mr. Stewart Smith, Commissioner, Department of Agriculture, Food and Rural
Mr. Henry Warren, Commissioner, Dept. of Environmental Protection
Mr. John Joseph, Executive Director, Office of Energy Resources
Ms. Barbara Cottrell, Director, State Development Office
Mr. George Campbell, Commissioner, Department of Transportation
Mr. Brian N. Chermack, Exec. Dir. Regional Planning Director's Assoc.
Mr. Spencer Apollonio, Commissioner, Department of Marine Resources
Mr. Glenn Manuel, Commissioner, Dept. Inland Fisheries & Wildlife
Mr. Bradford A. Hall, Vice President, Research and Public Services, UMO
Mr. Allen Pease, Director, State Planning Office
Mr. James McBreairty, Senate Chairman, Energy & Natural Resources Committee, Maine State Legislature
Mr. William Blodgett, House Chairman, Energy & Natural Resources Committee, Maine State Legislature

MARYLAND

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	54,450	NA	--	58,747	--	113,197
2. OWRT Matching Grant Projects	NA	58,383	NA	69,477	--	127,865
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	--	85,883	--	85,883
Subtotal	54,450	58,383	--	214,107	--	326,945
Five-Year Water Research Priorities Development	10,500	--	--	--	--	10,500
State Research Program Development and Coordination	6,550	--	--	--	--	6,550
Technology Transfer and Information Dissemination	11,500	--	--	--	--	11,500
Administration	27,000	NA	--	--	--	27,000
Total	110,000	58,383	--	214,107	--	382,495

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Thomas C. Andrews Director, Maryland Water Resources Adm. Dept of Natural Resources
Hon. Torrey C. Brown, Chairperson for Environmental Matters Md. House of Delegates
Dr. Robert M. Altman, Md. Dept. of Agriculture
Dr. L. Eugene Aronin, Director Chesapeake Research Commission
Mr. W.M. Euchbourn, Asst. Sec. Office Environmental Program, Md Dept. of Health and Mental Hygene
Mr. Vernon R. Foster, Chairperson, State Soil Conservation Committee, Md. Dept. of Agriculture
Mr. Robert J. Rubelman, Dir. Md. Fisheries Adm. Dept of Natural Resources
Mr. Henry Silverman, Md. Dept. of Natural Resources
Mr. Steve Stegner, Representative Baltimore District US Army Corps
Dr. John B. Williams, Tidewater Administration, Md. Dept. of Natural Resources
Dr. Edward Karlander, Acting Director, Md. Water Resources Research Center

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

MASSACHUSETTS

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	53,661	NA	--	101,717	--	155,378
2. OWRT Matching Grant Projects	NA	78,523	NA	88,911	--	167,439
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	--	--	--	--
Subtotal	53,661	78,523	--	190,628	--	322,817
Five-Year Water Research Priorities Development	4,426	--	--	--	--	4,426
State Research Program Development and Coordination	20,910	--	--	14,250	--	35,160
Technology Transfer and Information Dissemination	10,124	--	--	13,825	--	23,949
Administration	9,554	NA	--	26,376	--	35,930
Total	98,675*	78,523	--	245,079	--	422,282

* Differences from the state's allotment of $110,000 reflect expenditures as of the reporting date and may include carry-over from the preceeding year.

INSTITUTE ADVISORY COMMITTEE MEMBERS

David A. Storey, Department of Food and Resource Economics,
Francis A. Digiano, Department of Civil Engineering
Robert W. Tuthill, Department of Public Health
Kenneth Picha, Office to Coordinate Energy Research and Education
William J. Mellen, Department of Veterinary and Animal Science
Charles F. Cole, Department of Forestry and Wildlife Management
Paul J. Godfrey, Department of Botany
E. Bruce MacDougall, Department of Landscape Architecture and Regional Planning
Arthur W. Eve, Associate Director, Institute for Governmental Services

MICHIGAN

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	76,715	NA	--	--	--	76,715
2. OWRT Matching Grant Projects	NA	37,620	NA	--	--	37,620
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	343,562	75,464	--	419,026
Subtotal	76,715	37,620	343,562	75,464	--	533,361
Five-Year Water Research Priorities Development	--	--	--	--	--	--
State Research Program Development and Coordination	--	--	--	--	--	--
Technology Transfer and Information Dissemination	--	--	--	--	--	--
Administration	--	NA	--	--	--	--
Total	76,715*	37,620	343,562	75,464	--	533,361

* Differences from the state's allotment of $110,000 reflect expenditures as of the reporting date and may include carry-over from the preceding year.

INSTITUTE ADVISORY COMMITTEE MEMBERS

Dr. Raleigh Barlowe, Department of Resource Development Michigan State University
Dr. Patricia L. Braden, Department of Business Administration, University of Michigan
Dr. Thomas M. Burton, Department of Zoology/Institute of Water Research, Michigan State University
Mr. T. Ray Cummings, Chief, Geological Survey, U.S. Department of the Interior
Mr. Thomas Doyle, Fisheries Division, Michigan Department of Natural Resources
Dr. John Eastman, Department of Civil and Sanitary Engineering, Michigan State University
Dr. Boyd G. Ellis, Department of Crop and Soil Sciences, Michigan State University
Mr. Elwin Evans, Water Quality Division, Michigan Department of Natural Resources
Mr. Larry Fink, Office of Toxic Materials Control, Michigan Department of Natural Resources
Mr. Gary E. Guenther, Chief, Environmental Services Division, Michigan Department of Natural Resources
Mr. John Harting, Environmental Services Division, Michigan Department of Natural Resources
Mr. Andrew Hogarth, Water Quality Division, Michigan Department of Natural Resources
Mr. Thomas C. Hoogerhyde, Chief, Bureau of Environmental & Occupational Health, Michigan Department of Public health
Mr. Karl R. Hosford, Chief, Land Resource Program Division, Michigan Department of Natural Resources
Mr. Dave Kenaga, Water Quality Division, Michigan Department of Natural Resources
Dr. Donna King, Department of Botany and Plant Pathology, Michigan State University

MINNESOTA

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	60,000	NA	--	71,117	--	131,117
2. OWRT Matching Grant Projects	NA	64,985	NA	68,756	--	133,741
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	44,000	--	--	44,000
Subtotal	60,000	64,985	44,000	139,873	--	308,858
Five-Year Water Research Priorities Development	2,000	--	--	2,900	--	4,900
State Research Program Development and Coordination	17,000	--	--	12,950	--	29,950
Technology Transfer and Information Dissemination	18,367	--	--	9,528	--	27,895
Administration	12,633	NA	--	7,600	--	20,233
Total	110,000	64,985	44,000	172,851	--	391,836

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Clarence Oster, Environmental Protection Agency
Mr. Rollin M. Dennistoun, Minn. Department of Agriculture
Mr. F.H. Geisenhoff, Minn. Department of Economic Development
Mr. Gene H. Hollenstein, Minn. Department of Natural Resources
Mr. Edwin H. Ross Minn. Department of Health
Mr. Joseph E. Sizer, Minn. State Planning Agency
Mr. Jack C. Dithore, Minn. Water Planning Board
Mr. Erling M. Weiberg, Minn. Water Resources Board
Mr. Marcel Jousseau, Metropolitan Council
Mr. Donald R. Albin, U.S. Geological Survey
Mr. Forrest T. Gay, III, U.S. Army Corps of Engineers
Mr. Harry M. Major, U.S. Soil Conservation Service
Mr. Joseph Scott U.S. Bureau of Sport Fisheries
Mr. Elon S. Verry, U.S. Forest Service & Wildlife
Mr. Douglas W. Barr, Consulting Hydraulic Engineer
Ms. Jeanne Crampton, League of Women Voters
Mr. Raymond A. Haik, Attorney
Mr. Ken Kadlec, MPIRG
Mr. Ford Robbins, Sierra Club
Mr. Paul Toren, Izaak Walton League of America

MISSISSIPPI

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	77,196	NA	--	38,148	--	115,344
2. OWRT Matching Grant Projects	NA	7,2[illegible]	NA	7,277	--	14,554
3. OWRT Focused Research Projects	NA	12,973	--	4,241	8,738	25,958
4. Non-OWRT Projects	NA	NA	50,171	17,310	--	67,481
Subtotal	77,196	20,256	50,171	66,976	8,738	223,337
Five-Year Water Research Priorities Development	10,000	--	--	11,000	--	21,000
State Research Program Development and Coordination	8,900	--	--	8,100	--	17,000
Technology Transfer and Information Dissemination	4,900	--	6,357	9,000	--	20,257
Administration	9,004	NA	--	5,640	--	14,644
Total	110,000	20,256	56,528	100,716	8,738	296,238

INSTITUTE ADVISORY COMMITTEE MEMBERS

Dr. Vernon G. Archer, Jackson State Univ.
Mr. Chester F. Bellard, Soil Conservation Service
Mr. Alvin R. Bicker, Bureau of Geology & Energy Resources
Mr. Phil Combs, Corps of Engineers, Vicksburg District
Col. Nelson P. Conover, Waterways Experiment Station
Dr. David W. Cook, Gulf Coast Research Laboratory
Dr. Donn DeCoursey, USDA Sedimentation Laboratory
Dr. David J. Etzold, Univ. of Southern Miss.
Mr. Barry O. Freeman, Miss. Dept. of Wildlife Conservation
Mr. Paul Fugate, First National Bank, Jackson,
Mr. A.L. Garrard Jr., Pat Harrison Waterway District
Mr. James E. Glover, Waterways Experiment Station
Mr. A.B. Herndon, Environmental Protection Agency (IV)
Mr. Donald B. Holzer, USDA Forest Service, Jackson,
Mr. Curtis B. James, U.S. Fish & Wildlife Service
Dr. James I. Jones, Miss-Ala Sea Grant Consortium
Mr. Hugh W. Ketchum, Mississippi Manufacturers Association
Mr. Richard L. Leard, Miss. Bu. of Marine Res.
Dr. Robert McArthur, University of Mississippi
Mr. James C. McDonald, Mississippi State Board of Health
Mr. Clyde A McLeod, Mississippi Economic Council
Mr. James W. Miller, Miss. Dept. of Economic Development
Mr. Charles Moak, Pearl River Water Supply District
Mr. Gerald G. Parker, U.S. Geological Survey, Jackson
Mr. Jack W. Pepper, Miss. Bu. of Land & Water Res.
Dr. J.R. Peterson, Miss. Research & Development Center
Mr. William H. Reid, Corps of Engineers, Mobile District
Mr. Robert Seyfarth, Miss. Bureau of Pollution Control
Mr. B.F. Smith, U.S. Fish & Wildlife Service, NSTL
Mr. Norris L. Stampley, Mississippi Power & Light Company
Mr. T. Paul Teng, Mississippi State Highway Department
Mr. Stanley Ursic, USDA Forest Service, Oxford,
Mr. Donald G. Waldon, Tenn.-Tombigbee Waterway Author.

MISSOURI

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	95,500	NA	--	77,337	--	172,837
2. OWRT Matching Grant Projects	NA	65,698	NA	65,980	--	131,678
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	--	--	--	--
Subtotal	95,500	65,698	--	143,317	--	304,515
Five-Year Water Research Priorities Development	1,000	--	--	--	--	1,000
State Research Program Development and Coordination	500	--	--	--	--	500
Technology Transfer and Information Dissemination	500	--	--	--	--	500
Administration	12,500	NA	--	--	--	12,500
Total	110,000	65,698	--	143,317	--	319,015

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. William Dieffenbach, Missouri Conservation Committee
Mr. Robert Dunkeson, Water Planning Div. Dept. of Natural Resources--MO
Mr. Charles Hajinian, Environmental Protection Agency
Mr. Wallace B. Howe, Division of Geology and Land Survey, Dept. of Natural Resources--MO
Mr. Roy L. Jackson, Water and Pollution Control Dept.
Mr. Charles P. Kaiser, Jr., Professional Engineer
Mr. Robert Lingholm, Asst. to Attorney General of Missouri
Mr. Vance C. Lischer, Professional Engineer
Mr. W.E. Marbaker, II, Mining Industry Council of Missouri
Mr. Robert L. Markey, Environmental Protection Agency
Mr. N.A. McDonald, Missouri Limestone Procedures Association
Mr. Kenneth G. McManus, Soil Conservation Service
Mr. John V. Philliber, Capital City Water Works
Mr. J.A. Popalisky, Missouri American Water Works Association
Mr. W.Jack Provin, Agricultural Stabilization Conservation Service
Mr. Ronald D. Roberson, Missouri Chamber of Commerce
Mr. George C. Stiles, Department of Agriculture
Ms. Betty Woodruff, League of Women Voters

MONTANA

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	75,421	NA	--	37,710	--	113,131
2. OWRT Matching Grant Projects	NA	14,039	NA	6,664	--	20,703
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	422,599	32,098	56,403	511,100
Subtotal	75,421	14,039	422,599	76,472	56,403	644,934
Five-Year Water Research Priorities Development	4,300	--	--	2,150	--	6,450
State Research Program Development and Coordination	17,179	--	--	8,590	--	25,769
Technology Transfer and Information Dissemination	7,500	30,277	--	33,240	--	71,017
Administration	5,600	NA	--	2,800	--	8,400
Total	110,000	44,316	422,599	123,252	56,403	756,570

OWRT-A-34

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Loren Bahls, Water Quality Bureau, Department of Health and Environmental Sciences
Mr. Terry Carmody, Environmental Quality Council
Mr. Bill Christiansen, Lieutenant Governor's Office, Energy Advisory Council
Mr. Edward Miller, Water Resources Division, Montana Department of Natural Resources and Conservation
Dr. Richard Gregory, Leader, Montana Fishery Research Unit, U.S. Fish and Wildlife Service
Mr. Wallace Jully, USDA Soil Conservation Service
Mr. Bruce Hayden, Montana Department of State Lands
Mr. Albert T. Kersich, Consulting Engineer, Hurlbut, Kersich & McCullough
Mr. Ralph A. Klawitter, Assistant Director, Intermountain Forest and Range Experiment Station
Mr. Lester W. Lloyd, U.S.D.I., Bureau of Reclamation
Mr. George Moon, Engineer, U.S. Bureau of Indiana Affairs
Mr. George M. Pike, District Chief, U.S. Geological Survey
Mr. James Posewitz, Environment and Information Chief, Montana Department of Fish and Game
Mr. Harold M. Price, Administrator, Division of Planning, Department of Community Affairs
Mr. Hubert White, Director, National Water Resources Association
Mr. Donald G. Willems, Chief, Water Quality Bureau, Department of Health and Environmental Sciences
Mr. Robert J. Labrie, Vice President, The Montana Power Company
Mr. Larry O'Dell, Vice President, Northern Testing Laboratories, Inc.
Mr. Bob B. Gemmill
Mr. James D. Mockler, Executive Director, Montana Coal Council
Dr. James Pickett, Head Biology Dept. Montana State University

NEBRASKA

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	108,000	NA	--	165,700	--	273,700
2. OWRT Matching Grant Projects	NA	132,000	NA	134,000	--	266,000
3. OWRT Focused Research Projects	NA	50,000	--	35,000	--	85,000
4. Non-OWRT Projects	NA	NA	145,000	252,000	10,000	407,000
Subtotal	108,000	182,000	145,000	586,700	10,000	1,031,700
Five-Year Water Research Priorities Development	--	--	--	10,000	--	10,000
State Research Program Development and Coordination	--	--	--	90,000	--	90,000
Technology Transfer and Information Dissemination	--	--	--	15,000	--	15,000
Administration	2,000	NA	--	65,000	--	67,000
Total	110,000	182,000	145,000	766,700	10,000	1,213,700

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Robert O. Epp
Mr. William Patterson, Soil Conservation Service
Mr. William Fairfield, Valmont Industries
Mr. Cliff Quick, Neuswanger Company
Mr. Dick Goodding, Director of Research, Nebraska Farm Bureau
Mr. Hall L. Schroeder, Gen. Mgr., Lower Platte South NRD
Ms. Patricia Hoffman, League of Women Voters
Mr. Donald Stenberg, Director, Policy Research Office
Mr. Lowell Johnson, Chairman, Research Committee, Nebraska Association of Resources Districts
Mr. Wayne A. Stuifft, Planning Staff, Army Corps of Engineers
Mr. William Kastner, Dist. Chief, U.S. Geological Survey
Mr. Don Thompson
Mr. Don Long, Public Relations Director, Central Nebraska Public Power and Irrigation District
Mr. Robert Wall, Water Pollution Control Div., Dept. of Environmental Control
Mr. John W. Neuberger, Director, Dept. of Water Resources
Mr. Dayle Williamson, Exec. Secretary, Nebr. Natural Resources Commission
Mr. Lee Orton, Exec. Director, Nebraska Association of Resources Districts
Mr. Gene Zuerlein, Nebr. Game & Parks Commission

NEVADA

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	48,660	NA	--	25,630	--	74,290
2. OWRT Matching Grant Projects	NA	81,470	NA	63,740	20,000	165,210
3. OWRT Focused Research Projects	NA	39,020	--	2,430	--	41,450
4. Non-OWRT Projects	NA	NA	1,341,620	49,970	231,400	1,622,990
Subtotal	48,660	120,490	1,341,620	141,770	251,400	1,903,940
Five-Year Water Research Priorities Development	6,770	--	--	3,080	--	9,850
State Research Program Development and Coordination	18,620	--	--	9,730	--	28,350
Technology Transfer and Information Dissemination	12,840	162,180	--	8,430	--	183,450
Administration	9,420	NA	--	38,210	--	47,630
Total	96,310*	282,670	1,341,620	201,220	251,400	2,173,220

* Differences from the state's allotment of $110,000 reflect expenditures as of the reporting date and may include carry-over from the preceeding year.

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Arleigh B. West, Council Chairman
Mr. D.H. Baker, III, TIMET
Mr. Mark Chilton, President, Chilton Engineering
Mr. S.C. Ditsworth, Boyle Engineering Corporation
Dr. Elwood Douthett, U.S. Department of Energy
Mr. Myron J. Goldsworthy, Pershing County
Mr. Ernest Gregory, Environmental Protection Service
Mr. James Hawke, Division of Water Planning
Mr. Frank Hidaka, U.S. Geological Survey
Mr. Robert Hill, State Planning Coordinator
Mr. Eugene Hinds, U.S. Water and Power Resources Service
The Honorable Lawrence Jacobsen, Nevada State Senator
Mr. Victor Lambou, Water and Land Quality Branch
Mr. Roger J. McCormack, Bureau of Land Management
Mr. David Minedew, District Health Department
Mr. Richard E. Moser, Nevada State Park System
Mr. William E. Nork
Mr. Donald L. Paff, Las Vegas Valley Water District
Mr. Tom Rice
Mr. Donald R. Shalmy, Department of Comprehensive Planning
Mr. Hal Smith
Mr. Duane Sudweeks, Division of Colorado River Resources
Mr. Charles L. White, Nevada Farm Bureau Federation
The Honorable Thomas R.C. Wilson, III, Nevada State Senator
Mr. Roland Westergard, Division of Water Resources
Mr. J.H. Zornes, Nevada Power Company

NEW HAMPSHIRE

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	48,590	NA	17,500	68,251	--	134,341
2. OWRT Matching Grant Projects	NA	66,519	NA	64,951	--	131,470
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	--	--	3,850	3,850
Subtotal	48,590	66,519	17,500	133,202	3,850	269,661
Five-Year Water Research Priorities Development	9,340	--	--	4,390	--	13,730
State Research Program Development and Coordination	13,916	--	--	6,540	--	20,456
Technology Transfer and Information Dissemination	17,127	--	--	8,050	--	25,177
Administration	11,602	NA	--	6,953	--	18,555
Total	100,575*	66,519	17,500	159,135	3,850	347,579

* Differences from the state's allotment of $110,000 reflect expenditures as of the reporting date and may include carry-over from the preceeding year.

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Edward Brown, Thayer School of Engineering, Dartmouth College
Mr. Bernard Corson, Former Director, N.H. Department of Fish and Game
Mr. Charles Dingle, Assistant State Conservationist - USDA Soil Conservation Service
Dr. Robert Frey, Biologist, Plymouth State College
Mr. Terrence Frost, Chief Aquatic Biologist, N.H. Water, Supply and Pollution Control Commission
Mr. Salvatore Grasso, N.H. Water Resources Board
Mr. Charles Hale, Hydrologist, U.S. Geological Survey
Mr. Cleveland Kapala, Policy Coordinator, Society for the Protection of New Hampshire Forests
Mr. Vernon Knowlton, N.H. Water Resources Board
Miss Ruth Matson, Executive Director, Merrimack Valley, Flood Control Commission

NEW JERSEY

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1960

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	55,524	NA	--	67,162	--	122,686
2. OWRT Matching Grant Projects	NA	63,717	NA	64,921	--	128,638
3. OWRT Focused Research Projects	NA	26,011	--	8,443	--	34,460
4. Non-OWRT Projects	NA	NA	--	16,174	--	16,174
Subtotal	55,524	89,734	--	156,700	--	301,958
Five-Year Water Research Priorities Development	5,000	--	--	5,000	--	10,000
State Research Program Development and Coordination	8,000	--	--	10,000	--	18,000
Technology Transfer and Information Dissemination	4,500	--	--	6,000	--	10,500
Administration	36,976	NA	--	47,000	--	83,976
Total	110,000	89,734	--	224,700	--	424,434

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Thomas R. Glenn, Director & Chief Engineer, Interstate Sanitation Commission, New York
Mr. Herbert A. Howlett, Chief Engineer, Delaware River Basin Commission, West Trenton, New Jersey
Mr. Wendell Inhoffer, General Superintendent and Chief Engineer, Passaic Valley Water Commission, Clifton, New Jersey
Mr. Stanley Maisel, Chief, Project Planning Management Branch, Corps of Engineers, New York District
Mr. Richard Martson, Asst. State Conservationist, Soil Conservation Service, Somerset, New Jersey
Dr. Robert Mason, Research & Quality Assurance Branch, Environmental Protection Agency Region III, Edison, New Jersey
Mr. Albert Montague, Director, Research & Development, Environmental Protection Agency Region II, Philadelphia
Mr. John Murphy, Director, Research & Development, Corps of Engineers, Philadelphia District
Mr. Douglas Powell, Director, Middlesex County Planning Board, New Brunswick, New jersey
Mr. Samuel R. Race, Secretary, State Soil Conservation Committee, Department of Agriculture, Trenton, New Jersey
Mr. Rocco Ricci, Chief Engineer, Passaic Valley Sewerage Commissioners, Newark, New Jersey
Mr. Robert W. Rowe, Chief Chemist, Middlesex County Sewerage Authority, Sayreville, New Jersey
Mrs. Joyce Schmidt, Director, Natural Resources, League of Women Voters, State of New Jersey
Mr. Don Vaupel, District Chief, U.S. Geological Survey, Trenton, New Jersey

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

NEW MEXICO

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	43,831	NA	--	34,890	--	78,721
2. OWRT Matching Grant Projects	NA	187,664	NA	215,294	--	402,958
3. OWRT Focused Research Projects	NA	54,729	--	34,247	--	88,976
4. Non-OWRT Projects	NA	NA	92,570	119,932	3,344	215,846
Subtotal	43,831	242,393	92,570	404,363	3,344	786,501
Five-Year Water Research Priorities Development	5,000	--	--	5,000	--	10,000
State Research Program Development and Coordination	35,000	--	--	35,000	--	70,000
Technology Transfer and Information Dissemination	19,333	--	--	16,525	--	35,858
Administration	6,836	NA	--	9,139	--	15,975
Total	110,000	242,393	92,570	470,027	3,344	918,334

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Carrol Hunton Farmers Home Association, U.S.D.A.
Mr. Ralph Charles, Middle Rio Grande Flood Control Association
Mr. William E. Hale, Water Resources Division, U.S. Geological Survey
Mr. Al Hamelstram, Soil Conservation Service USDA
Mr. William P. Stephens, Director, Department of Agriculture
Mr. Gene Ott, Cooperative Extension Service
Mr. Wayne P. Cunningham, Elephant Butte Irrigation District
Mr. Rogers Aston, South Spring Foundation
Mr. Lloyd A. Calhoun, New Mexico Electric Service Co.
Mr. H.E. Gary
Ms. Helen Gram
Mr. L.P. Reinig, Los Alamos Technical Associates
Mr. Harold H. Fish Navajo Agriculture Products
Mr. Bert Levine, Navajo Indian Irrigation Project, Water and Power Resources Service
Ms. Lucy Fox Planner, Energy and Minerals Department
Mr. Peter Managan, New Mexico Oil and Gas Association
Mr. Author Ziemmerman, Bureau of Land Management

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

NEW YORK

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	62,970	NA	--	16,093	17,424	96,487
2. OWRT Matching Grant Projects	NA	161,927	NA	91,194	99,214	352,335
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	123,300	19,500	20,000	162,800
Subtotal	62,970	161,927	123,300	126,787	136,638	611,622
Five-Year Water Research Priorities Development	2,000	--	--	--	2,000	4,000
State Research Program Development and Coordination	25,000	--	--	--	--	25,000
Technology Transfer and Information Dissemination	16,030	5,000	--	55,000	3,725	79,755
Administration	4,000	NA	--	--	60,000	64,000
Total	110,000	166,927	123,300	181,787	202,363	784,377

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Conrad Simon, Director, Environmental Program Division, Environmental Protection Agency Region II
Mr. Anthony Conetta, Director, Technical Services Branch, Environmental Protection Agency Region II
Mr. Thomas Eichler, former Director, Resources Program Development, Department of Environmental Conservation
Mr. Eugene F. Seebald, Director, Division of Water, New York State Department of Environmental Conservation
Mr. Michael O'Toole, Director, Wastewater Management Bureau, New York State Department of Environmental
Mr. Leo Hetling, Director of Environmental Health, New York State Department of Health
Mr. John Newkirk, Administrative Assistant to the Commissioner, New York State Department of Agriculture & Markets
Mr. Larry Martins, District Chief, U.S. Geological Survey
Mr. Thomas Maher, Nassau County Department of Health Services
Mr. Aldo Andreoli, Suffolk County Department of Health Services

NORTH CAROLINA

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	51,688	NA	6,800	41,854	--	100,342
2. OWRT Matching Grant Projects	NA	180,685	NA	312,255	--	492,940
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	40,077	30,325	1,000	71,402
Subtotal	51,688	180,685	46,877	384,434	1,000	664,684
Five-Year Water Research Priorities Development	2,501	--	--	56,387	--	58,888
State Research Program Development and Coordination	2,401	--	--	54,132	--	56,533
Technology Transfer and Information Dissemination	3,802	134,925	--	108,632	--	247,359
Administration	1,301	NA	--	29,322	--	30,623
Total	61,693*	315,610	46,877	632,907	1,000	1,058,087

* Differences from the state's allotment of $110,000 reflect expenditures as of the reporting date and may include carry-over from the preceeding year.

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Howard N. Lee, Secretary, N.C. Department of Natural Resources & Community Development
Mr. C. Ronald Aycock, Executive Director and General Counsel, North Carolina, Association of County Commissioners
Mr. W. Vernon Bevill Jr., Executive Director, North Carolina Wildlife Resources Commission
Mr. Thomas K. Bruce, Director, Division of Water Resources, City of Durham
Mr. Stephen G. Conrad, Dir., Div. of Lanorth Carolina Dept. of Natural Resources and Community Developmentty Development
Mr. George Freeman, William F. Freeman and Associates
Dr. Neil S. Grigg, Assistant Secretary for Natural Resources, N.C. Department of Natural Resources and Community Development
Mr. R.B. Heater, President, Heater Well Company, Inc
Mr. Ralph C. Heath, District Chief, Geological Survey, U.S. Department of Interior
Mr. John C. Hendee, Assistant Station Director for Research for Carolinas and Virginia, USDA Forest Service
Mr. Jesse L. Hicks, State Conservationist, U.S. Soil Conservation Service
Mr. Patrick Howe, Manager, Special Services Department, Carolina Power and Light Company
Mr. David H. Howells, North Carolina Environmental Management Commission
Colonel Robert K. Hughes, District Engineer, Corps of Engineers, U.S. Army Corps of Engineers, U.S. Department of the Army
Mr. James T. Johnson, Director, Farmers Home Administration
Mr. S. Grady Lane, Director, N.C. Soil and Water Conservation Commission, Division of Land Resources, North Carolina
Mr. Edward H. Lesesne, Director, Division of Water Control Planning, Tennessee Valley Authority
Mr. John N. Morris Jr., Of. of Water Res. Dept. of Nat. Res.
Mrs. Marion Nichol, Chairperson, North Carolina League of Women Voters
Dr. Lavon B. Page, President, Conservation Council of North Carolina

NORTH DAKOTA

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	73,255	NA	--	24,174	--	97,429
2. OWRT Matching Grant Projects	NA	123,491	NA	137,684	--	261,175
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	150,000	50,000	--	200,000
Subtotal	73,255	123,491	150,000	211,858	--	558,604
Five-Year Water Research Priorities Development	8,000	--	--	2,640	--	10,640
State Research Program Development and Coordination	14,745	--	--	4,865	--	19,610
Technology Transfer and Information Dissemination	2,000	9,562	--	660	--	11,222
Administration	12,000	NA	--	5,000	--	17,000
Total	110,000	132,053	150,000	225,023	--	617,076

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Bruce, Business and Industrial Development Department
Mr. William Birse, Garrison Conservancy District
Mr. Wm. Pietsch, Cooperative Extension Service, N.D. State Univ.
Mr. R.C. Crockett, Greater North Dakota Association
Mr. R.L. Dushinske
Mr. Vernon Fahy, North Dakota State Water Commission
Mr. Richard Fenske, Garrison Conservancy District
Mr. Floyd Fisher, Upper Mississippi River Basin Commission
Mr. Allen Fisk, Soil Conservation Service
Mr. Kenneth Funrman, Irrigation District Directors Assoc.
Mr. Robert Johnson, President, SU - Bottineau Branch
Mr. Bud Lannoye, North Dakota Assoc. of Soil Conservation Dist.
Mr. Gary Leppart, State Outdoor Recreation Agency
Mr. Russell J. Lorenz, Northern Great Plains Research Center
Mr. Don Anderson, Agr. Experiment Station N.D. State Univ.
Mr. Wallace McMarton, U.S.D.A., N.D. State University
Mr. Darell Krull, Missouri-Souris Proj. Off. Wat. & Pow. Res. Ser.
Mr. Dean Joseph Stanislao, College of Eng., N.D. State Univ
Mr. Roy Estendell, Northern Prairie Wildlife Res. U.S. F&WS
Mr. Lee Gerhard, North Dakota Geological Survey, Univ. of N
Mr. Howard Olson, Carrington Irrigation Experiment Station
Mr. Walter Pasicznyk, USDA Forest Service
Mr. Quentin Paulson, U.S. Geological Survey, Water Res. Div
Mr. Nels Paul Rasmusson, Farmers Home Administration
Mr. James Masden, North Dakota Farm Bureau
Mr. Robert Sanders, North Dakota Farmers Union
Mr. Ellis B. Burton, U.S. Dept. of Commerce, National Weath
Mr. E.J. (Red) Doering, ARS
Mr. Lenny Kruckenerger N.D. State Game and Fish Department
Mr. Chrotanson, Env. Health & Eng. Dep. N.D. State Dept. of
Mr. Grady Moore, U.S. Geological Survey
Ms. Nancy Rockwell, Natural Resources Coordinator
Dr. Earl Mason, Assoc. Dir., Water Resources Research Insti
Mr. Laurence McMerty, North Dakota Water Users

OHIO

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	75,681	NA	--	46,759	12,145	134,585
2. OWRT Matching Grant Projects	NA	115,910	NA	124,528	--	240,438
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	493,150	--	--	493,150
Subtotal	75,681	115,910	493,150	171,287	12,145	868,173
Five-Year Water Research Priorities Development	7,318	--	1,000	5,255	1,000	14,573
State Research Program Development and Coordination	19,396	--	1,000	23,131	1,000	44,527
Technology Transfer and Information Dissemination	6,213	--	--	9,706	--	15,919
Administration	1,392	NA	--	29,384	--	30,776
Total	110,000	115,910	495,150	238,763	14,145	973,968

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Richard Hawkinson, District Chief, U.S. Geological Survey
Mrs. Edyth Lewis, Community Relations Director, Miami Conservancy District
Mr. Herbert Eagon Jr., Geologist, Woody & Associates
Dr. Jay H. Lehr, Executive Director, National water Well Association
Mr. Robert C. Lewis, Retired General Manager, Southwestern Ohio Water Company
Mr. Lawrence C. Crawford, Vice-President, Agriculture Section, Water Management Association of Ohio
Mr. Robert Goettemmoeller, Ohio Department of Natural Resources
Mr. William Black, Vice President, Ohio Power Company
Dr. George A. Watkins, Staff Sociologist, Battelle Memorial Institute
Mrs. Christina Carlson, Environment Director, Ohio League of Women Voters
Dr. Ronald C. Schmidt, Professor, Department of Geology, Wright State University
Dr. William G. Mattox, Deputy for Water Planning and Policy, Ohio Department of Natural Resources
Mr. Earl Richards, former Assistant Director, Ohio Environmental Protection Agency
Mr. S.L. Frost, Special Assistant to the Director, Ohio Department of Natural Resources
Mr. I. Bernstein, Basin Planner, Ohio River Basin Commission

OKLAHOMA

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	92,583	NA	--	29,626	--	122,209
2. OWRT Matching Grant Projects	NA	90,250	NA	90,000	--	180,250
3. OWRT Focused Research Projects	NA	44,953	--	2,475	--	47,428
4. Non-OWRT Projects	NA	NA	367,485	667,536	80,455	1,115,476
Subtotal	92,583	135,203	367,485	789,637	80,455	1,465,363
Five-Year Water Research Priorities Development	1,000	--	--	--	--	1,000
State Research Program Development and Coordination	2,000	--	--	--	--	2,000
Technology Transfer and Information Dissemination	2,500	--	--	1,500	--	4,000
Administration	11,917	NA	--	15,000	--	26,917
Total	110,000	135,203	367,485	806,137	80,455	1,499,280

INSTITUTE ADVISORY COMMITTEE MEMBERS

Prof. George Reid, Director, Bureau of Water and Environmental Resources Research, Univ. of Oklahoma
Mr. Jim Irwin, District Chief, U.S. Geological Survey
Mr. Andros Peck, Planning Officer, Water and Power Resources Service
Mr. Weldon M. Gamel, Chief, Engineering Division, U.S. Army Corps of Engineers, Tulsa District
Mr. Clinton Hall, Director, Robert S. Kerr Environmental Research Lab.
Dr. Wendell R. Gwinn, Hydraulic Laboratory, Agriculture Research Service, USDA
Dr. Rodger McHendry, Laboratory Director, Southern Great Plains Research Watershed, USDA Science & Education Admin.
Dr. Norman N. Durham, Director, Water Research Institute, Oklahoma State University
Dr. Charles Mankins, Director of Oklahoma Geological Survey
Mr. Rollins Willis, State Conservationist with the Soil Conservation Service

OREGON

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	70,360	NA	--	44,229	--	114,589
2. OWRT Matching Grant Projects	NA	126,900	NA	126,900	--	253,800
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	37,000	--	--	37,000
Subtotal	70,360	126,900	37,000	171,129	--	405,389
Five-Year Water Research Priorities Development	--	--	--	--	--	--
State Research Program Development and Coordination	13,987	--	--	10,000	--	23,987
Technology Transfer and Information Dissemination	13,115	--	--	18,801	--	31,916
Administration	12,538	NA	--	17,037	--	29,575
Total	110,000	126,900	37,000	216,967	--	490,867

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. James Sexson, Director, Oregon Water Resources Department
Mr. Darrell Learn, Head of Policy and Planning Division, Oregon Water Resources Department
Mr. John Donaldson, Director, Oregon Department of Fish and Wildlife
Mr. Rollie Rousseau, Special Assistant to the Director, Oregon Department of Fish and Wildlife
Mr. James Haas, Chief of Environmental Management Section, Oregon Department of Fish and Wildlife
Mr. Wallace Hublou, Assistant Chief of Fish Division, Oregon Department of Fish and Wildlife
Ms. Anne Squier, member of Oregon Land Conservation and Development Commission
Mr. William S. Cox, Director, Oregon Division of State Lands
Mr. Stanley F. Hamilton, Waterway Manager, Oregon Division of State Lands
Mr. Harold L. Sawyer, Administrator of Water Quality Control Division, Oregon Department of Environmental Quality
Mr. Glenn D. Carter, Water Quality Analyst, Oregon Department of Environmental Quality
Mr. Roger Eiss, Deputy Director, Oregon Department of Economic Development
Mr. Pat Amadeo, Assistant to Governor for Natural Resources
Mr. Brad Morris, Director, Oregon State Marine Board

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

PENNSYLVANIA

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	51,857	NA	--	28,846	--	80,703
2. OWRT Matching Grant Projects	NA	91,305	NA	81,918	5,110	178,333
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	282,557	669,621	66,621	1,018,799
Subtotal	51,857	91,305	282,557	780,385	71,731	1,277,835
Five-Year Water Research Priorities Development	6,996	--	--	3,000	--	9,996
State Research Program Development and Coordination	14,178	--	--	75,000	--	89,178
Technology Transfer and Information Dissemination	21,769	136,859	5,216	30,000	--	193,844
Administration	15,200	NA	--	64,000	--	79,200
Total	110,000	228,164	287,773	952,385	71,731	1,650,053

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Robert J. Bielo, Executive Director, Susquehanna River Basin Commission
Mr. John T. Carson, Jr., John Carson Associates, Inc.
Mr. Arthur Davis, Western Pennsylvania Conservancy
Dr. John C. Frey, Director of the Institute for Research on Land and Water Resources
Mr. Gerald M. Hansler, Executive Director, Delaware River Basin Commission
Ms. Margot Hunt, President, League of Women Voters of Pennsylvania
Mr. William B. Middendorf, Deputy Secretary for Environmental Protection, Department of Environmental Resources
Dr. Arnulf Maun, Associate Dean for Research, College of the Earth and Mineral Sciences, The Pennsylvania State University
Dr. Forrest J. Remick, Director, Institute for Science and Engineering, The Pennsylvania State University
Mr. Kent D. Shelhamer, Formerly, Secretary, Pennsylvania Department of Agriculture
Dr. Raymond E. Untrauer, Head, Department of Civil Engineering, The Pennsylvania State University
Mr. William A. Verrochi, President, Pennsylvania Electric Company
Mr. Kenneth Shull, Vice President, Philadelphia Suburban Water Company
Mr. Daniel Cook, Director, Planning and Research in Economic Development, State Department of Agriculture
Dr. B.R. Baumgardt, Associate Dean for Research and Associate Director, Agricultural Experiment Station

PUERTO RICO

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	110,000	NA	--	55,000	--	165,000
2. OWRT Matching Grant Projects	NA	--	NA	--	--	--
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	--	--	--	--
Subtotal	110,000	--	--	55,000	--	165,000
Five-Year Water Research Priorities Development	--	--	--	--	--	--
State Research Program Development and Coordination	--	--	--	--	--	--
Technology Transfer and Information Dissemination	--	--	--	--	--	--
Administration	--	NA	--	--	--	--
Total	110,000	--	--	55,000	--	165,000

INSTITUTE ADVISORY COMMITTEE MEMBERS

Prof. Rafael Munoz, Director WRRI, ex-officio
Prof. Reinaldo Caban, Assistant Dean of Studies for Research, UPR, Mayaguez
Engineer Jose R. Gilia, Technical Advisor, Puerto Rico Aqueduct and Sewer Authority
Mr. Tomas Rivera, Acting Director, Bureau of Water Resources Administration, Environmental Quality Board
Engineer Fernando Gomez, U.S. Geological Survey, Puerto Rico
Ms. Enid Diaz de Ferro, Natural Resources Specialist, Puerto Rico Planning Board
Engineer Nilsa Orraca, Water Resources Planning Division, Department of Natural Resources
Dr. Roberto Vazquez, Director of Extension Services, School of Agriculture, UPR, Mayaguez
Attorney Noelia Marti, Environmental Protection Agency, San Juan, Puerto Rico.

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

RHODE ISLAND

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	55,868	NA	--	67,118	--	122,986
2. OWRT Matching Grant Projects	NA	13,049	NA	12,897	--	25,946
3. OWRT Focused Research Projects	NA	117,561	--	11,875	--	129,436
4. Non-OWRT Projects	NA	NA	--	--	--	--
Subtotal	55,868	130,610	--	91,890	--	278,368
Five-Year Water Research Priorities Development	--	--	--	--	--	--
State Research Program Development and Coordination	--	--	--	--	--	--
Technology Transfer and Information Dissemination	18,430	--	--	8,877	--	27,307
Administration	34,950	NA	--	22,646	--	57,596
Total	109,248*	130,610	--	123,413	--	363,271

* Differences from the state's allotment of $110,000 reflect expenditures as of the reporting date and may include carry-over from the preceeding year.

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Robert B. Russ, General Manager, R.I. Water Resources Board
Mr. Carleton A. Maine, Assistant Director, Dept. of Environmental Management
Mr. Daniel W. Varin, Chief, Statewide Planning Program
Mr. Frederick C. Williamson, Director, Dept. of Community Affairs
Mr. Peter P. Callise, Principal Planner, R.I. Water Resources Board
Mr. Herbert E. Johnston, Subdistrict Chief, U.S. Geological Survey

SOUTH CAROLINA

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	73,044	NA	--	39,588	--	112,632
2. OWRT Matching Grant Projects	NA	62,888	NA	68,389	--	131,277
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	--	--	--	--
Subtotal	73,044	62,888	--	107,977	--	243,909
Five-Year Water Research Priorities Development	7,300	--	--	--	--	7,300
State Research Program Development and Coordination	6,000	--	--	--	--	6,000
Technology Transfer and Information Dissemination	3,000	--	--	--	--	3,000
Administration	20,656	NA	--	34,045	--	54,701
Total	110,000	62,888	--	142,022	--	314,910

INSTITUTE ADVISORY COMMITTEE MEMBERS

Dr. John W. Armstrong, Director, S.C. Grant Consortium
Dr. James Arrington, Chairman, Department of Natural Sciences, S.C. State College
Mr. John R. Bettis, Commission of Public Works, City of Charleston
Col. William W. Brown, U.S.A. Corps of Engineers, Charleston District
Mr. Rod Cherry, U.S. Geological Survey
Mr. Robert F. Edmonds, Duke Power Company
Mr. William Frye, Sierra Club, Joseph Le Conte Chapter
Mr. Clair P. Guess Jr., South Carolina Water Resources Commission
Mr. George E. Huey, United States Department of Agricultural, Soil Conservation Service
Mr. Charles J. Jeter, S.C. Department of Health and Environmental Control
Mr. Truman Safford, S.C. State Development Board

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

SOUTH DAKOTA

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	95,440	NA	--	55,435	--	150,875
2. OWRT Matching Grant Projects	NA	115,263	NA	103,040	--	218,303
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	54,905	45,506	--	100,411
Subtotal	95,440	115,263	54,905	203,981	--	469,589
Five-Year Water Research Priorities Development	5,280	--	--	--	--	5,280
State Research Program Development and Coordination	4,000	--	--	3,000	--	7,000
Technology Transfer and Information Dissemination	--	--	--	--	--	--
Administration	5,280	NA	--	4,380	--	9,660
Total	110,000	115,263	54,905	211,361	--	491,529

OWRT-A-50

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Robert Neufeld Secretary, Department of Water and Natural Resources
Delvin Brosz, Department of Water and Natural Resources
Robert L. Hanten, Superintendent, Fisheries, Department of Game, Fish and Parks
James Schmulbach, Governor's Board on Water and Natural Resources Professor, Biology Department, University of South Dakota
David J. Tokach, State Engineer, Soil Conservation Service
Lloyd Porter Chief, Division of Water and Land Operations
Herman Tushaus Staff, Third Planning and Development District
William Choate, Director, Southeastern Council of Governments
Tom Gallagher Staff, First Planning and Development District
Jerry T. Siegel, Manager of East Dakota Conservancy Sub-District
Duncan J. McGregor Professor, University of South Dakota and State Geologist
M.J. Tipton, Associate State Geologist, University of South Dakota
Ed LeRoux Assistant District Chief, U.S. Geological Survey
Lee Harms, Assistant Professor, Civil Engineering, South Dakota School of Mines and Technology
Thomas P. Propson, Assistant Professor, Civil Engineering, South Dakota School of Mines and Technology
Charles Ullery, Extension Water Resources Specialist, South Dakota State University
Victor Myers, Director, Remote Sensing Institute, South Dakota State University
Larry Fine, Professor, Plant Science, South Dakota State University
Charles G. Scalet, Associate Professor, Wildlife and Fisheries Science, South Dakota State University
John Thomason, Professor, Economics, South Dakota State University
James N. Dornbush Professor, Civil Engineering, South Dakota StateUniversity

TENNESSEE

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	50,057	NA	20,553	46,027	--	116,637
2. OWRT Matching Grant Projects	NA	87,540	NA	72,150	--	159,690
3. OWRT Focused Research Projects	NA	137,373	--	14,377	--	151,750
4. Non-OWRT Projects	NA	NA	35,000	--	--	35,000
Subtotal	50,057	224,913	55,553	132,554	--	463,077
Five-Year Water Research Priorities Development	5,000	--	--	14,000	--	19,000
State Research Program Development and Coordination	35,000	--	--	7,000	--	42,000
Technology Transfer and Information Dissemination	21,114	--	--	12,617	--	33,731
Administration	7,683	NA	--	5,267	--	12,950
Total	118,854*	224,913	55,553	171,438	--	570,758

* Differences from the state's allotment of $110,000 reflect expenditures as of the reporting date and may include carry-over from the preceeding year.

INSTITUTE ADVISORY COMMITTEE MEMBERS

Dr. L. Evans Roth, Vice-Chancellor For Graduate Studies and Research, The University of Tennessee
Mr. S. Leary Jones, Principal Consultant, Roy F. Western, Inc.
Mr. Edward H. Lesesne, Director, Tennessee Valley Authority
Dr. Stanley I. Auerback, Director, Environmental Sciences Division, Oak Ridge National Laboratories
Dr. Stanley Sauer, Dist. Cheif, U.S. Geological Survey
Mr. Robert S. Hutchison, Exec. Dir., Institute for Public Service, The University of Tennessee
Mr. Richard J. Connor, Chief, Hydrology and Hydraulics Branch
Dr. J.I. Sewell, Asst. Dean, Agricultural Experiment Station, The University of Tennessee
Mr. Paul M. Koger, Asst. Comm., Tennessee Dept. of Agriculture
Dr. David Hake, Director of Center for Business and Economic Research, The University of Tennessee
Mr. Louis M. Godbey, Assistnat State Conservationist, U.S. Department of Agriculture
Dr. Frank McCormick, Director, Graduate Program in Ecology, The University of Tennessee
Mr. W. Harold Martin, Deputy Dir., Division of Water Quality Control, Tennessee Dept. of Public Health
Prof. Wm. Kenneth Stair, Assoc. Dean, College of Engineering, The University of Tennessee
Mr. Robert A. Hunt, Director, Division of Water Resources, Tennessee Dept. of Conservation
Mr. Wm. A. Goodwin, Assoc. Vice-President for Research, Tennessee Technological University
Dr. D. Stanley Tarbell, Distinguished Professor of Chemistry, Vanderbilt University
Dr. Edward I. Isibor, Dean, School Of Engineering and Technology, Tennessee State University
Dr. E.P. Segner Jr., Associate Vice-President for Research and Grdduate Studies, Memphis State University
Col Wm. F. Brandes, Director, Water Resources Research Center, The University of Tennessee

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

TEXAS

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	76,862	NA	--	119,614	--	196,476
2. OWRT Matching Grant Projects	NA	102,800	NA	85,570	--	188,370
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	66,645	160,000	14,446	241,091
Subtotal	76,862	102,800	66,645	365,184	14,446	625,937
Five-Year Water Research Priorities Development	5,000	--	--	--	--	5,000
State Research Program Development and Coordination	4,000	--	--	5,000	--	9,000
Technology Transfer and Information Dissemination	19,553	37,312	--	30,511	--	87,376
Administration	4,585	NA	--	15,000	--	19,585
Total	110,000	140,112	66,645	415,695	14,446	746,898

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Harvey Davis, Executive Director, Texas Department of Water Resources
Mr. Emmett L. Gloyna, Texas Representative, Water and Power Resources Services
Mr. William F. Guyton, William F. Guyton & Associates, Consulting Groundwater Hydrologists
Mr. Robert J. Kemp, Director of Fisheries, Texas Parks and Wildlife Department
Mr. George C.Marks, State Conservationist, Soil Conservation Service
Colonel Donald J. Palladino, District Engineer, Fort Worth District, U.S. Army Corps of Engineers
Mrs. Catherine Perrine, Water Director, League of Women Voters
Mr. Fred Pfeiffer, General Manager, San Antonio River Authority
Mr. Bill J. Waddle, General Manager, Texas Water Conservation Association
Mr. Bill Wedemeyer, Director of Research & Education, Texas Farm Bureau
Mr. Ivan D. Yost, District Chief, Water Resources Division, Geological Survey

UTAH

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	89,000	NA	--	74,325	--	163,325
2. OWRT Matching Grant Projects	NA	295,915	NA	296,877	--	592,792
3. OWRT Focused Research Projects	NA	79,327	--	--	--	79,327
4. Non-OWRT Projects	NA	NA	674,115	661,006	71,970	1,407,091
Subtotal	89,000	375,242	674,115	1,032,208	71,970	2,242,535
Five-Year Water Research Priorities Development	2,000	--	--	10,991	--	12,991
State Research Program Development and Coordination	13,500	--	--	210,803	13,000	237,303
Technology Transfer and Information Dissemination	500	--	--	50,405	--	50,905
Administration	5,000	NA	--	172,619	--	177,619
Total	110,000	375,242	674,115	1,477,026	84,970	2,721,353

INSTITUTE ADVISORY COMMITTEE MEMBERS

Ms. Genevieve Atwood, Federal Representative, Utah State Legislature
Mr. Jay R. Bingham, President, Bingham Engineering
Ms. Grace G. Brandt, League of Women Voters
Mr. Reed C. Christensen, Supervisor, Manti-LaSal National Forest
Mr. Alvin Rickers, Deputy Director of Health, Environmental Health Services Branch
Mr. Wayne D. Criddle, Clyde-Criddle-Woodward, Inc.
Mr. Frank N. Davis, Vice President, Utah Power and Light Company
Mr. Dee C. Hansen, State Engineer, Division of Water Rights
Mr. Leonard H. Johnson, Assistant Director, Natural Resource Department, American Farm Bureau Federation
Mr. Daniel F. Lawrence, Director, Division of Water Resources
Ms. Dixie Leavitt, President, Dixie Leavitt Insurance Group
Mr. Lynn S. Ludlow, General Manager, The Central Utah Water Conservancy District
Mr. Ray Nielsen, Representative, Utah State Legislature
Mr. Donald A. Smith, Division of Wildlife Resources
Mr. Lynn M. Thatcher
Mr. Don Zillman, Director, Energy Law Center, University of Utah

VERMONT

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	65,000	NA	--	32,500	--	97,500
2. OWRT Matching Grant Projects	NA	--	NA	--	--	--
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	189,000	42,500	--	231,500
Subtotal	65,000	--	189,000	75,000	--	329,000
Five-Year Water Research Priorities Development	10,000	--	--	5,000	--	15,000
State Research Program Development and Coordination	17,000	--	--	8,500	--	25,500
Technology Transfer and Information Dissemination	10,000	--	--	5,000	--	15,000
Administration	8,000	NA	--	4,000	--	12,000
Total	110,000	--	189,000	97,500	--	396,500

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. Darby Bradely, Director, Environmental Law Service, Vermont Natural Resource Council
Mr. Richard M. Czaplinski, Water Resource Planner, Department of Water Resources
Mr. Montgomery Fischer, Assistant Study Manager, New England River Basins Commission
Mr. Larry K. Forcier, Assistant Director, School of Natural Resources
Mr. Richard A. Gallo, State Conservation Engineer, Soil Conservation Service
Ms. Margaret Garland, Chairman State Environmental Board
Mr. Donald B. Johnston, Associate Dean, Graduate College, University of Vermont
Mr. Robert S. Madancy, Office of Water Research and Technology
Mr. Dennis Malloy, Chief, Systems Information Service, State Planning Office
Ms. Linda G. Marek, Extension Water Resources Specialist
Mr. John G. Simpson, Director, State Planning Office
Ms. Margaret Slajchert, Policy Analyst, State Planning Office
Mr. Albert M. Smith, Associate Director, Agricultural Experiment Station, University of Vermont
Mr. M. Brian Stone, Chief of Project Management, Department of Forests and Parks, Agency of Environmental

VIRGINIA

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	58,174	NA	--	49,997	--	108,171
2. OWRT Matching Grant Projects	NA	11,939	NA	27,387	--	39,326
3. OWRT Focused Research Projects	NA	57,169	--	--	--	57,169
4. Non-OWRT Projects	NA	NA	--	108,000	--	108,000
Subtotal	58,174	69,108	--	185,384	--	312,666
Five-Year Water Research Priorities Development	4,900	--	--	48,000	--	52,900
State Research Program Development and Coordination	5,654	--	--	19,300	--	24,954
Technology Transfer and Information Dissemination	39,411	--	--	229,747	--	269,158
Administration	1,861	NA	--	29,241	--	31,102
Total	110,000	69,108	--	511,672	--	690,780

INSTITUTE ADVISORY COMMITTEE MEMBERS

Dr. Dennis Barnes, Associate Provost for Res. Univ. of Virginia
Col. I. Bernstein, Chairman, Ohio River Basin Commission
Dr. Morris L. Brehener, Exec. Man.-Env. Serv., Va. Elec. Power Co.
Mr. S.Mason Carbaugh, Commissioner, Virginia Dept. of Agr.
Mr. W.F. Custard, Virginia State Forester
Mr. Robert V. Davis, Exec. Secretary, State Water Control Board
Mr. Paul W. Eastman, Executive Director, Interstate Commission
Mr. William E. Forrest, District Chief, U.S. Geological Survey
mr. David N. Grimwood, State Soil Conserv., U.S. Soil Cons. Ser.
Col. Douglas L. Haller, Norfolk Dist. Engr., Corps of Engr.
Mr. Alex Hamilton, Dir. of Public Affairs, Virginia Farm Bur. Fed.
Dr. William Hargis Jr., Dir., Virginia Inst. of Marine Sciences
Dr. James B. Kenley, Virginia State Health Commissioner
Mr. Edward Lordley, Dir. Richmond Dept. of Public Utilities
Mr. James F. McInteer, Exec. Dir. Va. Comm. of Game & Inlan
Dr. Robert C. Milici, Virginia State Geologist
Dr. James M. Morgan, Dean of Faculty, Virginia Military Ins
Mr. T.B. Noland, City Manager, Martinsville
Mr. A.H. Paessler, Deputy Exec. Sec., State Water Control B
Mr. E.T. Ruehl, E.I. DuPoint de Nemours & Company, Waynesbo
Mrs. J.A. Throckmorton, Virginia League of Women Voters
Mr. Fred W. Walker, Dir. Virginia Department of Conser. and
Dr. Marvin Wyman, Assoc. Provost for Res., Old Dominion Uni
Mr. Hiram Zigler, Virginia Conservation Council, Inc.

VIRGIN ISLANDS

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	21,180	NA	--	16,490	--	37,670
2. OWRT Matching Grant Projects	NA	--	NA	--	--	--
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	--	--	--	--
Subtotal	21,180	--	--	16,490	--	37,670
Five-Year Water Research Priorities Development	6,690	--	--	--	--	6,690
State Research Program Development and Coordination	55,740	--	--	49,470	--	105,210
Technology Transfer and Information Dissemination	21,390	36,000	--	19,819	--	77,209
Administration	5,000	NA	--	28,000	--	33,000
Total	110,000	36,000	--	113,779	--	259,779

INSTITUTE ADVISORY COMMITTEE MEMBERS

NAMES OF ADVISORY COMMITTEE MEMBERS NOT AVAILABLE AT TIME OF PRINTING

WASHINGTON

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	86,335	NA	--	69,934	--	156,269
2. OWRT Matching Grant Projects	NA	129,550	NA	101,492	15,000	246,042
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	--	64,113	--	64,113
Subtotal	86,335	129,550	--	235,539	15,000	466,424
Five-Year Water Research Priorities Development	6,990	--	--	5,000	--	11,990
State Research Program Development and Coordination	--	--	--	25,000	--	25,000
Technology Transfer and Information Dissemination	9,785	6,350	--	5,000	--	21,135
Administration	6,890	NA	--	35,870	--	42,760
Total	110,000	135,900	--	306,409	15,000	567,309

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. John Spencer, Director, Water Resources Programs, State of Washington, Department of Ecology
Mr. Wilbur Hallauer, Director, State of Washington, Department of Ecology
Mr. Gordon Sandison, Director, State of Washington, Department of Fisheries

WEST VIRGINIA

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	50,038	NA	--	50,801	--	100,839
2. OWRT Matching Grant Projects	NA	--	NA	--	--	--
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	--	--	--	--
Subtotal	50,038	--	--	50,801	--	100,839
Five-Year Water Research Priorities Development	2,000	--	--	1,003	--	3,003
State Research Program Development and Coordination	34,400	--	--	17,515	--	51,915
Technology Transfer and Information Dissemination	8,000	--	--	4,074	--	12,074
Administration	15,562	NA	--	7,938	--	23,500
Total	110,000	--	--	81,331	--	191,331

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. David W. Robinson, Chief, Division of Water Resources, West Virginia Department of Natural Resources
Mr. Robert L. Miles, Chief, Division of Wildlife Resources, West Virginia Department of Natural Resources
Mr. James E. Pitsenberger, Chief, Division of Reclamation, West Virginia Department of Natural Resources
Mr. David H. Appel, District Chief, Water Resources Division, U.S. Geological Survey
Mr. Robert B. Erwin, State Geologist, West Virginia Geological and Economic Survey
Mr. Edgar Henry, Director, West Virginia Water Development Authority
Mr. Robert C. McCall, Director, Environmental Health Services, West Virginia Department of Health
Mr. Bern Wright, U.S. Environmental Protection Agency

WISCONSIN

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	63,235	NA	--	38,180	--	101,415
2. OWRT Matching Grant Projects	NA	106,520	NA	88,065	15,300	209,885
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	852,890	618,675	235,675	1,707,240
Subtotal	63,235	106,520	852,890	744,920	250,975	2,018,540
Five-Year Water Research Priorities Development	2,865	--	--	4,030	--	6,895
State Research Program Development and Coordination	--	--	--	324,080	--	324,080
Technology Transfer and Information Dissemination	7,365	3,570	--	9,650	--	20,585
Administration	36,535	NA	--	23,820	--	60,355
Total	110,000	110,090	852,890	1,106,500	250,975	2,430,455

INSTITUTE ADVISORY COMMITTEE MEMBERS

Prof. Stephen C. Smith, Associate Dean of the College of Agricultural & Life Sciences
Prof. David Armstrong, Civil & Environmental Engineer, Water Chemistry, UW-Madison
Prof. Robert Ragotzkie, Sea Grant, UW-Madison
Prof. Daniel Trainer, College of Natural Resources, UW-Stevens Point
Prof. Vladimir Novotny, Civil Engineering, Marquette University
Prof. Norman Lasca, UW-Milwaukee
Mr. Thomas Kroehn, Administrator, Division of Environmental Protection, Wisconsin Dept. of Natural Resources
Mr. Ralph Christensen, Great Lakes Program Office, U.S. EPA, Chicago, Illinois
Prof. Gordon Chesters, Director, Water Resources Center, UW-Madison (ex officio)
Prof.. Anders Andren, Associate Director, Water Resources Center, UW-Madison and Civil & Environmental Engineering

WYOMING

ALLOCATION AND SOURCES OF INSTITUTE FUNDS 1980

ACTIVITY	OWRT FUNDS ALLOTMENT	OWRT FUNDS OTHER	NON-OWRT FUNDS FEDERAL	NON-OWRT FUNDS STATE	NON-OWRT FUNDS PRIVATE	TOTAL
Research and Development Program						
1. Allotment Projects	39,685	NA	--	--	--	39,685
2. OWRT Matching Grant Projects	NA	109,392	NA	--	337,332	446,724
3. OWRT Focused Research Projects	NA	--	--	--	--	--
4. Non-OWRT Projects	NA	NA	1,599,672	235,741	--	1,835,413
Subtotal	39,685	109,392	1,599,672	235,741	337,332	2,321,822
Five-Year Water Research Priorities Development	18,245	--	--	--	--	18,245
State Research Program Development and Coordination	--	--	--	--	--	--
Technology Transfer and Information Dissemination	23,307	--	59,875	--	--	83,182
Administration	31,763	NA	--	81,300	--	113,063
Total	113,000*	109,392	1,659,547	317,041	337,332	2,536,312

* Differences from the state's allotment of $110,000 reflect expenditures as of the reporting date and may include carry-over from the preceeding year.

OWRT-A-60

INSTITUTE ADVISORY COMMITTEE MEMBERS

Mr. John Alyea, Consulting Climatologist
Mr. Terry Anderson, Environmental Protection Agency
Mr. Larry Woire, Attorney General's Office, State of Wyoming
Mr. John Bereman, Consulting Engineer
Mr. Karl Bergner, Bergner Corporation
Mr. Floyd A. Bishop, Consulting Engineer, Banner Associates, Inc.
Mr. Don Bolinger, Medicine Bow National Forest
Mr. Myron Goodson, DEPAD
Mr. William H. Budd, Jr., Wyoming Mining Association
Mr. George L. Christcoulos, Wyoming State Engineer
Mr. Richard Danelson, Wyoming Assoc. of Soil & Water Conser. Dist.
Mrs. Lenora Diem, League of Women Voters
Mr. C.E. Evans, Agricultural Research Service
Mr. Robert M. Fagerberg, Shoshone-Heart Mountain Irrigation Dist.
Mr. Harold Hellbaum, Wyoming State Representative
Mr. George Jennings, Bureau of Indian Affairs
Mr. John Long, Soil Conservation Service
Mr. Leno Mengini, Supt. and Chief Engr, Wy. Highway Dept.
Mr. Robert H. Martin, Petroleum Association of Wyoming
Mr. Curtis Meier
Dr. Daniel Miller, Wyoming State Geologist
Pacific Power & Light Company, Casper, Wyoming
Outdoor Coordinating Council
Mr. Menie Riessler
Mr. Jack Stark, Grand Teton National Park
Mr. Robert L. Streeter, Consulting Engineer
Collin Fallan, State Board of Agriculture
Earl Christonsen, Wyoming State Senator
Mr. William Dudley, District Chief, U.S. Geological Survey
Mr. John Carlson, Director, Wyoming Recreation Commission
Mr. Don Dexter, Wyoming Game & Fish Commission
Maywolt Lieurance, Bureau of Land Management
Mr. J.D. Anderson, Water and Power Resources Service
Mr. William Garland, State Department of Environmental Qual
Mr. Gary Wood, U.S. Fish and Wildlife Service
Wyoming Association of Municipalities
Mr. Richard Morse, Director Wyoming Industrial Riding Admin

II. MATCHING GRANTS - ONGOING PROJECTS AS OF 12/31/80 ($000)

A. WATER QUALITY DETERIORATION

B-079-ALA	Production of Reproductively-Limited Grass Carp for Biological Control of Aquatic Plants--Phase II	96
B-045-ALAS	Bacterial Mobilization of Arsenic from Mineralized Zones to Groundwater	65
B-074-ARIZ	Comparative Analysis and Development of Models for Groundwater Quality Prediction	51
B-084-ARIZ	The Effects of Vegetation Conversion Upon Water Use by Riparian Communities	71
B-052-ARK	Disposal of Household Wastewaters in Soils of High Stone Content	60
B-057-ARK	Effects of Water on the Fate of Herbicides in Irrigated Soils	55
B-059-ARK	Water Quality Condiderations in the Slurry Pipelining of Coal	60
B-060-ARK	Disposal of Household Wastewater in Soil of High Stone Content	65
B-062-ARK	Atrazine Degradation, Sorption, and Bioconcentration in Water Systems	49
B-066-ARK	The Application of Laser Intra-Cavity Absorption Dector to Gas Chromatography of Trace Organic Pollutants in Water	35
B-068-ARK	Laser Photoacoustic Dection of Water Pollutants Phase II	70
B-180-CAL	Mechanisms of Transport of Copper, Cadmium and Chromium in Soils	32
B-184-CAL	Virus Transport Through Percolating Beds	38
B-197-CAL	Salinity and Boron Control Under High-Frequency-Low-Volume Irrigation	44
B-201-CAL	Salinity Investigations in the West Salt Creek-Watershed, Cold	12
B-203-CAL	Combined Water-Fertilizer Management to Minimize Nonpoint Water Pollution While Achieving High Crop Production	60
B-207-CAL	Long Term Effects of Irrigation with Domestic Wastewater	37
B-209-CAL	Economic Potentials for Managing Nutrient Losses	20

with Alternate Irrigation Technologies

B-212-CA	Development of Methodologies for Predicting the Subsurface Solubility and Bioavailability of Potentially Hazardous Trace Metals	30
B-137-COLO	Water Quality and Channel Behavior Problems Related to Sediment Movements in the Upper Colorado River Basin	50
B-170-COLO	Role of Sediment in Salt Loading from Diffuse Sources in the Upper Colorado River Basin	75
B-186-COLO	Detection of Water Quality Changes Through Optimal Tests and Reliability of Tests	40
B-203-COLO	Geomorphic Controls on Diffuse-Source Salinity-Upper Colorado River Basin	31
B-226-COLO	Effects of Releases of Sediment from Reservoirs on the Stream Biota	50
B-014-CONN	Analysis of Coastal Marsh Ecosystems: Effects of Tide on Vegetation Distribution	100
B-017-CONN	Trace Organic Analysis of Chemistry Associated with Ozonalysis of Pollutant Molecules in Water	80
B-041-FLA	Effect of Oxidation of Soil Organic Matter on Water Quality Role of Nitrification and Denitrification	38
B-050-FLA	The Fate of Phosphorous in Secondarily Treated Wastewater Applied to a Freshwater Marsh	64
B-138-GA	Environmental Impact of Upland Streams on the Okefenokee Swamp	42
B-107-ILL	Development of Methods for the Detection of Trace Amounts of Selected Carcinogenic Amines in Water and Screening of Selected Midwestern Water Supplies	65
B-108-ILL	Geologic Studies to Identify the Source for High Levels of Radium and Barium in Groundwater Supplies: Phase II	49
B-110-ILL	Removal of Organics by Coagulation and Adsorption	50
B-119-ILL	Identification of the Factors Responsible for Shell Deformities and Mortalities in Fingernail Clams Exposed to Illinois River Water	50
B-124-ILL	Identification of the Water Quality Factors which Prevent Fingernail Clams from Recolonizing the Illinois River: Phase III	43
B-125-ILL	A Routine Water Monitoring Test for Mutagenic Compounds, Phase II	37

B-138-ILL	The Post-Mining Development of Southern Illinois Strip-Mine Lakes	23
B-139-ILL	Isotopic and Geological Studies to Determine the Mechanisms Responsible for High Concentrations of 226-Radium in Some Illinois Groundwater Supplies	35
B-141-ILL	Efficient Water Management on Claypan Soils in the Midwest	84
B-084-IND	Field Evaluation of Nitrogen Losses from Soil Treated with Sewage Sludge	33
B-119-IND	Integration of Management Methods with the Life Cycle and Ecology of the Filamentous Alga Pithophora	71
B-127-IND	Selective Feeding by Zooplankton: Implications for Lake Productivity	58
B-059-IOWA	Improving Water Quality by Control of Algae, Phase III. Role of Bacterial-Algal Symbiosis in Enhancing Blue-Green Algae Growth	42
B-059-KAN	Model to Evaluate Conservation, Design, and Economic Feasibility of Supplemental Irrigation Systems in the Sub-Humid Region	45
B-061-KAN	Water Quality Modeling of the Equus Bed Aquifer System in South-Central Kansas	40
B-063-KAN	Organic Matter Loading and Processing in a Pristine Stream Draining a Native Tallgrass Prairie-Riparian Forest Watershed	58
B-055-KY	Water Requirements and Economic Feasibility of-Supplemental Irrigation in the Midwest	73
B-069-KY	Improved Methods and Guidelines for Modeling Stormwater Runoff from Surface Mined Watersheds	41
B-071-KY	Fish and Amphibian Embro-Larbal Bioassays on Organic Contaminants Considered Hazardous to Water Resources	72
B-072-KY	Modeling Erosion on Long Steep Slopes	89
B-078-KY	Predicting Infiltration and Surface Runoff from Reclaimed Surface Mined Lands	71
B-009-LA	Role of Mycorrhizae in Land Application of Municipal Wastewaters	54
B-014-LA	Stochastic Analysis of Predictive Biochemical Oxygen Demand Kinetics	18
B-013-ME	The Mechanism of Ozone Inactivation of Waterborne Viruses	37

B-016-ME	Geochemical Cycling and Speciation of Chromium in Aquatic and Marine Environments; an Investigation of the Effects of Treated and Untreated Tannery Effluents	150
B-017-ME	Natural Radionuclides in Maine Groundwater	30
B-018-ME	Simplified Ecosystem Modeling as a Tool for Water Quality Management in Lakes	47
B-020-ME	The Ecological Effects of Log Salvaging from Reservoirs	57
B-021-ME	Computer Simulation of Phosphorous Cycling in the Sediment-Water System of Eutrophic Lakes	51
B-023-ME	Effects of Acid Rain on Aquatic Systems Chemiluminescense as a Probe of Metal-Organic Association Kinetics in Water Bodies	86
B-035-MD	Sublethal Effects of Pollutants: Test of the Usefulness of Life Tables for Evaluating the Impact of Chronic Toxicity	16
B-059-MASS	Cost Effective Stream and Effluent Monitoring	80
B-066-MASS	Microbiological Control of Aquatic Weeds	49
B-068-MASS	A Methodology to Distinguish Natural from Man Induced Lake Quality Deterioration	46
B-080-MA	Optimal River Basin Water Quality Monitoring	95
B-052-MICH	Maximizing Aquacultural Potential in Municipal Wastewater Ponds	31
B-055-MICH	Establishment and Management of Freshwater Marshes for Maximum Enhancement of Water Quality for Reuse	99
B-139-MINN	Application of New Methods for Routine Measurement of Aquatic Organics	46
B-147-MINN	The Measurement of Evapotranspiration and Comparison with Empirical Calculation Methods for Use in Minnesota and Similar Climatic Regions	35
B-150-MINN	A Study to Identify the Potential of Naturally Occurring Zeolités for Removing Heavy Metals from Water	30
B-028-MS	Identification and Treatment of Bromides and Trihalomethanes in the Potable Water from the Pearl River at Jackson, MS.: Evaluation of Species Diversity (Periphyton) in Microcosms	18
B-029-MS	Treatment Technology to Meet Drinking Water Standards for Trihalomethanes for Jackson, MS	63

B-119-MO	High Speed Liquid Chromatography as an Environmental Monitor of Non-Volatile Organic Perspective	89
B-148-MO	Characterization, Renovation and Utilization of Water from Slurry Transport Systems	17
B-117-NEV	The Effects of the Carson River and Truckee Canal on Lahonian Reservoir Water Quality	87
B-121-NEV	Potential Use of Hydroelectric Facilities for Managing Nutrient and Trophic Status of the Reservoirs on the Colorado System	103
B-004-NH	Effect of Metal Chelates on Water Quality	77
B-005-NH	Optimization and Dynamic Control of the Coagulation Process in Water Treatment	53
B-006-NH	Survival of Pathogens During Forced Aeration Composting of Municipal Wastewater Sludge	67
B-071-NJ	An Investigation into Hazardous Phenolic Compounds from Petroleum Sources and Urban Runoff	58
B-082-NJ	The Feasibility of Using Forest Vegetation to Renovate Septic Tank Effluent in the New Jersey Pine Barrens	110
B-060-NMEX	Evaluation of the Potential to Improve Alfalfa for Production Under Less than Optimum Moisture Conditions	50
B-061-NMEX	A Proposal to Assess the Problems of Water Supply Contamination due to Underground Coal Gasification	38
B-062-NMEX	Potential Effects of Increased Demand for Nuclear Energy--Transport of Heavy Metals, Nutrients and Radioactive Species from the Grant's Uranium Belt by the Rio San Jose--Rio Puerco Drainage System	16
B-067-NMEX	Irrigated Agricultural Decision Strategies for Variable Weather Conditions, Phase I	62
B-093-NY	A Systematic Approach to Detection and Removal of Toxic Organic Pollutants in Drinking Water	75
B-095-NY	An Evaluation of the Recovery of Adirondack Acid Lakes by Chemical Manipulation	46
B-098-NY	Nature of Phosphorous Fractions in Land Runoff and Their Availability to Algae	147
B-099-NY	Water Conservation and Groundwater Recharge on Eastern Long Island	97
B-103-NY	An Assessment of the Economic Magnitude of Environmental Damage from Acid Precipitation	38

	in the Adirondacks	
B-104-NC	Wastewater Spray Transport in Land Application	72
B-114-NC	Nitrogen Cycling and Waste Assimilative Capacity of Swamp Forests	41
B-122-NC	Land Application of Organic Priority Pollutants	50
B-126-NC	Trihalomethane Formation in Water Treatment Plants in North Carolina Assessment and Control	34
B-129-NC	Nitrate Loss from Agricultural Drainage Waters: Implications for Nonpoint Source Control	68
B-132-NC	Effects of Low Level Turbidity of Fishes in Lakes	64
B-144-NC	Dynamics of Nutrient Regeneration and Release from Pamlico River Sediments	106
B-145-NC	Radiological Impact Assessment of Radium-226 and Radon-222 in Drinking Water Near Phosphate Mining and Manufacturing Operations	35
B-053-NDAK	A Subsurface Water Quality Model for Western Surface Mine Sites	36
B-055-NDAK	Development and Application of a Smart Electrochemical Detection System Employing Microcomputer Control for Hi Performance Liquid Chromatographic Analysis of Phenols in Surface and Groundwater	54
B-056-NDAK	Water Quality, Transmission and Runoff from Easily Crusted, Erodable Soils and Mine Spoils, Effects of In-Situ Crosslinkable Soil Treatments	62
B-057-NDAK	Determination of the Metal Complexing Capacity of Water Systems by Gel Chromatography and Electrochemical Techniques	28
B-059-NDAK	Potential Organometalic Carcinogens in Wastewater Effluents from Coal Gasification Plants	42
B-072-OHIO	Bacterial Control of Aquatic Algal Populations Phase II	104
B-073-OHIO	Inhibition of Microbiological Acid Production in Coal Mine Refuse and Strip Mine Spoils.	55
B-078-OHIO	Transport Properties of the Great Lakes Seiche-Affected River Mouths	120
B-079-OHIO	Evaluation of Bacterial Binding and Release of Cadmium from Aquatic Sediments	29
B-080-OHIO	Effects of Phosphate Fertilizer Applications on	37

74-939 O—80——30

	the Chemistry-Mineralogy of the Iron Oxide System on Phosphate Adsorption-Desorption by Stream Sediments	
B-084-OHIO	Bacterial Methanogenesis and Denitrification in Cleveland Harbor and Lake Erie	66
B-086-OHIO	Use of Myxococcus PC02 to Control Aquatic Algae	78
B-043-OKLA	Summer Reaeration and Winter Ice Removal from Lakes and Reservoirs	39
B-044-OKLA	Analysis of Irrigation Pumping and Application Efficiency in the Central Ogallala Formation	65
B-055-OREG	Hydrospheric Trace Elements and their Applications in Tracing Water Pollutants	61
B-075-OREG	Herbicides in Runoff from Agricultural Watershed of the High Winter Rainfall Zone	66
B-097-PA	Delineation of Acid Mine Drainage Potential of Coal Bearing Strata of the Pottsville and Allegheny Groups in Western Pennsylvania	16
B-105-PA	Ecology and Pathology of Wildlife in Response to Spray Irrigation of Chlorinated Sewage Effluent (Phase II)	83
B-117-PA	Acid Storage and Release from Snowpacks: Effects on the Chemistry and Ecology of a Pennsylvania Mountain Stream	60
B-122-PA	On-Site Effluent Disposal: Site Suitability, System Selection and Soil Absorption Area Sizing	100
B-123-PA	Fate of Nitrogen in Shallow Streams: Focus on Nitrification	54
B-082-RI	Anoxic Nutrient Regeneration and the Eutrophication of Estuarine Waters	28
B-110-SC	Soil-Plant-Water Relations in a Dothan Sand as Influenced by Tillage Treatment and Irrigation	24
B-121-SC	Development of a Chemical Analysis for Ultratrace Levels of Arsenic in Water	20
B-123-SC	Stabilization Characteristics of Deposits of Biologic Solids Generated in Aerated Lagoon Systems	18
B-124-SC	Investigation of Effective Control Methods for Brazilian Elodea (Egeria Densa Planchon) in Lakes Marion and Moultrie, S.C.	18
B-126-SC	Overland Flow Treatment of Animal Feedlot Runoff Water in the Piedmont	31

B-127-SC	Measurement and Occurence of Radium-226 and Radium-228 in Groundwater in South Carolina	10
B-141-SC	Effects of Acid Deposition (Rain) on a Piedmont Aquatic Ecosystem: Acid Inputs, Neutralization and pH Charges	47
B-043-SDAK	Pre-Emergence Determination of Saline Seeps	44
B-053-SDAK	Assuring Sustained Irrigation in the Northern-Great Plains Through Soil-Water Interaction Studies	60
B-058-SDAK	Pilot Studies Demonstrating the Feasibility Ozonation for Selected Municipal Water Supplies	90
B-060-SDAK	Delineating the Sodium Hazard of Irrigation On-Carlson ET AL Four Upper Great Plains Soils	60
B-062-SDAK	Wind Energy for Low Head Irrigation	67
B-061-SDAK	Efficiency of Water Use by Crops Under Allelopathic Stress	39
B-069-SD	Influence of Ozonation on Sulfur, Nitrogen, Chloride, and Phosphorous Systems in Public Drinking Water Supplies	17
B-063-SDAK	Increasing Returns from Water and Nitrogen Applied to Irrigated Lands	52
B-040-TENN	Bacterial Degradation of Coal Conversion by-Products (Polycyclic Aromatic Hydrocarbons) in Aquatic Environments	28
B-044-TENN	Plant-Substrate Interactions and Below Substrate Biomass Dynamics: A Continuation of Studies Concerning Potential Restriction of the Introduced Aquatic Weed Myriophyllum Spicatum (Water Milfoil)	62
B-045-TENN	The Role of Cationic Surfactants in the Renovation of Water	42
B-219-TEX	Improved Water & Nutrient Management Through High-Frequency Irrigation	78
B-226-TEX	Feasibility Study to Determine the Practicality of Using Potable Municipal Water Supplies as a Source of Condenser Cooling Water for Power Generating Facilities	26
B-172-UTAH	In-Channel Salt-Sediment Relationship in the Colorado River Basin	44
B-175-UTAH	Aspen to Conifer Succession: A Process Aggravating the Salt Pollution Problems in the Colorado River Basin	40
B-176-UTAH	Predicting Crop Production as a Function of Drought and Salinity Stress Under Irrigation	130

B-187-UTAH	The response of Fresh Water Ecosystems to Allochthonous Organic Material	75
B-210-UTAH	The Evaluation of Heavy Metals and Potentially Carcinogenic Organics Released into Coal Mine and Oil Shale Accrual Waters	85
B-103-VA	Effects of Floodplain Protection and Bank Stabilization on the Structure, Productivity and Composition of Native Forests Ecosystems on the Missouri River Floodplain	55
B-119-VA	Adsorption of Metal Ions and Metal Complexes on Clay Minerals	61
B-067-WASH	Effects of Farming Practices on Sediment in Irrigation Return Flow	95
B-076-WASH	Sources of Non-Point Pollution in Forest Streams Systems	80
B-087-WASH	The Effect of Reservoir-Induced Circulation on the Water Quality of Recreational Freshwater Embayments	69
B-089-WASH	Control of Algal Dominance Through Changes of Zooplankton Grazing, Lake Washington	25
B-101-WIS	Factors Controlling Diatom Growth in Lake Surface Waters and the Role of Diatoms in the Cycle of Heavy Metals	84
B-108-WIS	Effects of Detergent Formulation on the Performance of Septic Systems	83
B-036-WYO	Annual and Seasonal Transpiration from Wyoming Coniferous Forest: Phase II	35
B-040-WYO	A Study of Orientation Controls on Processes Influencing the Accumulation, Metamorphism and Ablation of the Alpine Snowpack	71

SUBTOTAL $8,635

B. WATER SHORTAGES

B-072-ARIZ	Water Reclamation by Use of Soil Turfgrass Systems in the Southwest USA	49
B-089-ARIZ	Analysis of the Water Status of the Plant-Soil Continuum Using Electrophytograms	59
B-094-ARIZ	Water and Energy Conservation in Irrigated Agriculture: An Arid Area Technological and Economic Case Study	91
B-097-ARIZ	Trickle Irrigation - Modeling Water and Solutes	39

B-191-CAL	Mathematical Modeling of Salinity Variation in the Hydraulic Model of the San Francisco Bay and Delta Estuary	36
B-216-CAL	Developing the Resource Potential of a Shallow Water Table	70
B-208-COLO	Salt and Drought-Tolerant Crop Plants for Water Conservation	69
B-141-GA	Organic Solvent Regeneration of Activated Carbon in Textile Waste Treatment	62
B-146-GA	Prediction of Irrigation Water Demand in the South eastern U.S.	34
B-155-GA	The Effects of Hydroperiod on Floodplain Forest Production	71
B-045-HI	Characterization of Water - Conducting and Water - Storage Properties of Hawaii's Watershed Soils for Watershed Modeling	27
B-060-HI	Comparative Water Value in Humid and Arid Zones for Food Crop Production Strategy	40
B-065-HI	Flexible Floating Membrane Impoundment of Stream Water in a Coastal Embayment as a Means of Water Conservation and Water Quality Control of Waikele Stream Inflows into West Loch, Pearl Harbor, Hawaii	34
B-041-IDA	Optimizing Project Systems for Distributing and Applying Irrigation Water	98
B-046-IDA	Farmer Response to Irrigation Water Shortage and the Implications for Drought Policy and Water Policy	62
B-056-IDA	Low Energy Irrigation Systems for the Pacific Northwest	74
B-120-ILL	Efficient Use of Water for Upper Midwest	159
B-112-IND	Simulation of Short-Time Rainfall, Flood and Drought. Sequences by Stochastic Point Processes and Application to the Ohio River Basin and Central U.S.	59
B-125-IND	Evolutionary Approach to Reservoir Systems Management Using Forecasts - Phase II	52
B-061-IOWA	Water Conservation on the Upper Missouri and Mississippi Rivers Through Thermal Standards Modifications	36
B-062-IOWA	Dendrography for Optimal Water Energy Utilization in Plant Growth	61
B-070-IOWA	Biological and Recreational Aspects of Water Level	53

	Management of Clear Lake, Iowa	
B-072-IOWA	Automated Strain Gage Dendrography for Improved Water Utilization in Plants	53
B-053-KAN	A Study of Low-Flow Operation of Milford and Elk City Reservoirs in Kansas	45
B-059-KAN	Model to Evaluate Conservation, Design, and Economic Feasibility of Supplemental Irrigation-Systems in the Sub-Humid Region	40
B-059-KY	Water Reuse by a Unique, Low-Pressure Membrane Separation Process to Remove Heavy Metals from Metal Processing Wastewaters.	50
B-060-KY	Reliability Study and Guidelines for Computer Analysis of Water Distribution Systems	25
B-064-KY	Hydrogeology of the Inner Bluegrass Karst Region, KY:Water Tracing Studies	53
B-012-LA	Hydraulic Conductivity of Rockfill	18
B-067-MASS	Feasibility of Increasing Water Supplies and Preventing Environmental Damage from Declining Water Levels in Mass. by Artificial Recharge Methods	47
B-078-MASS	Development of a Management Model for the Determination of the Acceptable Types and Levels of Recreation at Public Drinking Water Reservoirs	95
B-060-MI	Optimum Water Use by Stone Fruit Through Appropriate Irrigation Scheduling	72
B-153-MINN	Ground-Water Recharge Rates in Minnesota as Related to Precipitation	41
B-158-MN	Increasing Economic Efficiency of Water Use for Irrigation in the Upper Midwest	99
B161-MN	Mathematical Hydrologic Simulation of Critical Watersheds in Northeastern Minnesota	51
B-026-MS	The Impact of Alternative Methods of Water System Pricing on Consumption and Conservation	36
B-130-MO	Optimum Water Use in Fruit Crop Production	45
B-145-MO	Characterization, Renovation, and Utilization of Water from Slurry Transport Systems	14
B-046-MONT	Snow Barrier Potential for Harvesting Moisture in Transects Across Chinook Areas in Montana	53
B-048-NEB	Water and Energy Conservation Using Center Pivot	122

Irrigation and Reduced Tillage Systems

B-054-NEB	Water Conservation Through Limited Irrigation of Corn and Grain Sorghum in the Great Plains	135
B-056-NEB	Conservation of Soil, Water and Energy Through Reduced Tillage Systems	77
B-057-NEB	Tillage Practice Effects on Water Conservation and the Efficiency and Management of Surface Irrigation Systems	108
B-104-NEV	Banking Colorado River Allotment Waters in Las Vegas Valley, Nevada	118
B-109-NEV	Artificial Recharge Using Harvested Surface Runoff	83
B-122-NEV	A Parametric Surface Runoff Model for Arid and Semi-Arid Watersheds	27
B-123-NEV	Use of Environmental Isotopes to Estimate Natural Recharge to Semi-Arid Basins	63
B-059-NMEX	Recharge in Semiarid Mountain Environments	46
B-063-NMEX	Utilization of Brackish Water for Irrigation of Salt Grass, A Potential Forage Crop	165
B-069-NM	Irrigated Agricultural Decision Strategies for Variable Weather Conditions - An Extention Year 2 of 2 - Lansford,	149
B-073-NM	In Situ Determination of Hydraulic Conductivity in the Vadose Zone Using Borehole Infiltration Tests	110
B-121-NC	A Comprehensive State Research Program on Water Use and Conservation	41
B-076-OHIO	Removal of Heavy Metals from Reuse Waters with Synthetic Polymer Adsorbents	65
B-053-OKLA	Water Management and Salinity Control in Irrigated Shelling and Shrinking Soils	51
B-070-OREG	Efficiency Performance Criteria for Irrigation Systems	75
B-112-PA	The Impact of Mass Distribution of Water Conservation Rate Structure on Residential Water Use	39
B-241-TEX	Management of Trickle-Irrigated Orchards for Increased Water-Use Efficiency	124
B-251-TEX	Incentives for Irrigation Water Conservation in Agriculture	22
B-176-UTAH	Predicting Crop Production as a Function of Drought	130

	and Salinity Stress Under Irrigation	
B-185-UTAH	Efficient Allocation of Water Between Agriculture and Energy Through Optimum Techniques of Water Use and Conservation	35
B-204-UTAH	Drought Management Concepts: Lessons of the 1976-77 U.S. Drought	79
B-002-VI	An Evaluation of the Economic Feasibility of a Multi-Purpose Solar Roof Still in Water Scarce Areas	18
B-105-WIS	A Field Evaluation of Selected Water Conservation and Wastewater Reduction Systems for Residential Applications	69
B-036-WYO	Annual and Seasonal Transpiration from Wyoming Coniferous Forest: Phase II	35
	SUBTOTAL	$4,158

C. UNEVEN STREAMFLOW AND FLOODING

B-189-CAL	Salinity-Productivity Relationships of Selected Plant Species from the Suisun Marsh California	49
B-200-CAL	The Influence of Geochemical Origin and Drought Conditions on Aquatic Biota of the Known Geothermal Resource Area (KGRA) of California	51
B-210-CAL	Instream Flow Requirements of Native California Fishes	62
B-213-CAL	Large Organic Debris and Anadromous Fish Habitat in the Coastal Redwood Environment: The Hydrologic System	26
B-228-COLO	A Development of Generalized Water and Sediment Routing Technique in Watershed and River Systems	56
B-127-GA	Valuation and Acquisition of Floodplain Lands for Stream Valley	24
B-045-IDA	Effects of Reduced Stream Discharge on Fish and Aquatic Macro-Invertebrate Populations	67
B-053-IDA	Development and Validation of Habitat-Standing Crop Functions for Select Stream Fish and Fish-Food Organisms	141
B-136-ILL	Development of Instream Flow Requirements for Aquatic Insects	79
B-109-IND	Optimal Mix of Adjustments to Floods	39
B-115-IND	Survival and Growth of Warmwater Fishes Exposed to Ammonia Under Low Flow Conditions	44

B-126-IND	Conflict and Risk in the Optimum Mix of Adjustments to Floods	45
B-064-IOWA	Flooding and Sedimentation in an Urbanizing Area	32
B-038-MD	Instream Flow Requirements for Fisheries and Fisheries in Maryland	88
B-096-NEV	Application of Numerical Simulation Techniques to Flood Plain Management - A Case Study of Truckee Meadows	49
B-084-NJ	Flood Control Effectiveness of Systems of Dual Purpose Detention Basins	39
B-116-NC	Establishment of Comprehensive Urban Guidelines for Control of Flooding, Sediment and Stormwater Quality in the Southeastern U.S.	45
B-140-NC	Options for Nonstructural Flood Risk Management: A State Perspective	39
B-145-NC	Composition, Distribution, and Sources of Sediments in the Pamlico and Neuse River Estuaries, North Carolina	73
B-077-ORE	Prediction of Impacts of Low Head Hydroelectrical Dams on Willamette Fishes Using Three Habitat Assessment Models	45
B-124-PA	Evaluation of Drought Potentials and Damages in the Northeastern United States	65
B-104-SC	An Economic Evaluation of Citizen Suits	10
B-068-SD	Utilization of Thermal Emittance Data to Monitor Soil Moisture and Subsurface Groundwater	60
B-244-TX	Evaluation of Effects of Stormwater Detention in Urban Areas	58
B-247-TX	Evaluation of Peak Prediction Practices in Relation to Floods, Flash Floods, and the Dam Safety Act (PL 92-367, 1972)	34
B-248-TX	Return Flow and Deep Percolation Characteristics of First-Order Valley Basins	56
B-132-UTAH	Methodology for Displaying Effects and Establishing Public Preference Among Multi-Objective Water Resources Plans	37
B-170-UTAH	Operating Interactions Between Multi-Purpose Water Districts and Other Governmental Institutions of the Formation and Implementation of Land and Water Policy and Programs in Urbanization Areas	50

B-177-UTAH	Defining Stream Fish Microhabitat Requirements for Water Project Planning	25
B-182-UTAH	The Effect of Risk of Drought on Energy Development and Water Allocations: A Programming Model for Utah	55
B-189-UTAH	Adapting Western Water Law to Accommodate Equitable Consideration of Instream Flow Uses	48
B-076-VA	Legal Aspects of Recycling Municipal Wastewater on Land	40
B-095-VA	Evaluation and Analysis of Public Policy Options Affecting Rural Water Supply in the Southeastern States	35
B-123-VA	Implementation of Improved Water Allocation and Management Systems in the South Atlantic and Gulf States	80
B-080-WASH	Water Resource System Operation and Design for Drought Conditions	69
B-086-WASH	Design and Management of Irrigation Projects for the Sustained Benefit of Fish and Wildlife: A Economic Analysis	45
B-032-WYO	Estimation of Trout Carrying Capacity by Stream Habitat Evaluation	27
B-038-WYO	Telemetric Determination of Salmonid Winter Movement and Microhabitat Occupation in Ice-Covered Streams	47

SUBTOTAL $1,699

D. NEED FOR IMPROVED TECHNIQUES OF PLANNING AND MANAGEMENT AND THEIR APPLICATIONS

B-080-AL	Water Law, Water Conservation and the Development of Energy Resources in the Coastal, Offshore and Flood Plain Areas of Alabama	21
B-054-ARIZ	Determining Innovative Capability in Water Management Agencies	15
B-073-ARIZ	The Role of Hydrologic Variability in Complying with Regulatory Enforcement Standards for the Rehabilitation of Surface-Mined Coal Lands	39
B-080-ARIZ	The Long-Run Profitability of Western Irrigated Hydrogeologic and Institutional Modeling Process	34
B-081-ARIZ	An Evaluation of Ground-Water Management Alternatives Using an Integrated Hydrogeologic and Institutional Modeling Process	47
B-196-CAL	Institutional Aspects Affecting the Management of Water Resources in California Agriculture	11

B-155-COLO	Development of a Colorado River-Great Basin Region Programming Framework for Water Research	17
B-175-COLO	Measuring Benefits and the Economic Value of Water in Recreation on high Country Reservoirs	31
B-199-COLO	Daily Operational Tool for Maximum Beneficial Use Management of Surface and Groundwaters in a Basin	49
B-201-COLO	Integration of Hydrologic, Water Quality, and Consumptive Use Models for Water Policy Planners Administrators	76
B-204-COLO	Optimal Capacity and Release Rules of an Upstream Reservoir Managed Conjunctively with the Downstream Aquifer Storage	53
B-207-COLO	Incorporation of Salinity Quality into a Hydrologic Model Designed for Day-By-Day Regulation of Conjunctive Use of Surface-Groundwater	49
B-015-CONN	Regulation of Land Use Practices for Areas Surrounding Aquifers--Economic and Legal Implications	71
B-036-FLA	Measurement and Use of Public Preferences for Water Management; and Application to Water Quality Quantity Tradeoffs in the Upper Kissimmee	37
B-042-FLA	Mineralogical Model of the Floridian Aquifer in the Southwest Florida Management District	49
B-142-GA	Effects of Alternative Cost Sharing Arrangements on the State Water Resources Investments	35
B-147-GA	Quantitative Models for the Minimization of Uncertainty and Nonquantitative Variables in Pollution Control Planning	79
B-003-GUAM	Development of Village Water Use Schemes in Micronesia	17
B-062-HI	Contemporary Relevance of Hawaiian Native Water Rights Study to Federal Action and Interests	54
B-131-ILL	Individual and Family Life-Cycle Disruption: An Ex Post Facto Evaluation Persons Relocated by Reservoir Construction	17
B-069-IOWA	Toxic Substances Models for the Upper Mississippi and Missouri Rivers	37
B-070-KN	The Impact of Institutional Structure and Citizen Participation on Water Resource Planning	45
B-027-MD	Policy Analysis of Reservoir Operation in the Potomac River Basin	61
B-076-MASS	Measuring Certain Intangible Benefits of Water Pollution Abatement by Use of Changes in Impacted Real Estate Values	46

B-024-MISS	A System for Measuring Public Use of Ross Barnett Reservoir District	21
B-138-MO	Public Attitudinal Factors in River Development and Conservation in the Upper Mississippi River Basin	29
B-053-MONT	Obtaining Reliable and Policy-Useful Estimates of the Economic Value of Irrigation Water in Major Irrigated Regions of the Seventeen Western States	63
B-044-NEB	Remotely Sensed Crop Temperature for Water Resources Management	60
B-045-NEB	Economic Evaluation of Groundwater Policy Alternatives in the Northern Great Plains	50
B-111-NEV	Effect of Land Use Practices on the Water Quality at Topaz Lake	70
B-064-NMEX	Economic Impact of Alternative Resolutions of Pueblo Indian Reserve Rights in the Rio Grande Basin	194
B-091-NY	Regional Management of Groundwater Recharge and Pollution in Rapidly Urbanizing Area: Long Island, N.Y.	70
B-094-NY	Methods for Deriving Operating Rule Curves for Multiple Reservoir Systems	77
B-104-NY	Monthly Stochastic Hydrologic Models - Validation and Parameter Uncertainty	31
B-120-NC	Evaluation of Rural Public Participation Strategies for Water Resource Planning	43
B-123-NC	Cooperative Planning and Programming, State Water Resources Agencies and Research Institutes	55
B-125-NC	Cooperative Planning and Programming State Water Resources Agencies and Research Institutes South Atlantic-Gulf Region	17
B-127-NC	Chowan River Program Management	159
B-135-NC	Comparative Analysis of Municipal and Regional Water Management Systems: North Carolina and Florida	42
B-069-OREG	Water Rights Transfer: A Legal, Economic, and Informational Analysis of Water in Oregon	86
B-114-PA	Long-Run Forecasting of Regional Economic Activity for Use in Water Resource Project Evaluation	64
B-116-PA	A Multi-Media Information Package Regarding Land Application of Waste Water and Sludge: A Study of Training Dissemination Specialists, Evaluation	10

	Methods and Cost Effectiveness	
B-128-SC	The Estimation and Application of the Demand for Discharge Within the Context of Water Quality Management Systems	34
B-038-TENN	A Method for Identifying the Water Resource Problems of a State and Designing a Research Program to Address Them	25
B-049-TENN	Evaluation of Selected Environmental Socioeconomic and Institutional Effects of Implementation of the Federal Water Conservation and Reuse Policy in a River Basin with a Water Surplus	13
B-054-TENN	Optimization and Sensitivity Analysis in a Large-Scale Hydroelectric System by Truncated-Newton Algorithms	40
B-055-TENN	A Model Code on Planning for and Allocation of Water to Public Water Systems	25
B-231-TEX	Development of a Model for Planning Regional Water-Energy Systems	40
B-208-UT	An Analysis of Impediments to Local Governmental Consolidation Caused by Water Institutions	72
B-120-VA	An Engineering Evaluation of Water Quality Problems in Distribution Systems within the Commonwealth of VA	41
B-129-VA	State Water Law: Legal Alternatives and Consequences	64
B-042-WYO	An Evaluation of Fisherman Benefits Stemming from Special Use Fishery Management Programs	38
	SUBTOTAL	$2,523
	MATCHING GRANTS TOTAL:	$17,015

III. A. WATER REUSE R&D PROGRAM - ONGOING PROJECTS AS OF 12/31/80 ($000)

1. Evaluation of Reuse Needs and Potential

7802	Evaluation of the Application of Desalting Technology for Treatment of Wastewaters for Reuse	94
9416	Water Recycling in the Food Processing Industry	99
9439	Evaluation of Pulp and Paper Mill White Water Reuse Applications	26
0457	An Assessment of Water Reuse Potential in the Inorganic Chemicals Industry	96
0473	Study of Needs and Potential for Water Reuse in the Chemical and Allied Products Industry	125
	SUBTOTAL	$440

2. Treatment Processes and Systems

A. Membrane Processes

7807	Development of an Open-Channel Spiral Module for Water Reuse Applications	70
7810	The Effects of Feedwater Pretreatment Chemicals on the Performance and Durability of Reverse Osmosis Membranes	69
7818	The Use of Ultrafiltration and Reverse Osmosis for Water Reclamation and Reuse in Domestic Sewage Treatment	50
8801	Evaluation of Hollow Fiber Ultrafiltration and Reverse Osmosis for Wastewater Reuse in the Metal Finishing Industry	103
8803	Optimization of Hollow Fiber Ultrafiltration Membrane Type and System Design for Wastewater Reuse in the Textile Industry	114
9456	Reuse of Industrial Wastewater by Electrodialytic Extraction of Heavy Metals Through Poroplastic Bound Liquid Ion Exchange Membranes	129
0522	Preferential Solute Sorption in Reverse Osmosis	93
0500	Advanced Waste Treatment of Kraft Pulp Mill Waste Water for Non-Potable Reuse Using Mobile Treatment Units	215
0536	Industrial Water Reuse with Coupled Transport Membranes	169
0529	Agricultural Wastewater-Reverse Osmosis Pretreatment (Ion-Exchange)	165

B. Adsorption and Oxidation Processes

9418	Weak Electrolyte Ion Exchange in Advanced Technology Water Reuse Systems - Evaluation and Design	100
9437	Feasiblity of Treating Municipal Wastewater by Lime Clarification and Pressure Ozonation	117
9436	Chemistry and Application of Ozone and Ozone/UV Light for Water Reuse	100
0519	Evaluation of Oxidation Followed by Biological Activated Carbon Treatment for Industrial Water Reuse in the Organic Chemical and Petrochemical Industries	99
0474	Volatilization of Organic Trace Contaminants by Air Stripping for Water Reclamation	90
0456	An Ultrasound Catalyzed Ozone Pretreatment Study to Reduce Reverse Osmosis Fouling by Organics	71
0499	Treatment of Domestic Wastewater for Reuse with Inorganic Oxide Adsorbents	135

C. Thermal Processing

0537	Superior Energy Conserving Modular Evaporator	95

D. Innovative Processes

0489	Investigation on the Models of Contaminant Capture in MGD Foams	19
9425	Feasibility of Photocatalytic Oxidation for Waste Water Clean-Up and Reuse	29
9426	Research on Novel Solvent Extraction Systems for Industrial Water Reuse	66
0527	Water Reuse Enhancement by Removal of Heavy Metals From Municipal and Industrial Process Wastewaters Using Immobilized Chelators	89
0454	Wastewater Treatment with Plants in Nutrient Films	70
	SUBTOTAL	$2,257

3. Municipal/Industrial Applied Reuse Research

7811	Water Reuse Through Ground Water Recharge in Northeastern Illinois	100
10203	Closed-Cycle Textile Dyeing - Full-Scale Demonstration	84
8520	Evaluation of Membrane Demineralization Processes for Potable Wastewater Reuse (OCWD)	1,200

8812	Evaluation of a 10-MGD Granular Activated Carbon System for Wastewater Reclamation	74
8813	Reuse of Textile Dyeing Wastewater	64
8814	Biological Activated Carbon Process for Treatment of Potato Processing Wastewater for In-Plant Reuse	58
9413	Application of Ozone to Eliminate Tertiary Treatment of Wastewater Used for Industrial Cooling	100
9459	Industrial CoolingTower Reuse of Reclaimed Municipal Wastewater	285
9414	Development of an Adaptive Full Scale Water Recycling System for Laundry and Other Users	230

SUBTOTAL $2,195

4. Planning and Management Aspects of Reuse

A. Institutional, Legal and Social

8819	Legal, Political, and Institutional Obstacles to the Acceptance of Water Reuse Projects	64
9455	Legal Liability of Reclaimed Water System Proprietors	51
9424	Legal and Institutional Barriers to the Development and Utilization of Water Reuse Programs in the New England Region	48
0493	Industrial Water Reuse Versus Net Water Loss	100

B. Model Development and Application

9417	"Water Reuse" A Critical Review for a Major Urban Center	82
9423	Development of Methodology for Evaluating Integrated Water Reuse/Water Supply/Waste Treatment Alternatives	99
9438	Development and Application of a Model for Planning Optional Water Reuse	53
8824	Development of Chemical and Biological Submodels for Use in Ground Water Transport Simulations	98

C. Economic Analysis

8820	Benefit/Cost Analysis of a Program of Economic Inventives for Consumptive Reuse of Low-Quality Water in the Colorado River Basin	51
8818	The Input-Output Water Balance Model-Application to Water Reuse Planning	107

8817	Industrial Wastewater Reuse: Cost Analysis and Pricing Strategies	96
	SUBTOTAL	849
	TOTAL	$5,741

74-939 O—80——31

III. B. WATER CONSERVATION - ONGOING PROJECTS AS OF 12/31/80 ($000)

9452	Institutional and Legal Constraints on Water Conservation in the Western U.S.	97
9450	A Cooperative Approach for Inducing Reduced Residential Water Consumption	49
9430	Water Conservation & the Effect of Price Changes on Irrigation Demand	97
9457	Consumer Perception & Adoption of Urban Water Conservation Measures	100
9451	Optimal Reservoir Management for Water Conservation in Arid, Semiarid, & Humid Regions	81
9453	Reduction of Consumptive Losses for Industrial Water Conservation in the Pulp & Paper Industry in Georgia	36
9454	Incentives and Strategies for Water Conservation Policy in New Jersey	56
9429	Impact of Pricing, Incentives and Disincentives on Water Conservation in Tucson, Arizona Metropolitan Area	85
9431	Water Conservation Planning & Management in the U.S. Virgin Islands	81
0407	Water Conservation Policy Analysis for Reservoir Operations in the Potomac River Basin	100
0408	Strategies & Policies for Water Conservation in the California Legislative Processes	37
0425	Community Water Conservation Programs & Techniques: A Guidebook for Planners	41
0477	Urban Water Conservation: Estimates of the Potential of Policy Alternatives	97
0478	Water Conservation by Mechanical-Chemical Treatments to Desize Textile Fabrics	100
0486	Pricing & Conservation of Irrigation Water in Texas & New Mexico	93
0497	A Methodology & Policy for Water Conservation Through Upgrading Distribution Systems	129
0506	Water Conservation Research Priorities for Water Resources Management Agencies of the South Atlantic-Gulf States	99
0530	Evaluation of Demand Management Policies for Conserving Water in Urban Outdoor Residential Uses	77

0485	Local/Regional Variations in Benefits & Costs of Municipal Water Conservation	80
	SUBTOTAL	1,535

III. C. WATER PROBLEMS OF URBANIZING AREAS - ONGOING PROJECTS AS OF 12/31/80

		($000)
9434	Institutional Barriers Confronting Implementation of Section 208 Areawide Wastewater Management Plans in the Southeast	35
0483	Case Study Analyses of 208 Program Effectiveness in Improving Regional Water Resource Management	52
0484	A Study of Institutional Arrangements for Controlling Non-Point Source Pollution	26
0487	Water Resource Management: Institutional Problems in Urban Areas	92
0495	Institutions for Managing Groundwater in Urbanizing Areas with Special Emphasis on Protecting Recharge Zones	38
0498	Problem Oriented Evaluation of Institutional Decision Making and Improvement of Models Used in Regional Runoff Management: Application to Indiana	160
0504	Operation of Detention Facilities for Urban Stream Quality Enhancement	87
0505	Effect of Management Options on Groundwater Quality and Quantity in Urbanizing Areas	64
0507	Optimal Design of Real-Time Urban Stormwater Control Systems	81
0509	Planning and Land Use Management Methodologies for Water Source Protection in Urbanizing Water Sheds	95
0517	Utilization, Planning and Problem Evaluation of Urban Arterial Waterways and Corridors as an Urban Resource	38
0525	Institutional Analysis in 208 Planning: Review and Guidance for Plan Implementation	49
	SUBTOTAL	$817

III. D. SPECIAL RESEARCH - ONGOING PROJECTS AS OF 12/31/80 ($000)

9412	Assessments of Regional Relationships of Water Resources, Energy Supply and Economic Development	135
9442	Hydrologic Rainfall-Runoff Simulation Models	71
9443	The Greenway Concepts for Non-Structural Stormwater Management and Technology	141
0419	Distributing the Risks of Interbasin Water Transfer Under Drought Conditions: The Dilemma Posed by Coal Slurry Lines	117
0510	Comparison of Metabolic Inhibitors, Film Forming Antitranspirants and Drip Irrigation for Improvement of Water Use Efficiency of Blueberry Plants	75
0515	Application of Remote Sensing in Evaluating Floodwater Forming on the Papago Indian Reservation	32
0521	Delineation and Correlation of Salinity to Landforms and Geologic Formations, Upper Colorado River Basin	50
	SUBTOTAL	$621

III. E.	MT. ST. HELENS RESEARCH - ONGOING PROJECTS AS OF 12/31/80	($000)
0534	Research Assessment and Coordination: the Mt. St. Helens Eruption	136
1413	Field Survey of Evidence of Mudflow Dynamics: Toutle and Cowlitz Rivers	14
1411	Flow Properties of the Mt. St. Helens Mudflow Material	18
1422	The Influence of Volcanic Ash on the Homing Ability of Salmon	9
	SUBTOTAL	$177
	WATER RESEARCH AND DEVELOPMENT TOTAL:	$8,891

IV. A. SALINE WATER RESEARCH - ONGOING PROJECTS AS OF 12/31/80 ($000)

MEMBRANES

1. Reverse Osmosis

8560	New Membranes for Reverse Osmosis	234
9415	Method for Assuring Optimal Performance of R.O. Membranes (Defect Sealing)	87
9410	Composite Hollow-Fiber Reverse Osmosis Membranes by Glow Discharge Polymer Deposition	110
9406	Improved Reverse Osmosis Membranes Based on Cycloaliphatic Imide Polymers	100
9529	Novel Combinations of Support Materials and Salt-Rejecting Films, for Single-Stage Sea Water Desalination	190
0437	Ultra-Thin-Skinned Reverse Osmosis Membranes Using Homogeneous Poroplastic as the Ultramicroporous Substrate	121
0443	Improved Porous Supports for Thin-Film Composite Membranes	98
0465	Novel Polymers for Reverse Osmosis Membranes	295
0463	Dry-RO Membranes from Cellulosic and Polyimide Polymers Bearing Quaternary Ammonium Groups	200
0464	Permselective Membranes from Polyimides and Aromatic Polyamides	194
8536	To Devise Means for Removing the Salt Buildup on the High-Pressure Side of Operating Reverse Osmosis Membranes	242
	SUBTOTAL	$1,871

2. Electrodialysis

9448	Development of a New Class of Electrodialysis Membrane	96
8524	Optimization of Low-Resistance Electrodialysis Membranes for Sea Water Conversion	136
9402	Electrochemical Research to Develop More Efficient Electrodialysis Membranes	60
0442	Preparation of Thin Ion Exchange Membranes with Exceptionally Low Resistance and High Selectivity	57
0440	Oriented Monolayer Assembles to Modify Fouling Properties of Membranes	86
	SUBTOTAL	$435

3. Pretreatment

9421	Development of Non-Fouling Ultrafiltration Membranes Using Piegoelectric Polymers	111
7517	Establish the Effectiveness of Non-Fouling Ultra-filtration Membranes as Pretreatment Systems, with Particular Reference to the Bureau of Reclamation's Yuma Project	106
8548	A Study of Solvent and Solute Transport Mechanisms in Ultrafiltration Membranes	220
0411	Evaluation, Analysis and Prevention of Fouling of Ultrafiltration Membranes by Macrosolutes	253
	SUBTOTAL	$ 690
	MEMBRANE PROCESSES TOTAL	$2,996

THERMAL PROCESSES

1. Distillation

9422	Study of Materials and Performance of 120 Large Desalting Plants	119
9446	Development of Surface-Layer Metallic Alloys to Resist Corrosion	232
0503	The Role of Fluid Flow Conditions and Brine Composition in Scale Inhibitor Performance	72
	SUBTOTAL	$423

2. Freezing

9435	Structural Investigation of Ice Crystal Growth at the Ice-Water Interface	129
8567	Desalting by Freeze Concentration; Development of a Minimum Cost Process	200
8527	Experimental and Theoretical Studies of Vapor Transfer in the Absorption Freezing Vapor Compression Process	146
0438	Indirect Freezing and Vacuum Stripping of Emulsions for Freeze Desalting	128
0410	Application of a Dual Centrifuge to the Direct Secondary Freeze Process	160
	SUBTOTAL	$ 763
	TOTAL	$1,186

NEW CONCEPTS

9408	Research on Keratin as a Desalination Membrane	44
0444	Assessment of High Heat-Transfer Evaporation as Power Plant Condenser to Produce	65
0439	Study of Ion Transport in the Membranes - Solution Interface in Electrodialysis Rising Noise Spectra	47
0450	Operating Characteristics of Various Working Substances and Feeds in the Schroeder Desalting Process	99
0460	Development of New Chemical Additives and Treatment for Scale Control in Saline Water Evaporations	126
0490	Study of Desalination/Power Cycles with the Biphase Rotary Separator and Turbine	212
9445	Mechanisms and Molecular Interaction in Transport of Water through Membranes	50
0436	Polarization Phenomena in Membrane System	74
0446	Prevention of Biofouling by Electrochemical Technique	86

SUBTOTAL $ 803

SALINE WATER RESEARCH TOTAL: $4,985

IV. B. SALINE WATER DEVELOPMENT PRIORITY LISTING ($000) FY - 1982

Technology Development - Membranes

Priority Number	Project Category	Project Amount	Cumulative Amount
1	TFC Membranes - SW	500	500
2	TFC Membranes - BW	300	800
3	50-100 Kgpd Pilot Plant - SW	100	900
4	30-35 Kgpd Large Spiral Module - SW	100	1000
5	100 Kgpd Large Hollow Fine Fiber Seawater Module - SW	100	1100
6	Asymmetric Membranes - SW	140	1240
7	Asymmetric Membranes - BW	200	1440
8	80 Kgpd Virgin Island Spiral RO Pilot Plant - SW	50	1490
9	100 Kgpd HFF Module - BW	100	1590
10	100 Kgpd HFF Low Pressure Module - BW	100	1690
11	100 Kgpd Low Pressure Spiral Module - BW	100	1790
12	50 Kgpd High Temperature Seawater ED Plant - SW	150	1940
13	75 Kgpd Low Pressure RO Pilot Plant - BW	100	2040
14	100 Kgpd High Product Water Recovery Pilot Plant - BW	100	2140
15	High Area Utilization ED Stack - BW	100	2240
16	Dev. of a Plate and Frame RO Module - BW	200	2440
17	Energy Recovery Studies - SW & BW	450	2890

Priority Number	Project Category	Project Amount	Cumulative Amount
18	Large Ultrafiltration Seawater Pretreatment Pilot Plant - SW	150	3040
19	Modification and Testing of Conventional Pretreatment Pilot Plant - SW	300	3340
20	Macroreticular Resins or $CaSO_4$ Seeding Pretreatment Studies - BW	100	3440
21	Silica Reduction Pretreatment Studies - BW	150	3590
22	Lime-Ion Exchange Studies - BW	250	3840
23	Seawater Membrane Cleaning and Rejuvenation - SW	120	3960
24	Seawater Component Development and Testing of Porous Subs and Backing Material - SW	200	4160
25	Low Pressure Backing Materials Survey and Fabrication - BW	150	4310
26	Testing of Low Cost ED Spacer with Ion Exchange Properties	50	4360
27	New Design Low Pressure Spiral Elements - BW	150	4510
28	Component Development Material of Construction	100	4610
29	Instrumentation Studies High PWR - BW	150	4760
30	Energy Recovery Unit Linear Pocket Feeder	150	4910
31	Low Resistance ED Pilot Plant - BW	300	5210

Priority Number	Project Category	Project Amount	Cumulative Amount
32	5-10 Kgpd "Piggy Back" Two Stage RO with Energy Recovery - SW	300	5510
33	Advanced Technology Test Vehicle - SW	300	5810
34	5 Kgpd Solar/ED - BW	400	6210
35	10 Kgpd Hi-Temp. Geothermal RO Pilot Plant - BW	250	6460

Technology Development - Thermal

Priority Number	Project Category	Project Amount	Cumulative Amount
1	Complete Testing AFVC Pilot Plant for Seawater	250	250
2	Fabricate AFVC Pilot Plant for LNG Application	400	650
3	Testing Indirect Freezing Pilot Plant for Seawater	350	1000
4	Testing Eutectic Freezing Plant for brackish water and Add Solids/Liquid Separator	400	1400
5	MSF 2 Phase Flow Field Test	100	1500
6	Conceputal Analysis of New Thermal Processes	146	1646
7	Fabrication VFEA Pilot Plant	600	2246
8	Secondary Refrigerant New Component Concepts	100	2346
9	Innovative Distillation-Rotating Disc Pilot Plant	400	2746
10	Misc. Studies High Temperature Scale Control	150	2896
11	Air Removal for Vacuum Freezing	200	3096
12	Absorber Design, Analysis, Testing	600	3696

Technology Development - Reuse

Priority Number	Project Category	Project Amount	Cumulative Amount
1	Freeze Concentration	300	300
2	Mobile Test Facility	250	550
3	Biologically Extended Adsorption	200	750
4	Ultrafiltration/Reverse Osmosis	200	950
5	Steam Electric	200	1150
6	Coal Conversion	200	1350
7	Ozonation/Industrial Cooling	200	1550
8	Pretreatment	200	1750
9	Ultrasound Catalyzed Ozone	200	1950
10	Wiped Film Evaporator	250	2200
11	Industrial/Membranes	250	2450
12	Air Stripping Volatile Organics	150	2600

IV. C. - TEST FACILITY PROJECTS

MEMBRANE EVALUATION PROGRAM at Wrightsville Beach Test Facility

Unit Designation	Type	Capacity	Schedule	Test Objective
4" Diameter Spiral Wound elements - Fluid Systems RC-100	RO	2000 gpd	on-stream	Determine element reliability and membrane performance and longevity
6" Diameter Spiral Wound elements - Fluid Systems RC-100 (Spiral Wound scale-up)	RO	1000 gpd	on-stream	Determine spiral wound element scale-up performance characteristics and reliability.
8" Diameter Hollow Fiber modules - DOW-CTA	RO	6000 gpd	on-stream	Determine module reliability and membrane performance and longevity.
3" Diameter Spiral Wound Ultra-filtration element-Abcor (Pretreatment)	UF	900 gpd	on-stream	Evaluate Spiral wound UF element as a seawater pretreatment process for RO desalting.
Hollow Fiber Ultra-filtration element - Romicon (Pretreatment)	UF	21,600 gpd	on-stream	Evaluate Hollow Fiber UF element as a seawater pretreatment process for RO desalting.
8" Diameter Hollow Fiber module - DOW-CTA	RO	2000 gpd	on-stream	Evaluate module performance with seawater feed from Ultra-filtration pretreatment.
4" Diameter Spiral Wound elements - Fluid Systems RC-100	RO	2000 gpd	on-stream	Determine membrane performance characteristic with different levels of dissolved gases in feedwater.
4" Diameter Spiral Wound elements - Fluid Systems RC-100	RO	3000 gpd	on-stream	Determine effect of different chemical feedwater additives on membrane performance.
4" Diameter Spiral Wound elements - Fluid Systems RC-100 (Cleaning Studies)	RO	3000 gpd	on-stream	Evaluate element cleaning procedures to recover membrane performance.

OWRT-A-96

MEMBRANE EVALUATION PROGRAM at Wrightsville Beach Test Facility (continued)

Unit Designation	Type	Capacity	Schedule	Test Objective
Passive reciprocating energy transfer bench scale unit - Polymetrics (Energy Recovery)	reciprocating	20 gpm	on-stream	Evaluate design concept and reliability.
Seawater High Temperature Electrodialysis pilot plant - Ionics	ED	50,000 gpd	FY-81	Evaluate system design, performance, reliability, on-stream factor, and energy consumption.
10.2 ft^2 Diatomaceous Earth Filter unit - Johns-Manville (pretreatment)			on-stream 2nd qtr.	Evaluate diatomite precoat filtration for pretreatment to seawater.
12" Diameter Spiral Wound elements - Fluid Systems (Large Prototype Elements)	RO	50,000 gpd	on-stream	Evaluate large spiral wound element integrity and performance.
Spiral Wound and Hollow Fiber rejuvenation test Loop - Burns & Roe	RO		on-stream	Evaluate various rejuvenation methods on RO element to recover membrane performance.
Membrane Characterization Test Unit - FRL, FilmTec, etc.	RO		on-stream	Membrane characterization studies of new membrane formulations and element designs.
50,000 gpd seawater reverse osmosis pilot plant	RO	50,000 gpd	FY-81	Evaluation of two RO configurations that represent the seawater state-of-the-art technology to provide initial base reference data.

74-939 O—80——32

OWRT-A-98

MEMBRANE EVALUATION PROGRAM at Roswell Test Facility

Unit Designation	Type	Capacity	Schedule	Test Objective
4" Diameter Spiral Wound elements - Membrane Systems MSI-400	RO	2000 gpd	on-stream	Determine element reliability and membrane performance and longevity.
6" Diameter Hollow Fiber modules - DOW-CTA	RO	10,000 gpd	on-stream	Determine module reliability and membrane performance and longevity.
2.5" Diameter Spiral Wound elements - Fluid Systems TFC (membrane development)	RO	1000 gpd	on-stream	Determine membrane performance of various TFC membranes.
EDR Pilot Plant- Ionics	ED	80,000 gpd	on-stream	Evaluate EDR pilot plant system to lead to full commercial size demonstration.
High area utilization ED stack - Ionics (Large Prototype Elements)	ED	250,000 gpd	FY-81	Evaluate large high area ED stack integrity and performance.
Solar/Ed system - Ionics	ED	5000 gpd	FY-81	Evaluate system performance and reliability.
12" Diameter Spiral Wound elements - Fluid Systems (Large Prototype Elements)	RO	50,000 gpd	FY-81	Evaluate large spiral wound element integrity and performance.
8" Diameter Spiral Wound elements - Hydranautics CA Blend	RO	20,000 gpd	FY-81	Evaluate and establish performance baseline on commerical 8" Diameter spiral wound elements.
Membrane Characterization Test Unit - FRL, FilmTec, etc.	RO		on-stream	Membrane characterization studies of new membrane formulations and element designs.

MEMBRANE EVALUATION PROGRAM at Roswell Test Facility (continued)

Unit Designation	Type	Capacity	Schedule	Test Objective
16" Diameter Hollow Fiber Module - DOW-CTA	RO	100,000 gpd	FY-81	Evaluate large module design concept, performance and reliability.
Two-stage Low pressure - intermediate pressure RO unit for Virginia Beach Demo plant simulation		54,000 gpd	FY-81	Evaluate combined low pressure intermediate pressure RO design concept to lead to full commercial size demonstration.

OWRT-A-99

V. TECHNOLOGY AND INFORMATION TRANSFER - ONGOING PRODUCTS

TECHNOLOGY TRANSFER REPORTS:

- Reverse Osmosis Update Report.
- Ultrafiltration Update Report.
- Controlled Environment Aquaculture Wastewater Treatment System - Capsule Report.
- Land Application of Wastewater - Update Report.
- Wastewater Reuse and Recycling - Summary Report.

MANUALS:

- Community Water Conservation Programs and Techniques.
- The Use of Fracture Traces in Water Well Location.

SEMINARS, WORKSHOPS AND CONFERENCES:

- Public Involvement and Social Impact Assessment Conference.
- Legal and Administrative Systems for Water Allocation and Management Seminar.
- Inter-Regional Leadership Conference for Dissemination of Computerized Water Resource Management Simulation Technology.
- Workshop on Reservoir Operation.
- Urban Storm Water Management Seminar.
- Lake Improvement Seminars - to be repeated in 1981.
- Desalting Seminar - to be repeated in 1981.
- Effects of Acid Precipitation - Conference.
- The Aquatic Resource Management of the Colorado River Ecosystem Conference.

DESCRIPTION SHEETS:

- Water Quality and Quantity Problems in the U. S. - Map Series.
- Desalting Program.

The following four sheets were produced in 1979 and are currently still in use:

- OWRT Programs.
- OWRT Publications.
- Water Resources Research Institutes.
- Parametric Study of Brackish Water Membrane Desalting Plants.

RESEARCH REPORT SERIES:

Reports from good OWRT research projects are written by the principal investigators. They are generally highly detailed technical presentations of the results and conclusions obtained. They are a valuable source of information for engineers, researchers and scientists. Reports being reviewed for use in 1980 and 1981 are:

Reuse Series

- Advanced Waste Treatment of Kraft Pulp Mill Wastewater for Non-Potable Reuse Using Mobile Treatment Equipment.
- Evaluation of the Application of Desalting Technology for Treatment of Wastewaters for Reuse.
- An Assessment of Water Reuse Potential in the Inorganic Chemical Industry.
- Study of Needs and Potential for Water Reuse in the Industrial Organic Chemical Industry.
- Development of an Open-Channel Spiral Module for Water Reuse Applications.
- Survey and Evaluation of Commercial Semipermeable Sheet Materials to Identify Those Suitable as Membranes in Ultrafiltration and Electrodialysis Equipment on Water Reuse Applications.
- Superior Energy-Conserving Modular Evaporator.
- The Use of Ultrafiltration and Reverse Osmosis for Water Reclamation and Reuse in Domestic Sewage Treatment.
- Evaluation of Hollow Fiber Ultrafiltration and Reverse Osmosis for Wastewater Reuse in the Metal Finishing Industry.
- Industrial Water Reuse with Coupled Transport Membranes.
- Optimization of Hollow Fiber Ultrafiltration Membrane Type and System Design for Wastewater Reuse in the Textile Industry.

- Advanced Pretreatment Process for Wastewater Reuse via Reverse Osmosis.
- Evaluation of Biological Activated Carbon for Water Reuse.
- Feasibility of Treating Municipal Wastewater by Lime Clarification and Pressure Ozonation.
- Weak Electrolyte Ion-Exchange in Advanced Technology Water Reuse Systems - Evaluation and Design.
- Performance Analysis of a Controlled Environment Aquaculture Wastewater Treatment System: Health Related Aspects of Water Treatment and Aquaculture By-products.
- Wastewater Treatment and Reuse with Plants in Nutrient Films.
- A Study of Wastewater Quality Improvement Using Micro-Gas Dispersion Stripping.
- Investigation on the Modes of Contaminant Capture in MGD Foams.
- Water Reuse Through Ground Water Recharge in Northeastern Illinois.
- Research Study on the Use of Uranium Mine Water as a Municipal Supply for the City of Gallup, New Mexico.
- Closed-Cycle Textile Dyeing - Full-Scale Demonstratration.
- Evaluation of Membrane Demineralization Processes for Potable Wastewater Reuse.
- Evaluation of a 10-MGD Granular Activated Carbon System for Wastewater Reclamation.
- Reuse of Textile Dyeing Wastewater.
- Biological Activated Carbon Process for Treatment of Potato Processing Wastewaters for In-Plant Reuse.
- Research and Development of Advanced Processes Using a Mobile Treatment Unit.
- Public Evaluation of Wastewater Reuse Options in Basin Planning.
- Reuse of Industrial Wastewater by Electrodialytic Extraction of Heavy Metals Through Poroplastic Bound Liquid Ion Exchange Membranes.
- An Ultrasound Catalyzed Ozone Pretreatment Study to Reduce Reverse Osmosis Fouling by Organics.
- Benefit-Cost Analysis of a Program of Economic Incentives for Consumptive Reuse of Low-Quality Water in the Colorado River Basin.

- The Input-Output Water Balance Model-Application to Water Reuse Planning.

- Legal, Political, and Institutional Obstacles to the Acceptance of Water Reuse Projects.

- Development of Chemical and Biological Submodels for Use in Ground Water Transport Simulations.

- Industrial Wastewater Reuse: Cost Analysis and Pricing Strategies.

- Development of Methodology for Evaluating Integrated Water Reuse/ Water Supply/Waste Treatment.

- Water Recycling in the Food Processing Industry.

- Feasibility of Photocatalytic Oxidation for Wastewater Clean-up and Reuse.

- Legal liability of Reclaimed Water System Proprietors.

- Legal and Institutional Barriers to the Development and Utilization of Water Reuse Programs in the New England Region.

- Industrial Cooling Tower Reuse of Reclaimed Municipal Wastewater.

- Research to Determine the Synergistic Effects of Ozone and Ultraviolet Light in the Oxidation and Decomposition of Organic Compounds in Wastewater Reuse Systems.

- Development and Application of a Model for Planning Optimal Water Reuse.

- Water Reuse: A Critical Review for a Major Urban Center.

- Application of Ozone to Eliminate Tertiary Treatment of Wastewater Used for Industrial Cooling.

- Treatment of Oil Field Wastewaters for Reuse: An Evaluation of Membrane Processes.

- Evaluation of Pulp and Paper Mill White Water Reuse Applications.

Conservation Series

Model State Water Conservation Program Study.

Urbanizing Areas Series

- Institutional Barriers Confronting Implementation of Section 208 Areawide Wastewater Management Plans in the Southeast.

- Case Study Analyses of 208 Program Effectiveness in Improving Regional Water Resource Management.
- A Study of Institutional Arrangements for Controlling Non-Point Source Pollution.
- Water Resource Management: Institutional Problems in Urban Areas.
- Institutions for Managing Groundwater in Urbanizing Areas with Special Emphasis on Protecting Recharge Zones.
- Problem Oriented Evaluation of Institutional Decision Making and Improvement of Models Used in Regional Runoff Management: Application to Indiana.
- Operation of Detention Facilities for Urban Stream Quality Enhancement.
- Effect of Management Options on Groundwater Quality and Quantity in Urbanizing Areas.
- Optimal Design of Real-Time Urban Stormwater Control Systems.
- Planning and Land Use Management Methodologies for Water Source Protection in Urbanizing Water Sheds.
- Utilization, Planning and Problem Evaluation of Urban Arterial Waterways and Corridors as an Urban Resource.
- Institutional Analysis in 208 Planning: Review and Guidance for Plan Implementation.

CONTINUING PUBLICATIONS:

- Project Description Reports.
- Water Reuse Research Report Project Descriptions.
- Water Desalting Research Report Project Descriptions.
- Project Tracking System.
- Technology Transfer Resource Directory.
- Water Research in Action - Monthly Institute Bulletin.
- Municipal Wastewater Reuse News - Monthly.
- Director's Letter - ten times a year to staff and program participants.

PROGRAM AWARENESS PROJECTS:

- League of Cities - a conservation program funded jointly with the Water Resources Council and the Corps of Engineers.
- OWRT Wrightsville Beach, N. C. Test Facility Brochure.
- OWRT Roswell, N. M. Test Facility Brochure.

TECHNOLOGY ASSESSMENTS:

- Irrigation Timing Using Adoptive Control Theory.

TECHNOLOGY APPLICATION ASSESSMENT:

- Agricultural Irrigation Practices.

OTHER:

- Computer Software Package - Computer Graphics for Flood Plain Mapping.

VI. INTERAGENCY COORDINATION OF WATER RESOURCES RESEARCH

Over the past two decades, Congress enacted the following measures dealing with water and related land resources problems:

- Water Resources Research Act of 1964
- Water Resources Planning Act of 1965
- Federal Water Projects Recreation Act of 1965
- Land and Water Conservation Act of 1965
- Wild and Scenic Rivers Act of 1968
- National Flood Insurance Act of 1968
- National Environmental Policy Act of 1969
- Federal Water Pollution Control Act of 1972
- Coastal Zone Management Act of 1972
- Endangered Species Act of 1973
- Flood Disaster Protection Act of 1973
- Water Resources Development Act of 1974
- Disaster Relief Act of 1974
- Safe Drinking Water Act of 1974
- Resource Conservation and Recovery Act of 1976
- Soil and Water Resources Conservation Act of 1977
- Saline Water Conversion Demonstration Act of 1977
- Water Research and Development Act of 1978

These and kindred laws dictate actions that must be taken with respect to some phase of the planning, management, or development of the Nation's water and related land resources. Most of the new legislation created the opportunity and the need for research and development in the water resources field.

In 1980, Federal funds appropriated for water resources research and development activities amounted to approximately $330 million. The Department of the Interior accounted for about $110 million; EPA about $90 million; the Department of Agriculture, $70 million; and the Corps of Engineers, $31 million. The rest went to the Departments of Transportation, Energy, Commerce, NASA, and the National Science Foundation.

The Water Research and Development Act of 1978, P.L. 95-467, as amended, requires the Secretary of the Interior to cooperate with other Federal agencies in the coordination of water resources research and to prepare a five-year water resources research program with the assistance of the water resources Institutes funded under the Act. In response to those requirements, the OWRT conducts the following activities:

- Coordinates preparation of a national water research priority agenda. Meets with other Federal agencies to determine research needs, gaps in the Federal research programs, and areas in which additional effort appears to be warranted. Prepares reports for the President, OMB, and the Congress indicating directions for the Federal water resources research activities.

- Prepares the five-year OWRT program in water resources research in coordination with the water Institutes, State and local water officials, river basin commissions, and Federal agencies.

- Chairs the Intradepartmental Water Research Coordination Committee (IWRCC).

Objectives of OWRT's interagency coordination are to assure nonduplication among water research and technology programs; stimulate research and development in

neglected areas; provide a comprehensive nationwide program; clarify agency responsibilities; and provide for interagency coordination of research. To comply with Section 108 of the Department of the Interior and Related Agencies' Appropriation Act for Fiscal Year 1979 (P.L. 95-465), a program was initiated and is continuing for the purpose of avoiding undesirable duplication among Interior Bureaus engaged in water research activities.

To effect interagency water research program planning and coordination, the following actions have been taken:

- In his Science and Technology message to the Congress on March 27, 1979, President Carter directed the Secretary of the Interior and the Director of the Office of Science and Technology Policy to set research priorities aimed at meeting our future water needs.

- An interagency policy group was established to coordinate water research planning and interagency water research programs.

- A separate interagency working group was established to review in detail the major water research programs underway in Federal agencies in 1979 and those planned for 1980. The working group produced the report, "Water Research Priorities for the 1980's."

- Recommendations of the National Water Research and Technology Conference sponsored by the Office of Water Research and Technology were refined by the interagency working group and incorporated into the document, "Interim Report - Priorities in Federal Water Resources Research," which was endorsed by the policy group, signed by Secretary Cecil Andrus and Dr. Frank Press, and transmitted to the President in 1980.

To effect the development of the five-year resources research agenda, including goals, objectives, priorities and funding requirements mandated in P.L. 95-467, the following actions have been taken:

- On November 27 and 28, 1979, a meeting of the Directors of the 54 water research Institutes developed procedures for the preparation of the five-year resources research program.

- Each Institute has responsibility for preparing a report describing water resources research issues within its State, including future water needs, projected water development, perceived water resources related problems and research needed to provide solutions. The State reports are prepared in collaboration with State agencies, river basin commissions, and other water entities.

- The reports of the individual State Institutes are being summarized in eight regional reports. Drafts have been received by OWRT and reviewed for compilation into the national report. Final reports are scheduled for completion early in 1981.

- Concurrent with the effort by the Institutes, Federal agencies involved in water resources research are expanding the "Water Research for the 1980's." That report is being reviewed by the NAS and will indicate each agency's water resources goals, objectives, priorities, and funding needs for the period 1982-1987.

- The final product of this activity will be a report with recommendations for a five-year water resources research program for the Nation, to be submitted to the President and the Congress in 1981.

To effect the coordination, identification and elimination of intra-agency duplication of water resources research and development within Interior programs, the following actions have been taken:

- Secretary Andrus issued Secretarial Order No. 3034 on February 8, 1979, directing implementation of Section 108 of the Department of the Interior and Related Agencies Appropriation Act for Fiscal Year 1979. The order designated the Assistant Secretary, Land and Water Resources, to implement overall policy and designated the OWRT to review the Department's water research for unnecessary duplication.

- On February 27, 1979, the Assistant Secretary, Land and Water Resources, established an Intradepartmental Water Research Coordination Committee (IWRCC) to implement the Secretarial Order. The OWRT was directed to chair the Committee.

- The IWRCC established procedures to facilitate coordination and to identify active and planned projects which might be similar to any project proposed for funding by any Bureau within the Department.

- Committee procedures appear to achieve their objectives. The procedures use remote control terminals in the OWRT Water Resources Scientific Information Center to search the Smithsonian Scientific Information Exchange data base containing descriptions of the Department's active water research and development projects.

- In the period December 1979 through December 1980, 50 proposed projects were processed by the IWRCC and certified to be nonduplicative of any existing or planned water research projects in the Department.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUDGET JUSTIFICATIONS, F. Y. 1982

HERITAGE CONSERVATION
AND RECREATION SERVICE

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE

FISCAL YEAR 1982 BUDGET JUSTIFICATIONS

Table of Contents

Item	Page HCRS-
Organization Chart	1
General Statement	2
Appropriation: Salaries and Expenses	
Activity/Subactivity/Line Item change crosswalk	7
Appropriation Summary Statement	9
Summary of Requirements	10
Justification of Adjustments to base and built-in changes	12
Justification of Program and Performance by activity	13
Recreation Programs	13
Natural Programs	44
Cultural Programs	63
Administrative Programs	110
Summary of requirements by object class	114
Appropriation Language	115
Program and Financing Schedule	116
Object Classification Schedule	118
Personnel Summary Schedule	119
Appropriation: Urban Park and Recreation Fund	
Appropriation Summary Statement	120
Summary of Requirements	121
Justification of Adjustments to base and built-in changes	122
Justification of Program and Performance by activity	123
Grants to Cities	123
Administrative Expenses	129
Summary of requirements by object class	133
Appropriation Language	134
Program and Financing Schedule	135
Object Classification Schedule	136
Personnel Summary Schedule	137
Appropriation: Land and Water Conservation Fund	
Appropriation Summary Statement	138
Justification of proposed language change	139
Summary of increases and decreases	140

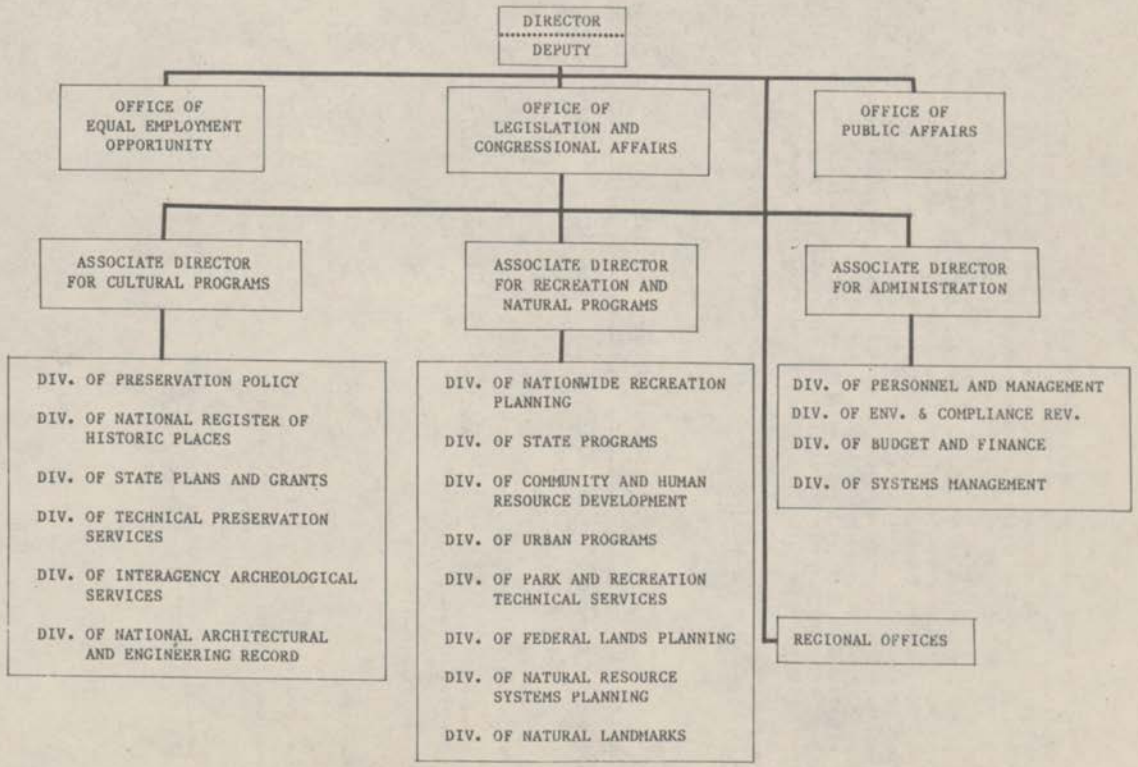
Item	Page HCRS-
Analysis by activity	141
Justification of Program and Performance by activity	142
Assistance to States	142
Federal Programs	162
National Park Service	163
Forest Service	166
Fish and Wildlife Service	169
Bureau of Land Management	171
Federal Program Accomplishments	172
Authorization Data Tables	173
National Park Service	173
Forest Service	175
Fish and Wildlife Service	176
Bureau of Land Managment	177
Schedule II program proposals	178
National Park Service	178
Forest Service	187
Fish and Wildlife Service	195
Bureau of Land Management	206
Justification of Adjustments to base and built-in changes	207
Justification of Program and Performance by activity	208
Administrative Expenses	208
Assistance to States	208
Federal Programs	215
Summary of requirements by object class	220
Appropriation Language	222
Amounts Available for Appropriation Schedule	223
Program and Financing Schedule	224
Status of Unfunded Contract Authority Schedule	225
Object Classification Schedule	226
Personnel Summary Schedule	233

Appropriation: Historic Preservation Fund

Appropriation summary statement	236
Summary of requirements	239
Justification of Adjustments to base and built-in changes	240
Justification of Program and Performance	241
Grants	241
Grants Administration	250
Summary of requirements by object class	257
Appropriation Language	258
Amounts Available for Appropriation Schedule	259
Program and Financing Schedule	260
Object Classification Schedule	261
Personnel Summary Schedule	262

Item	Page HCRS-
Appropriation: Donations	
Summary of requirements	263
Justification of Program and Performance	264
Summary of requirements by object class	266
Program and Financing Schedule	267
Object Classification Schedule	268
Personnel Summary	269
OTHER	
Common Program Services	
Summary statement	270
Justification of adjustments to base and built-in changes	272
Justification of Program and Performance by activity	273
Executive Direction	273
Program Direction	279
Administration	284
Administrative Services	284
Related Support Services	290
Justification of need for consulting services	294
Administrative Provision Appropriation Language	297
Detail of Permanent Positions Schedule	298

HERITAGE CONSERVATION AND RECREATION SERVICE



HCRS-1

GENERAL STATEMENT

The Heritage Conservation and Recreation Service serves as the Federal focal point for outdoor recreation and for the preservation of cultural and natural heritage resources; undertakes a broad range of planning, policy formulation and coordination activities and provides technical assistance to Federal, State and local agencies and the private non-profit sector; provides financial assistance through the Land and Water Conservation Fund to the States and their political subdivisions for recreation planning, acquisition and development projects; administers the Federal portion of the Land and Water Conservation Fund which provides funding for land acquisition for the National Park Service, Forest Service, Fish and Wildlife Service and Bureau of Land Management; provides grants-in-aid to urban governments for planning, demonstration and development projects to revitalize park and recreation system; and through the Historic Preservation Fund provides grants-in-aid to the States, local governments, the National Trust for Historic Preservation and others for the identification and preservation of historic, architectural, archeological and cultural resources.

The following summary provides a comparison between 1981 appropriations enacted to date and the 1982 request:

($ in thousands)

Appropriation		1981 Appropriation Enacted to Date	FY 1982 Estimate	Inc. (+) or Dec. (-)	Perm. Employ. 12/31
Salaries and Expenses	$	15,980	16,842	+862	
	(FTP)	322	319	(-3)	313
Urban Park and Recreation Fund	$	20,000*	75,000	+55,000	
	(FTP)	37	37	(--)	44
Land and Water Conservation Fund	$	378,593*	520,365	+141,772	
	(FTP)	182	185	(+3)	176
Historic Preservation Fund	$	32,500*	32,500	---	
	(FTP)	30	30	(--)	28
Donations	$	264	264	---	
	(FTP)	---	---	---	---
Reimbursables	(FTP)	11	11	---	11
Total Requirements	$	447,337	644,971	+197,634	
	(FTP)	582	582	---	572

* Does not include amounts deferred from FY 1980 for UPARR $45 million, LWCF $165 million, HPF $10 million.

Highlights of the 1982 Request

The changes between the 1981 appropriations for programs and the requested 1982 programs are highlighted below by appropriation. End of year Full Time Permanent employment is recommended at 535 for both 1981 and 1982. Growing workloads in program areas will be met wherever possible through the use of revised procedures to streamline activity, interagency agreements, memoranda of understanding, reimbursable agreements and the increased use of automatic data processing. Reduced employment ceilings and increasing costs will require extensions of schedules for completion of many studies, plans, and other projects.

Salaries and Expenses

An appropriation of $16,842,000 is requested for these activities. The Service late in calendar 1979 completed Phase III of the reorganization plans to develop a fully integrated agency servicing the recreational, cultural and natural heritage needs of the country. This new organization is reflected in the structure of the Salaries and Expenses appropriation. In brief, there are four activities. These are: Recreation Programs, Natural Programs, Cultural Programs, and Administrative Programs. In 1982 two of the present Associate Director positions will be combined into an Associate Director for Recreation and Natural programs. Minor changes have been made in two areas of the budget structure to reflect the structure of the agency. Some of the changes are in Natural Programs - three Federal Real Property line items have been dropped, and Federal Real Property becomes a line item under a new subactivity, Federal Lands Coordination. This subactivity also includes the Federal Recreation Fee Program. These changes will enable the Service to track activities more accurately. The remaining changes are in Cultural Programs. A new subactivity, National Architectural and Engineering Record, has been added, with the Historic American Buildings Survey and the Historic American Engineering Record as line items. This reflects the actual organization of these programs within the Service. The distribution of the adjusted 1982 base for the subactivities under the Cultural Programs corresponds with the reprogramming of the 1981 appropriation to more accurately reflect program priorities and actual expenditures.

The 1982 estimate reflects the following increases above the currently enacted amount for FY 1981: $345,000 to implement Section 101(a)(1)(B) of P.L. 96-515; the National Historic Preservation Act amendments of 1980; $516,000 for Standard Level User Charges increases; $891,000 for October 1, 1980 pay increase; and $4,000 for employee compensation fund payments. Seventy three percent of these increases are offset by the following reductions: -$20,000 in Nationwide Recreation Planning; -$40,000 in community and human resources development; -$40,000 in water resources; -$75,000 in park and recreation technical services, -$24,000 in special designated studies, -$345,000 in Federal lands coordination, -$25,000 for Ozette Village archeological work, and -$25,000 in administrative travel.

Urban Park and Recreation Fund

An appropriation of $75,000,000 is requested for this program authorized by Title X of Public Law 95-625, the National Parks and Recreation Act of 1978. This is an increase of $10,000,000 above the combined 1981 appropriation and the $45,000,000 deferred by P.L. 96-304 all of which is available for obligation in FY 1981. The requested amount will fund an estimated 250 grants to localities, support development or updating of 300 local Recovery Action programs and ensure accountable administration of new and existing grants.

Grants-in Aid

Funds in the amount of $71,895,000 are requested for grants-in-aid. This amount would go to urban governments for projects to revitalize park and recreation systems, to demonstrate innovative and cost-effective ways of meeting close-to-home recreation needs and to support systematic local recreation planning to meet program objectives.

Fifty percent matching grants are made to local governments for development of park and recreation Recovery Action Programs; 70 percent matching grants to local governments for rebuilding, remodeling, expanding or developing existing outdoor or indoor recreation areas or facilities; and 70 percent matching grants to local governments for facilities, equipment, supplies and services to demonstrate innovative and cost-effective ways to augment park and recreation opportunities at the neighborhood level. Under the State Action Incentive provisions of the Act, the basic Federal matching level of 70 percent for rehabilitation and innovation grants may be increased to as much as 85 percent on a dollar-for-dollar basis to match State contributions to the local share. Grants are awarded in periodic national competitions which emphasize such factors as urgency of need, relationship of recreation projects to other urban revitalization goals and programs, and degree of community support and commitment to systematic management and operation of recreation facilities and programs.

Administrative Expenses

Funds in the amount of $3,105,000 are requested for the expenses for the Service in the management of the program and for reimbursement to States for assistance to HCRS in administration of ongoing grants.

Land and Water Conservation Fund

The Services's 1982 appropriation request provides a funding level of $520,365,000 a decrease of $23,228,000 below the combined 1981 appropriation and the $165,000,000 deferred by P.L. 96-304, all of which is available for obligation in FY 1981. The $520,365,000 amount is exclusive of the Contract Authority which is recommended to be repealed by appropriation language.

State Assistance Program

Funds in the amount of $192,162,000 including administrative expenses, are requested for assisting the States in financing up to 50 percent of the cost of preparing recreation plans, acquiring land and water areas and developing areas for public outdoor recreation purposes. The total available for assistance to States under this request is $185,000,000. The FY 1982 request level is $118,395,000 below the combined FY 1981 appropriation and the $75,000,000 deferred by P.L. 96-304 all of which is available for obligation in FY 1981. It is estimated that approximately 70,000 acres will be acquired through an estimated 400 grants-in-aid projects involving $65,000,000 in assistance. Also about 1,100 new grants (involving $117,000,000 in fund assistance) will be to provide outdoor recreation facility development and $3,000,000 will be for 25 Statewide comprehensive outdoor recreation planning projects.

Federal Program

Funds in the amount of $328,203,000, including administrative expenses, are requested for Federal land acquisition purposes, an increase of $94,820,000 above the combined 1981 appropriation and the $90,000,000 deferred by P.L. 96-304 all of which is available for obligation in FY 1981. The total available for Federal acquisitions under this request is $326,959,000. The funding requested will be used to acquire land and interests in land to preserve and protect, for public use and enjoyment, the historic, scenic, natural and recreational values of areas within the National Park System; the wilderness and wildlife and recreation resources within the National Forest System; and specifically authorized areas, wilderness, recreation, National Wildlife Refuge areas and endangered or threatened species of the Fish and Wildlife Service, and the Congressionally authorized areas and recreation resources adjacent to the Bureau of Land Management holdings. The FY 1982 funding will permit protection of 2,019 tracts containing 145,958 acres.

Administrative Expenses

Funds in the amount of $8,406,000 are requested for the expenses of the Service for the management of the State Assistance and Federal Programs portions of the Fund. Included in this request is $7,162,000 for administration of the grants and $1,244,000 for administration of the Federal purchase program.

Advance Contract Authority

Amendatory legislation has been proposed in previous budgets to repeal Section 9 of the Land and Water Conservation Fund Act, as amended. The LWCF appropriation language for FY 1982 is now proposed instead to permanently repeal this authorization. This appropriation language proposal is recommended because of the lack of action on the Administration's bill by the authorization committees. In recent years, significant increases in the authorized level of the Fund and the use of reprogramming procedures have lessened the need for the use of this authority.

Historic Preservation Fund

Funds in the amount of $32,500,000 are requested for grants-in-aid to States and the National Trust for Historic Preservation and for Service expenses to manage the Fund. This level is $10,000,000 below the combined FY 1981 appropriation and the $10,000,000 deferred by P.L. 96-304 all of which is available for obligation in FY 1981.

Grants-in-aid to States

Funds in the amount of $25,898,000 are requested for grants-in-aid to the States for survey, planning acquisition and development purposes. From these survey and planning funds, matched by other monies, the States will inventory and nominate properties to the National Register, coordinate and assist local governments and private interests to identify and preserve historic resources; oversee planning and execution of grant-assisted acquisition and development projects; and assist private citizens in preparation and submission of applications for certification of rehabilitation of historic resources to take advantage of Federal tax laws and to perform other program services in accord with Federal law. The National Historic Preservation Act Amendments of 1980 will result in several major changes in this program including: authority for certified local governments to receive grants passed through from the States; authority to make direct grants for such purposes as protecting threatened resources; training and development of skilled labor in preservation related trades and crafts; and to assist residents and small businesses to remain in National Register historic districts. In addition, this legislation authorizes 70 percent Federal matching grants for survey and inventory activities and 50 percent Federal matching grants for the aggregate cost of acquisition and development projects carried out by the States.

National Trust for Historic Preservation

Funds in the amount of $4,600,000 are requested to provide educational activities, publishing and general preservation services directly to the private sector through the headquarters and field offices of the National Trust. Funds will also provide for the maintenance and administration of National Trust properties and for the restoration, rehabilitation, repair and improvement of historic properties maintained by the Trust or by others under leases or cooperative agreements.

Administrative Expenses

Funds in the amount of $2,002,000 are requested for the expenses of the Service in strengthening the management of the Fund.

Authorizations

The major authorizing legislation under which the Heritage Conservation and Recreation Service operates is: 16 U.S.C. 1a-5, 460l-460l-11, 461-467, 469c, 470, 2506, and 2512. None of these general authorizations expire in FY 1982.

HERITAGE CONSERVATION AND RECREATION SERVICE
Salaries and Expenses
Activity/Subactivity/Line Item Change Crosswalk
(dollar amounts in thousands)

Format of FY 81 Congressional Budget Activity Subactivity Line Item	Amount 1982 Request
Natural Programs	
Federal Real Property	768
(1) Cooperative Management	
(2) Sikes Act	
(3) [illegible] operty	
(4) Federal Recreation Fee Program	
Cultural Programs	
Historic American Buildings Survey (HABS)	749
(5) Documentation of Historic Architecture	
(6) Historic Architectural Demonstration Projects	
(7) Technical Support to Federal Projects	
Historic American Engineering Record (HAER)	365
(8) Documentation of Engineering and Industrial Sites	
(9) Technical Support to Federal Projects	
(10) Community Rehabilitation Action	

Format of FY 82 Congressional Budget Activity Subactivity Line Item	Amount 1982 Request
Natural Programs	
Federal Lands Coordination	768
(1), (2), (3) Federal Real Property	718
(4) Federal Recreation Fee Program	50
Cultural Programs	
National Architectural and Engineering Record	1,114
(5), (6), (7) Historic American Buildings Survey (HABS)	749
(8), (9), (10) Historic American Engineering Record (HAER)	365

HERITAGE CONSERVATION AND RECREATION SERVICE
Salaries and Expenses
Activity/Subactivity/Line Item Change Crosswalk
(dollar amounts in thousands)

Format of FY81 Congressional Budget		Format of FY82 Congressional Budget	
Activity Subactivity Line Item	Amount 1982 Request	Activity Subactivity Line Item	Amount 1982 Request
		Total	1,882

Deleted Line Items
(1) Cooperative Management
(2) Sikes Act
(3) Surplus Property
(5) Documentation of Historic Architecture
(6) Historic Architecture Demonstration Projects
(7),(9) Technical Support to Federal Projects
(8) Documentation of Engineering and Industrial Sites
(10) Community Rehabilitation Action

Appropriation Summary Statement

Appropriation: Salaries and Expenses

To serve as the Federal focal point for outdoor recreation, the Service undertakes a broad range of planning, policy formulation, coordination and technical assistance activities. Funds are provided for Nationwide outdoor recreation planning to implement program actions and recommendations in the Nationwide Outdoor Recreation Plan; to provide assistance to coastal zone management agencies in the designation and development of specific areas for conservation, recreation and aesthetic values and for acquisition of lands for access to public beaches; to coordinate diverse Federal outdoor recreation and related programs; and to provide assistance to Federal agencies, State and local governments and the private sector on a variety of outdoor recreation proposals, problems and studies.

The appropriation finances the conduct of natural landmark studies to locate and identify natural areas of national significance. Natural areas are recognized by placing them on the National Registry of Landmarks. The condition of natural landmarks is monitored and an annual report on those endangered is made to the Congress. In addition, funds are provided to plan for natural resource system needs for wild and scenic rivers and trails and to identify and assist in conveying federal surplus real property to States and their political subdivisions for recreational purposes.

The appropriation provides the principal support for the Service's activities for the preservation of historic, architectural, archeological and cultural resources of the Nation. Funds provide for maintenance of the National Register of Historic Places, the official schedule and protective inventory of the Nation's historic and cultural heritage; technical preservation services to provide technical assistance on the preservation, improvement, restoration, and maintenance of historic properties; Historic American Building Survey for documenting the Nation's architectural heritage; Historic American Engineering Record for identifying and documenting the engineering heritage of the Nation; and archeological investigation and salvage of cultural resources primarily in areas threatened by federally supported construction programs.

The appropriation finances review of environmental statements and transportation project actions as they affect recreation, natural and cultural program responsibilities of the Service.

The total appropriation requested for 1982 is $16,842,000 which includes built-in changes with an increase of $281,000.

HERITAGE CONSERVATION AND RECREATION SERVICE

Summary of Requirements
(Dollar amounts in thousands)

Appropriation: Salaries and Expenses

Summary of adjustments to base and built-in changes:	Perm Pos.	Amount	Perm. Pos.	Amount
Appropriation enacted to date, 1981			322	15,980
Adjustments to base and built-in changes:				
Adjustment for 1981 pay increases and related costs		+610		
Annualization of 1981 pay increase		+281		
Subtotal, adjustments for 1981 pay increase			322	+891 16,871
Other increases:				
Employees Compensation Fund		+4		
GSA space cost increases		+516		
Subtotal, adjustments to base and built-in changes			322	+520 17,391
1982 base				

Comparison by activities:	1980 Actual Perm. Pos.	Amount	1981 Appropriation Perm. Pos.	Amount	FY 1982 Base Perm. Pos.	Amount	FY 1982 Estimate Perm. Pos.	Amount	Inc. (+) or Dec. (-) Over 1982 Base Perm. Pos.	Amount
Recreation Programs										
Planning	5	306	5	310	5	338	5	318	--	-20
Community and Human Resources Development	16.5	646	16.5	649	16.5	706	16.5	665	--	-41
Water Resources	19	898	18	906	18	986	18	945	--	-41
Park and Recreation Technical Services	91	3,413	88	3,21	88	3,724	88	3,643	--	-81
Subtotals	131.5	5,263	127.5	5,286	127.5	5,754	127.5	5,571	--	-183
Natural Programs										
Resource Area Designation	61	1,936	58	1,932	58	2,103	55	1,977	-3	-126
Federal Real Property	27.5	1,021	27.5	1,024	27.5	1,114	24.5	768	-3	-346
Natural Area Programs	9	748	9	760	9	827	9	826	--	-1
Subtotals	97.5	3,705	94.5	3,716	94.5	4,044	88.5	3,571	-6	-473

HCRS-10

	1980 Actual		1981 Appropriation		FY 1982 Base		FY 1982 Estimate		Inc. (+) or Dec. (-) Over 1982 Base	
	Perm. Pos.	Amount	Perm. Pos.	Amount	Perm. Pos.	Amount	Perm. Pos.	Amount	Perm. Pos.	Amount
Cultural Programs										
Planning	4	250	4	280	4	305	4	304	--	-1
Maintenance of National Register	30	1,415	30	1,532	30	1,667	33	2,009	+3	+342
Technical Preservation Services	11	1,100	10	1,057	10	1,150	10	1,148	--	-2
NAER	17	1,078	16	1,025	16	1,115	16	1,114	--	-1
IAS	24	2,220	23	2,475	23	2,693	23	2,463	--	-230
Subtotals	86	6,063	83	6,369	83	6,930	86	7,038	+3	+108
Administration programs										
Environmental and Compliance Review	18	609	17	609	17	663	17	662	--	-1
Common Programs and Support Services	(103)	(3,278)	(103)	(4,303)	(103)	(4,898)	(101)	(6,138)	(-2)	(+1,240)
Decreases										
Total Requirements	333	15,640	322	15,980	322	17,391	319	16,842	-3	-549

Salaries and Expenses

Justification of Adjustments to Base and Built-in Changes
(Dollar amounts in thousands)

Adjustment for 1981 pay increase and related costs	Amount
Total cost in FY 1981 of anticpated FY 1981 pay increase supplemental	610
Additional amount in 1982 to provide full-year cost of pay increase	281
Total	891

The anticipated supplemental in 1981 of $610,000 is for the general schedule pay increase effective in October, 1980.

An additional $2,281,000 is required in 1982 to cover the full-year cost of the 1981 pay supplemental.

Other increases

Employees' Compensation Fund	4
Rent payments to GSA (SLUC)	516
Total, Other increases	1,411

The increase in the repayment to the Employees' Compensation Fund is the result of higher costs in 1980 than in 1979. The 1980 charges will be reimbursed to the Department of Labor Employees' Compensation Fund in 1982 pursuant to P.L. 86-767.

The GSA conducted a Fair Annual Rental (FAR) appraisal for 1982 which resulted in increases over the 1981 rates of $516,000.

Justification of Program and Performance

Activity: Recreation Programs
Subactivity: Planning

(Dollar amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Nationwide Recreation Planning	$	310	338	318	-20
(RAM AA1)	(FTP)	(5)	(5)	(5)	(--)
(Common Program Services)	$	(83)	(95)	(105.5)	(+10.5)
Total Requirements	$	310	338	318	-20
	(FTP)	(5)	(5)	(5)	(--)

Nationwide Recreation Planning

Authorization: Outdoor Recreation Organic Act, Public Law 88-29

Objectives:

To continue the new planning process established in the Third Nationwide Outdoor Recreation Plan (1979). Mindful of the criticism of past plans that were updated once every 5 years with little attention in between, the planning process was changed to insure that its products reflect real decisions and commitments. This process is on-going and flexible, in order to address current priority issues. It is being built on a sound data base that will be continuously updated. Specific objectives are:

- To provide for the continuing identification and evaluation of sources of data and information required to determine and assess public outdoor recreation needs, benefits and impacts in the United States.

- To conclude the collection, analysis and evaluation of data and information required to determine and assess public agency and private sector outdoor recreation resources, roles, functions, responsibilities, motive interests, expenditures, investments and associated economic values (initiated within FY 1981) and consider related information contained in the SCORPs in order to ensure the timely development of the Assessment element of the 1983 Nationwide Outdoor Recreation Plan.

- To develop a process for the identification, analysis, evaluation, and resolution of contemporary outdoor recreation issues of national priority for the Major Action Program element of the 1983 Nationwide Outdoor Recreation Plan.

- To initiate the first draft of the 1983 Nationwide Outdoor Recreation Plan Assessment for review and completion in FY 1983.

- To conduct special study projects to determine and assess such characteristics as the societal, natural resource, environmental quality and public health implications of identified issues, in order to provide a sound basis for policy decision-making.

- To assist the States through workshops, conferences and other appropriate communications media in the coordination and implementation of State and Federal outdoor recreation plans and policies.

- To provide for minimal monitoring and coordination of Federal outdoor recreation surveys and statistical information.

- To provide Federal guidance in the integration of the Federal and State data and information collection processes related to outdoor recreation planning.

Base Program: The new planning process, of which the Third Nationwide Outdoor Recreation Plan was the first product, is designed to deal with the complex nature of recreation, involving social, economic and conservation policy. Recreation was shown in the Third Plan (1979) to be not only a major contributor to mental and physical health, but also one of the fastest growing sectors of our economy ($180 billion per year). In addition, the rapidly accelerating demand for use of our dwindling natural resources poses a formidable challenge in the planning and management of recreation opportunities. Sporadic, once-in-five-years data gathering and planning cannot provide for present-day needs.

The Nationwide Planning process is a continuous process which leads to specific actions on priority issues and maximizes public involvement. The same process, involving the same principles of planning, is now also being used in Statewide Comprehensive Outdoor Recreation Plans (SCORPs) and in the Urban Parks and Recreation Recovery Program.

When funding permits, in each of the years intervening between the 5-year updates of the Nationwide Outdoor Recreation Plan mandated by Public Law 88-29, Annual Action Programs address current priority issues. Federal agencies, States, and organizations of the private sector assist in the identification of issues to be considered. The Secretary of the Interior selects the final issues, and again both the private and public sectors are involved in the study and recommendations for resolution of these issues. Recommendations by responsible officials including the Secretary of the Interior are then shaped

into an Action Program, which is approved by the Secretary. The 1981 Action Program will be published and disseminated in FY 1982. A combined 1982-83 Action Program will be completed rather than a full single year effort for 1982.

Funding for the 1982 Nationwide Outdoor Recreation Survey is not being requested. Alternatives to a major nationwide survey are being explored.

The Nationwide Outdoor Recreation Assessment is used not only as a basis for the Annual Action Programs, but as an aid for sound policy decision-making by other Federal Agencies as well as HCRS and state and local government. It is also relied upon as a comprehensive reference document and planning aid by community leaders, planners, recreation product manufacturers, and retail business and health promotion professionals.

The Nationwide Outdoor Recreation Assessment will utilize pertinent data and information from many sources. The Statewide Comprehensive Outdoor Recreation Plans (SCORPs) will be especially examined for case studies and trend implications. Research and surveys by universities, government agencies, and the private sector will be heavily relied upon. Specifically, these will include Bureau of Census Surveys, U.S. Coast Guard boating surveys, the National Marine Fisheries Service Recreational Fishing Survey, HCRS' Trails Assessment Inventory, U.S. Travel Data Center's studies, and Forest Service surveys, studies, and research such as the National River Recreation Research Project, Dispersed Recreation Research Project, and National Camping Market Survey.

Decrease for 1982:		1982 Base	1982 Est.	Decrease
Nationwide Recreation Planning	$	338	318	-20
	(FTP)	(5)	(5)	(--)

This decrease is due to savings from combining the 1982 and 1983 Action Programs. This reduction in level of effort is made in recognition of the need for fiscal restraint despite increasing fixed costs.

Object Classification Distribution

The object class breakdown for the $20,000 decrease is as follows:

	1982 Estimate
Printing and reproduction	14,000
Supplies and materials	2,500
Equipment	2,000
Other services	1,500
Total	20,000

Justification of Program and Performance

Activity: Recreation Programs
Subactivity: Community and Human Resource Development

(Dollar amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Federal Interagency Coordination [RAM AB1]	$	649	706	665	-41
	(FTP)	(16.5)	(16.5)	(16.5)	(--)
(Common Program Services)	$	(175)	(199)	(220.6)	(+27.2)
Total Requirements	$	649	706	665	-41
	(FTP)	(16.5)	(16.5)	(16.5)	(--)

Federal Interagency Coordination

General: The Service's Federal Interagency Coordination activities, as authorized by P.L. 88-29(g), will continue to focus on areas of urban recreation concern (as defined in the National Urban Recreation Study of 1978), as well as on the more traditional areas of recreation concerns, such as conservation and State and Federal park systems. The primary purpose of HCRS' Federal Interagency Coordination services is to provide agency direction in improving the efficiency in operation and delivery of HCRS programs where they interface with recreation programs and policies of other agencies. These objectives will be met through the activities discussed below.

Authorization: Outdoor Recreation Organic Act, Public Law 88-29(g).

Objectives:

- To implement to a limited degree a Memorandum of Understanding (MOU) with the Department of Transportation to provide accessible, close-to-home transportation for citizens to visit recreation areas.

74-939 O—80——34

- To implement the FY 79 MOU with the Department of Labor, Employment and training and technical assistance workshops for local park and recreation agencies operating Comprehensive Employment and Training Act (CETA) programs. Technical information will be transferred to 2,000 communities regarding successful CETA recreation projects.

- To evaluate 2 demonstration programs begun in FY 81 with the Department of Health and Human Resources (formerly HEW) focusing on enhancing health promotion through community recreation programs.

- To implement the MOU coordinating the Department of Housing and Urban Development's Anti-Crime Program with the Urban Park and Recreation Recovery Program (UPARR).

- To continue policy analyses and program recommendations on issues which address recreation needs of special populations, such as the disabled, elderly, youth, mentally retarded and economically disadvantaged.

- To initiate policies which strengthen recreation planning in the rehabilitation of housing, parks and recreation facilities, encourage employment of neighborhood residents and stimulate historic preservation efforts in neighborhoods.

- To implement the results of the Rural and Small Community Recreation Assessment conducted in FY 80-81 -- an effort designed to improve the recreation planning and delivery systems capability of both Federal and local agencies, and thereby enhance recreation opportunities for residents of both rural and small communities. Products to be derived from the Assessment are: issuance of a Final Report to Congress in 1982; development and dissemination of technical assistance materials based on that Report; implementation of interagency cooperative activities focusing on rural areas and small communities; and completion of the rural elderly research begun in FY 81 with the Administration on Aging, in conjunction with the UPARR Program.

- To provide staff support for private sector issues as they relate to HCRS.

Base Program: We will complete initiatives begun in 1980 and 1981, and cont ue to implement interagency cooperative activities at all levels of g ernment and with the private sector as a means of extending and enha ing recreation benefits for urban residents. The National Urban Recr tion Study submitted to Congress in 1978 cited coordination of acti ties among Federal, State, local and private entities as the most efficient means of maximizing the benefits of recreation opportunities for urban residents. As such, the Federal program coordination target areas are described below:

Employment

The Service will continue activities which implement the Memorandum of Understanding with the Department of Labor, Employment and Training Administration, by providing 24 training and technical assistance workshops for local park and recreation agencies operating Comprehensive Employment and Training Act (CETA) programs. The technical assistance and training materials developed and tested in 1980 and 1981 will be used in this program to expand the knowledge of practitioners about exemplary CETA program efforts. Out of all Federal assistance programs evaluated in the National Urban Recreation study, CETA was judged to have the most profound impact on local recreation services. Technical information will be transferred to 2,000 communities regarding successful CETA recreation projects in FY 82.

The Service will review with the Employment and Training Administration 2 to 4 competitive pilot projects which demonstrate innovative labor utilization techniques in parks and recreation in cities receiving grants under the Urban Park and Recreation Recovery Program. These demonstration projects will test the effectiveness of multi-level government and private sector cooperation. The findings will be published and disseminated for use nationwide.

These activities will be primarily implemented by the Service's regional offices. Outreach efforts will focus on those cities eligible for Urban Park and Recreation Recovery Program Grants.

Rural and Small Community Recreation Assessment

The Service intends to implement recommendations for the improvement of recreation delivery systems and enhancement of recreation opportunities in rural areas and small communities in FY 82 that were identified in the Rural and Small Community Recreation Assessment conducted in FY 80-81. We will continue to coordinate recommendations and study findings on policies and action programs with related Federal agencies. We will participate in selected interagency rural community development projects which address the needs of the disadvantaged and special populations.

Significant findings and recommendations from on-going research sponsored by USDA, Farmers Home Administration, the Administration on Aging, the Administration for Native Americans, the National Trust, the National Agricultural Lands Preservation Study, HUD, DOE, DOT, academic institutions and other pertinent efforts, will be incorporated into the alternatives for action emphasized by the HCRS study. We will coordinate our recommendations and study findings with related Federal agencies, the Resource Committee and the Rural Recreation Network established during FY 80-81.

We will participate in 4 rural community development projects which emphasize capacity building and self-help skill development.

A final report will be forwarded to Congress on January 1, 1982.

Health Promotion

The Memorandum of Understanding signed in 1980 with the Department of Health and Human Services (formerly HEW), which focuses on enhancing health promotion through community recreation programs, will be implemented.

Several demonstration projects will be started in FY 81 which test and document for nationwide applicability the relationship between access to community recreational facilities/programs and physical and mental health. This program will be coordinated with the Urban Park and Recreation Recovery Program by continuing to encourage communities to compete for innovative grants. Such grants will be used to design and implement innovative means to develop health promotion strategies in local park and recreation settings.

Arts

In 1982, the Service will continue to implement the Memorandum of Understanding signed in 1979 with the National Endowment for the Arts. The MOU was designed to integrate arts and recreation programs through:

- joint planning
- promotion of the concept of shared management of arts and recreation facilities/programs
- cooperation in providing technical assistance to local recreation and arts agencies

Six demonstration projects selected in 1979 to test techniques for coordinating arts and recreation programs will be evaluated in 1981. Findings will be published and disseminated through the Park and Recreation Technical Services program and the counterpart activity in the National Endowment for the Arts in FY 82.

HUD Coordination

The Service will continue to implement the Memorandum of Understanding with the Department of Housing and Urban Development's (HUD) for the purpose of coordinating HUD's Anti-Crime Program with the Urban Park and Recreation Recovery Program (UPARR) in FY 82. This agreement ensures that the Anti-Crime Program and UPARR objectives are mutually

supportive. Public housing projects residents will be positively affected through reduced crime rates and fear of crime in contiguous recreational facilities. Public housing authorities participating in the Anti-Crime Program are encouraged to apply for UPARR grants through the city contact. We anticipate that by 1982 at least 16 cities will have benefitted from this joint effort. In addition, we will document the most successful projects and transmit this information to other eligible cities.

The Service also intends to implement a Memorandum of Understanding signed in 1980 with the Office of Neighborhoods, Voluntary Associations and Consumer Protection to coordinate our respective programs and their impact on neighborhoods. Improved coordination is particularly essential for those neighborhoods in need of supportive mechanisms to ensure their viability. The Office of Neighborhoods, HUD, and HCRS will cooperate to provide mutual assistance in policy determination, planning and project implementation regarding comprehensive strategies to integrate historic preservation, recreation and housing opportunities. As a result, in FY 82, 20 or more cities will use this coordination mechanism to address comprehensively their individual concerns (and thereby reduce duplication of effort) and to revitalize specific neighborhoods.

Administration on Aging

The Service will continue to implement in FY 82 a Memorandum of Understanding signed in 1980 that coordinates activites between the Office of Human Development of the Administration on Aging and HCRS in the administration of the UPARR Program and the conduct of the Rural and Small Community Recreation Assessment.

Cooperation between the programs of the Office of Human Development and HCRS programs will be achieved by using the existing network of the Administration on Aging's 600 local organizations to transfer information about the UPARR Program. This is in accordance with the recommendations of Congress in the FY 1980 budget to give priority to elderly and handicapped projects for innovative UPARR grants. We will also hold a meeting of involved local persons and Federal agencies to gain knowledge of the state of art in recreation for the elderly. The meeting is designed to assist HCRS in selecting the best and most innovative projects to be funded under the UPARR program.

The Service intends to hold 5 technical assistance meetings in Washington and the regions to gain a better understanding of the recreation needs and concerns of the non-working elderly. These meetings will produce recommendations for expanded recreation programs for the physical and mental well being of the elderly. At the same time, the existing network of elderly, identified by the Administration on Aging, will be used to research the recreation needs of those living in rural and small communities.

Special Populations

Activities on issues relating to disabled persons which were begun by the Service in FY 1979, 1980 and 1981 will be continued in 1982. Specifically, we will continue to initiate policies and programs which address recreation needs of special populations such as the disabled, elderly, youth, mentally retarded and economically disadvantaged.

By FY 1981, the Department's Section 504 Regulations of the Rehabilitation Act of 1973 will be promulgated and the associated guidelines will have been issued. In both instances we will be working closely with the Department's Office of Equal Opportunity to insure that the needs of HCRS' constituency are reflected in these documents.

To insure that HCRS' grant recipients understand the requirements necessary to achieve compliance with the 504 regulations, the Service will provide assistance by planning and coordinating 4 workshops in the regions. In addition, we will hold 2 meetings, either in Washington or in the regions, to transfer information on short and long term cost-effective measures to achieve accessibility of outdoor and indoor recreation facilities.

The Service will continue its involvement in the Department's Human Access Committee as it focuses on issues relating to special populations in 1982.

Urban Forestry

The Service will continue to implement a Memorandum of Understanding with the U.S. Forest Service to cooperate in developing and enhancing outdoor recreation opportunities. This joint effort will continue to tranfer research, statistics and other information gathered by the two agencies. As in FY 1981, the Division of Community and Human Resource Development will continue to act as the Service's reference point for Urban Forestry program coordination. Although the Forest Service operates the Urban Forestry program, other agencies such as HCRS function as program facilitators in order to maximize the outreach and impact of this effort. In conjunction with the Forest Service, HCRS will offer limited informational assistance to cities and private non-profit organizations interested in beginning or amplifying urban forestry projects.

Special Projects

The Service and the Department of the Interior Office of Policy Analysis entered into an agreement signed in FY 1980 (based on a 1979 agreement) with the State of Massachusettes and the Appalachian Mountain Club to explore the value and ramifications of non-profit organizations

providing public recreational services on a contractual basis for a State or local government. Three to five demonstration projects will be undertaken including park management, trail development and interpretive services. At the mid-point of the two-year project a forum was held to assess progress and to fine tune the evaluation plan. In 1982, at the completion of the project, the Service will publish and disseminate an evaluation of the nationwide applicability of the results of the project, hold an outreach conference, and provide detailed technical assistance to interested parties.

Private Sector

We will obtain agreements from 5 groups--including non-profit volunteer organizations, foundations, national associations, and private for-profit organizations--to dedicate funds and other resources for the improvement of local community recreation services. In 1979, the Service was instrumental in assisting the J.C. Penney Company help local communities meet their citizens' recreation needs by providing Parcours fitness trail equipment. We believe an unlimited number of opportunities exist for combining the expertise and resources of local park and recreation agencies with private for-profit or non-profit organizations to improve public recreation opportunities.

Transportation

In 1981 we will seek a cooperative agreement with the Department of Transportation specifically to explore the potential for legislative and administrative changes to enhance planning for recreation travel and access by the elderly and handicapped at the state and local levels; to undertake some joint demonstration projects; and to determine methods of creating usable open space through mass transit system design. In FY 82 we plan limited implementation of the agreement.

Decrease for 1982:		1982 Base	1982 Est.	Decrease
Federal Interagency Coordination	$	706	665	-41
	(FTP)	(16.5)	(16.5)	(--)

Level of effort in this subactivity has been reduced in a budget year of fiscal restraint and increasing fixed costs. This decrease will eliminate planned development and implementation of memorandums of agreement between HCRS and the Community Services Administration. It will also reduce the number of rural demonstration projects and private sector agreements.

One thousand dollars of this decrease is part of a $25,000 decrease in administrative travel from the Salaries and Expenses account. This is part of the governmentwide effort to reduce such travel.

Object Classification Distribution

The object class breakdown for the $41,000 decrease is as follows:

	1982 Estimate
Travel and Transportation of persons	$ 5,000
Printing and reproduction	5,000
Supplies and materials	500
Equipment	500
Other Services	30,000
Total	$ 41,000

Justification of Program and Performance

Activity: Recreation Programs
Subactivity: Water Resources

(Dollar amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Urban Waterfronts	$	300	326	326	--
(RAM AC1)	(FTP)	(3)	(3)	(3)	(--)
Coastal Zone Management	$	93	101	101	--
(RAM AC2)	(FTP)	(3)	(3)	(3)	(--)
Clean Water Studies	$	279	304	264	(-40)
(RAM AC3)	(FTP)	(6)	(6)	(6)	(--)
Recreation at Hydroelectric Plants	$	86	94	94	--
(RAM AC4)	(FTP)	(--)	(--)	(--)	(--)
Report and Water Project Review	$	148	161	160	-1
(RAM AC5)	(FTP)	(6)	(6)	(6)	(--)
(Common Program Services)	$	(244)	(278)	(313)	(+35)
Total Requirements	$	906	986	945	-41
	(FTP)	(18)	(18)	(18)	(--)

Water Resources

General: The Water Resources subactivity insures that water resource plans and projects get maximum benefit from all grant and technical assistance programs which support recreation and cultural preservation. Yearly expenditures of more than $10 billion by the Federal Government on water resource development provide opportunities for meeting public recreation and

open space needs. To make sure that these opportunities are taken advantage of, the Service's water resources program utilizes knowledge about State, regional and local community recreation and open space needs associated with water related recreation. This includes assistance to states and communities contemplating or completing urban waterfront revitilization, provision of needed recreation facilities at non-Federal hydroelectric projects, floodplain management through non-structural uses and development, and provision for access to water made swimmable and fishable under water quality progams.

The Service works closely with Federal agencies, States, and local communities and the private sector; its special water resource expertise prevents costly duplication and builds in cost-effective approaches to recreation development early in decision processes.

Urban Waterfronts

Authorization: Outdoor Recreation Organic Act (P.L. 88-29)

Objectives:

- To provide a central point of focus within the Service for formulation of the recreation component of urban waterfront planning and development so that resulting public benefits fulfill local needs and are cost-effective.

- To assure that adequate and appropriate consideration has been given to recreation and cultural resources in urban waterfront development proposals.

- To help Federal, State and local agencies and the private sector shape proposals and programs for the conservation, development and use of water and related land resources so that recreation and cultural preservation opportunities may be fully implemented.

Base Program: Section 12 of P.L. 94-422 and Sec. 5d of P.L. 94-586, plus stated goals of the President's water resources and urban policies, define the Service's recreation and heritage role in urban waterfront renewal. Many urban communities are now realizing the recreation and heritage values of neglected, depressed waterfront areas. These communities are looking for assistance from public agencies as well as traditional private enterprise. The Service has responded by providing technical assistance and/or funding to over 100 communities.

The Service's 1979 study of urban waterfronts has formed the basis for a planning assistance progam which has benefitted hundreds of local and State officials who are planning and developing waterfronts. A range of material adapted to the needs of local communities is available. Waterfront projects of various sizes and differing complexity can now be helped in cost-effective ways. Publications and audio-visual material are available; individual inquiries about projects can be answered; and large-scale workshops which

reach hundreds of local planners will be held.
The Urban Waterfront Action Group, an interagency team of representatives of 18 Federal agencies and four national private sector groups, helps cities throughout the country to complete revitalization projects. Activities in FY 82 will include the expansion of linkages among these agencies. In the first year of its existence (FY 1980) this group succeeded in moving projects which had become bogged down in permitting and funding problems. Coordination among grant and assistance programs has advanced meritorious projects. The Service's heritage and recreation functions are fundamental to a large number of waterfront projects.

Activities in FY 82 will include development of information and guidance materials; working with other agencies in the Urban Waterfront Action Group; conducting training workshops for local waterfront project sponsors; and formation of travelling teams to assist on-going projects. Information clearing centers will be established to provide information on project planning and development. Planning assistance will address grant coordination, private sector support and optimal planning and development techniques. This activity will result in development of linkages which foster funding, assistance and interagency efforts at all levels of government.

- One example of such assistance is development of the Maritime Heritage Center in Bellingham, Washington. The project included the adaptive reuse of an abandoned sewage treatment plant located on the Whatcom River. The site was converted into an educational center focusing on Maritime and city history, salmon propagation and sport fishing as well as a city park providing water access, trails , a tot lot and green space. HCRS provided $599,000 through the Urban Park and Recreation Recovery Program toward the project. Joint interest and leadership by agencies at the Federal, State and local levels facilitated this project.

Additional examples of the unlocking of Federal funding programs through Urban Waterfront project leadership are:

- An $800,000 Land and Water Conservation Fund grant helped the city of Detroit acquire and develop property for Riverside Park. The land was purchased at "bargain sale" rates, and the development of an extension to the Park is now part of an extensive plan for recreation and greenway development for major portions of the long-neglected city waterfront. Many grant and permitting programs are involved. A concentrated effort to coordinate on the Federal, State, and local levels has moved this project along.

- The city of Toledo used Land and Water Conservation Fund grants to acquire land for International Park and other recreation areas on the Maumee River. This waterfront development, combined with federally supported housing from the Department of Housing and Urban Development and a Coastal Zone Management (Department of Commerce) planning grant, contributed to the transformation of a blighted stretch of riverfront into an important feature of the city's economic and social life.

- The Dowd playfield and park project in Elizabeth, N. J. was assisted by HCRS. The project included renovation of a wharf for recreation including waterfront observation, fishing and crabbing, rehabilitation of playground equipment, and a passive recreation area near the water, including lighting and landscaping. The project was assisted by a $257,000 grant from the Urban Park and Recreation Recovery Program.

Coastal Zone Management

Authorization: Outdoor Recreation Organic Act (P.L. 88-29)

Objectives:

- To provide a central point of focus within the Service for formulation of the recreation component of coastal zone planning and development so that resulting public benefits fulfill local needs and are cost-effective.

- To help Federal, State and local agencies and the private sector shape proposals and programs for the conservation, development and use of coastal resources so that recreation and cultural preservation opportunities may be fully realized.

Base Program: The Coastal Zone Management Act (P.L. 92-583) requires coastal States to designate and develop specific areas for conservation, recreation and aesthetic values, and authorizes acquisition of lands for access to public beaches.

The Memorandum of Understanding between the Service and Office of Coastal Zone Management (OCZM) has resulted in the development of guidelines for the 27 States that will have completed their CZM programs by the start of FY 1982. During FY 1982, the Service and OCZM will coordinate assistance to these States regarding specific plans.

To assist local communities to complete their Local Coastal Zone Programs, the Service has formed regional Coastal Action Groups which will provide a one-step mechanism for review, evaluation, identification and selection of coastal recreation projects and assist project sponsors to develop funding strategies.

The joint program of technical assistance as well as the funding programs of the two agencies are targeted at projects which grow out of the State coastal plan.

Among examples of the joint effort are:

- San Francisco is proposing a major renovation of its northeastern waterfront, adjacent to the financial district and the most urbanized section of the city. It has approved a complex and comprehensive plan for restoring access to the Bay and recycling some of the underutilized piers along 7.5 miles of shoreline to provide fishing piers, bicycle paths,

benches and walkways. Funding for the project is proposed to come from a variety of sources including Land and Water Conservation Fund grants. The Service has participated in the planning and review of the project and will continue to assist in coordinating the various Federal funding sources, including funding under the Office of Coastal Zone Management programs.

- As a result of an HCRS sponsored conference and followup assistance, Jacksonville, Florida recently applied for a $2.25 million grant from the Secretary's contingency fund and from the State's regular apportionment of the Land and Water Conservation Fund for a coastal waterfront park. The grant will fund a 2-year project which calls for a promenade and open space area, plus a playground area and facilities for the arts and crafts funded by the private sector. The private sector will also fund the park's annual operation and maintenance costs through the establishment of a multi-million dollar trust fund.

In FY 1982, the Service will provide coordination on 10 public access projects, conduct joint workshops on recreation in the coastal zone and participate in 5 demonstration projects as part of the implementation of the Memorandum of Understanding with the OCZM. Funding for the planning of these projects is expected to come from the latter source.

Clean Water Studies

Authorization: Outdoor Recreation Organic Act (P.L. 88-29)

Objectives:

- To provide a central point of focus within the Service for formulation of the recreation component of clean water planning and development efforts so that resulting public benefits fulfill local needs and are cost-effective.

- To assure that adequate and appropriate consideration is given to recreation and cultural resources in clean water development proposals.
- To help Federal, State and local agencies and the private sector shape proposals and programs for the conservation, development and use of water and related land resources so that recreation and cultural preservation opportunities may be fully implemented.

Base Program: The Clean Water Act (P.L. 95-217) sets national water quality goals for 1983. It specifically requires consideration of recreation and open space opportunities by local agencies receiving 201 (wastewater treatment facilities) and 208 (areawide water quality management planning) funding. It sets as a prime goal the provision of public access to waters that will be made both fishable and swimmable between now and 1983. Public expenditures of $4 billion a year for this purpose are providing opportunities for public recreation benefits when proper consideration is given at various planning and construction stages. For instance:

- The city of Miamisburg, Ohio converted an abandoned sewage treatment plant into a neighborhood park. Some of the existing structures were included in the plan, i.e., a playground was developed on the mound which contained the digester; the aero-clarifier became a splash pool and roller skating area; sludge beds were filled in and paved for tennis, basketball, and volleyball courts; and the administration building was used for indoor recreation.

- The 26th Ward Wastewater Treatment Plant in New York City shares its sludge loading pier with area fishermen. The plant serves as an educational center as well and hosts tour groups frequently.

- A 13-mile footpath known as Towpath Trail is located along the right-of-way of a regional interceptor which parallels the historic Morris Canal and the Rockaway River in Morris County, New Jersey.

- A pump station on the shore of Lake George, New York, serves as the base of a landscaped observation deck.

Such innovative multiple uses are increasing as State and local agencies become aware of the recreation opportunities that can be provided through the water quality management planning and wastewater treatment facility planning processes.

To make the most of public expenditures, the Memorandum of Understanding between the Department of the Interior and the Environmental Protection Agency provides for an integrated program approach (clean water and recreation) for achieving public benefits. The Service informs State and local agencies on maximizing opportunities for recreation and open space in connection with clean water programs through review of areawide plans and selected wastewater treatment facility plans. Training aids in the form of handbooks and slide shows have been developed. Additional technical training materials in the form of design facts and ideas for implementation of multiple use projects at 201 sites will be prepared. In FY 1982, the Service will provide technical assistance to 35 communities in planning and implementing 201 wastewater treatment facilities and Clean Lakes projects and jointly conduct 4 training workshops with the Environmental Protection Agency to assist State and local recreation and water quality planners.

Recreation at Hydroelectric Plants

Authorization: Outdoor Recreation Organic Act (P.L. 88-29)

Objectives:

- To provide a central point of focus within the Service for formulation of the recreation component of water resource planning and development at hydroelectric plants so that resulting public benefits fulfill local needs and are cost-effective.

- To help Federal, State and local agencies and the private sector shape proposals and programs for the conservation, development and use of water and related land resources so that recreation and cultural preservation opportunities may be fully implemented.

Base Program: Order 511, issued by the Federal Energy Regulatory Commission (FERC) in July 1974, requires applicants for hydroelectric plant licenses to consult with the Service in the preparation of project recreation plans. Since 1963, FERC has required the development of these plans. The Service has assisted in this effort since 1965. HCRS efforts have often resulted in expediting Federal licensing of hydroelectric projects through elimination of the need for supplemental or amended filings for license.

One indication of the new interest in hydroelectric development can be gleaned from a preliminary study of existing dams in the New England region conducted under P.L. 95-199. This study found almost 2,000 existing dams with sufficient power-generating potential to merit further study. Subsequent evaluations found almost 200 dams to be economically attractive for hydropower development. Similar opportunities exist in other regions.

The Service will provide planning assistance to 40 utilities in FY 1982. Recreation plans will be coordinated with concerned Federal, State and local agencies to realize the full recreational potential of the project and to identify opportunities for establishment of recreation areas to be managed by these agencies. We also provide data on methods of acquiring and maintaining lands around the periphery of reservoirs and techniques for identifying cultural resources. Emphasis in FY 1982 under this activity will also be in the continued development of handbooks and other planning assistance materials.

Signficant recreation opportunities have been realized through recreation planning at hydroelectric projects, including:

- Washington Water Power is developing a recreation plan for its Port Fall, Spokane River Project on Lake Coeur d'Alene (FERC Project No. 2545). The Service has met and worked with the utility on their proposal to redevelop a local park to include recreation facilities on the lake, including other water access.

- An Alabama Power Company project on the Tallapoosa River in Alabama will result in a 122-mile shoreline for public use on a 10,660 acre reservoir. The company has developed a conceptual recreation plan designating 5,866 acres of land for public recreation use, including the preservation of the scenic body of the reservoir by maintenance of a buffer strip. The Service provided planning assistance for the recreation development.

Report and Water Project Review

Authorization: Outdoor Recreation Organic Act (P.L. 88-29); National Environmental Policy Act of 1969 (P.L. 91-190); and Federal-Aid Highway Act of 1976 (P.L. 94-280 (Section 147)).

Objectives:

- To assure that adequate and appropriate consideration is given to recreation and cultural resources in Federal water development proposals.
- To help Federal, State and local agencies and the private sector shape proposals and programs for the conservation, development and use of water and related land resources so that recreation and cultural preservation opportunities may be fully realized.

Base Program: The Service reviews reports and river basin plans of governmental agencies and reports by the private sector on water resource development proposals which require a Federal action, permit or license. The purpose of our review is to determine whether consideration has been given to recreation aspects of the plans, related environmental values, and the realization of the recreation potential of projects.

Applications for Corps of Engineers permits for dredging, filling, excavation, or other related work in navigable waters are reviewed by the Service. Substantive comments are provided on selected permit applications where it is believed significant recreational and environmental values would be adversely affected.

The private sector provides significant public recreation opportunities in connection with the development and operation of federally licensed hydroelectric plants. The Service reviews applications for licenses and recommends measures to the Federal regulatory agency for inclusion in licenses to make recreation resources available for public use and to coordinate private sector and governmental recreation programs.
The Service reviews environmental impact statements on proposed water resource developments and license and permit actions pursuant to the National Environmental Policy Act of 1969 (P.L. 91-190). The objectives are to assure that proper consideration has been given to recreational resources and related environmental values and to feasible alternatives which would avoid adverse impacts.

The Memorandum of Understanding between the Service and the Federal Highway Administration provides guidelines for developing energy-efficient close-to-home access to our Nation's waterways for recreation. The guidelines, as called for in Section 147 of the Federal-aid Highway Act of 1976 (P.L. 94-280), provide for the use of Federal-aid highway funds to build access ramps from bridges under construction or reconstruction to public boat launching areas, with local agencies managing the recreation facility. The Service will review bridge construction and reconstruction projects and plans for opportunities for access ramp development.

About 900 water development proposals and environmental impact statements will be reviewed during FY 1982.

Decrease for 1982:		FY 82 Base	FY 82 Est.	Decrease
Clean Water Studies	$	304	264	-40
	(FTP)	(6)	(6)	(--)

Level of effort has been reduced in a budget year of fiscal restraint and increasing fixed costs. This decrease will reduce technical assistance to communities on development of recreation at EPA water treatment facilities and Clean Lakes Projects. It will also reduce the number of State workshops.

Report and Water Project Review	$	161	160	-1
	(FTP)	(6)	(6)	(--)

This is part of $25,000 decrease in administrative travel from the Salaries and Expenses account, as part of the governmentwide effort to reduce such travel.

74-939 O—80——35

Object Classification Distribution

The object class breakdown for the $41,000 decrease is as follows:

	1982 Estimate
Travel and transportation of persons	6,000
Printing and reproduction	5,000
Supplies and materials	3,000
Equipment	1,000
Other services	26,000
Total	41,000

Justification of Program and Performance

Activity: Recreation Programs
Subactivity: Park and Recreation Technical Services

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Park and Recreation Technical Services	$	3,421	3,724	3,643	-81
(RAM AD1)	(FTP)	(88)	(88)	(88)	--
(Common Program Services)	$	(921)	(1,049)	(1,208.7)	(+159.7)
Total Requirements	$	3,421	3,724	3,643	-81
	(FTP)	(88)	(88)	(88)	(--)

Park and Recreation Technical Services

Authorization: Outdoor Recreation Organic Act, Public Law 88-29; Park, Pathway and Recreational National Area Study Act (49 Stat. 1894); Intergovernmental Cooperation Act (82 Stat. 1098); National Environmental Policy Act (83 Stat. 1909); Intergovernmental Personnel Act (84 Stat. 1909).

Objectives:

- To assist State and local governments and not-for-profit organizations in implementing policies and plans that increase recreational opportunities and maintain high quality recreational service. A focus for 1982 will be on assisting State recreation advisory agencies build capability to serve local and private recreation agencies.

- To train, inform, and advise practitioners in the park and recreation field about energy cost containment, environmental design, management methods, private sector involvement techniques, and the use of less-than-fee and other-than-fee methods for land acquisition. A focus for 1982 will be on evaluating and refining the PARTS inventory of products to ensure they meet the most pressing needs of public officials and park and recreation practitioners.

- To demonstrate the applicability of methods, techniques and approaches for dealing with current recreation issues, problems and opportunities. FY 1982 will focus on developing expertise in building of local capacity and cost cutting strategies and full participation of the private sector, defined as needed in the FY 1981 program.

- To ensure the continued exchange of technical information among practitioners in the park and recreation field by identifying, maintaining, exchanging, retrieving, and disseminating practitioner-oriented information. FY 1982 will focus on extending the access of information on PARTS automated data bases to include more material on how agencies have developed their own capabilities.

- To develop recreation technical assistance materials, capacities, and demonstration approaches that are targeted to deficiencies, problems and opportunities identified in HCRS' Rural Recreation Study and the Administration's Rural Policy and that emphasize self-help and capacity building as well as issues identified in the Nationwide Recreation Planning process.

Base Program: The HCRS Park and Recreation Technical Services program responds to the expressed needs of State and local officials and parks and recreation professionals. Basic to the program design is linking the practitioner with the best work of public and private agencies and building capacity at the State and local level to assist others and thus leverage and multiply the effect of the program. HCRS performs three roles in the program - developer of technical information, demonstrator of working tools and concepts, and deliverer of technical materials and assistance.

Role #1:

Developer: The Park and Recreation Technical Services program focuses its development efforts in five substantive areas: Park and Recreation Management, Private Sector Involvement, Land Conservation and Preservation Techniques, Environmental Design for Recreation, and Energy Conservation. These themes of the Park and Recreation Technical Services program are the result of a conscious effort to identify practitioner needs, build links between organizations and programs, and develop transferable tools and concepts.

1. Park and Recreation Management. With increasing frequency and urgency, park and recreation practitioners are seeking new and improved management tools and techniques related to close-to-home recreation opportunities, operational and maintenance improvements, cost reductions and improved revenue generation programs. The objectives of this activity are to develop technical information and training packages addressing:

   revenue enhancement and cost cutting strategies;

public participation strategies and techniques for planning, evaluation, and delivery of recreation services and resources;

marketing, performance measurement, and tort liability; and

case studies and models of effective management or operations systems and practices.

Examples of assistance tools completed to date include:

Fees and Charges Handbook which provides a methodology for determining the feasibility and equitability of fees and charges;

Contract Services Handbook, an award-winning publication, which serves as a guide to the benefits and risks of internal operations versus the use of contracting as a strategy; and

Lighting Ballfields more Effectively which offers a case study (Chandler, Arizona) of lighting of two multi-purpose ballfields with high pressure sodium lights.

2. Private Sector Involvement. One of the challenges of park and recreation agencies in the 1980's is stretching limited dollars and human resources by forming partnerships with the private sector. Projects in this area focus on developing mechanisms that increase the effectiveness of private sector involvement in the local delivery of park and recreation services. The objectives of this activity are to identify and foster:

private sector partnerships in park and recreation operation;

successful private sector involvement techniques;

neighborhood and community self-sufficiency; and involvement mechanisms in the context of Federal, State, regional and local programs.

Examples of assistance tools completed to date include:

Gift Catalog Handbook which provides a step-by-step guide for organizing and marketing fund-raising, dollar-stretching needs;

Fundraising which serves as a guide on how to organize a successful recreation fundraising campaign;

Foundations Handbook which describes the advantages of using nonprofit, tax-exempt corporations to develop and support recreation and open space projects; and

Citizens Action Manual which is a how-to guide on acquiring, developing and maintaining small-scale open spaces.

3. Land Conservation and Preservation Techniques: Interest in the use of alternatives to fee-simple acquisition and other land protection/acquisition techniques has been increasing in response to budget constraints, land price escalation, and concerns about tax and economic bases. Park and recreation practitioners are recognizing the importance of such alternatives as zoning, easements, mandatory dedication, and cooperative arrangements and are now seeking a better understanding of how and when these techniques should be used. The goals of this activity are to develop technical information and training packages addressing:

   other-than-fee land acquisition techniques for identifying land resources in need of protection, and analyzing available conservation methods, including zoning and other public regulatory powers;

   less-than-fee-simple-title acquisition techniques for selection of partial interest approaches for protection of land resources and evaluation of whether a partial interest is adequate;

   less-than-fair-market-value acquisition techniques for obtaining interests in land at the least possible cost through the use of tax incentives, negotiation strategies, innovative financing and other means;

   conservation systems for management of less-than-fee programs after acquisition, including: administration of zoning or other regulatory systems, systematic integration of various land conservation techniques in one area or jurisdiction, use of cooperative management agreements or leaseback systems to allow compatible uses and lower costs.

   Examples of assistance tools completed to date include:

   Land Conservation and Preservation Techniques Handbook which explores alternatives to traditional approaches of direct public funding for land acquisition; and

   Other Than Fee and Tax Donations Training which addresses other-than-fee land acquisition strategies and tax incentives for donations.

4. Environmental Design for Recreation: HCRS is responsible for providing hundreds of millions of dollars in grants every year for the development and rehabilitation of park and recreation facilities. It is, therefore, of major importance to promote designs that combine quality and efficiency.

   Recognizing that there is no set formula for the design of park and recreation sites, the goals of this activity are to develop information resources on practical and innovative solutions to design problems while addressing:

the promotion of good quality design;

appropriate and responsive design processes; and

practical and innovative tools and techniques for achieving good design.

The following assistance tools are in the conceptual state of development and will be completed by 1982:

Environmental Design Notes will be a series of short descriptions of processes and innovative techniques for achieving good design; and

Recreation Design Guidebook will be a topical guidebook including integration of natural and urban environments, the design process and relationship between client and designer, innovations in design for play areas, streets for people, use of materials, basic construction methods, etc.

5. Energy Conservation: The impact of energy scarcity over the past years needs no futher explanation. In particular response to energy impacts in the park and recreation area, it is the purpose of this activity to encourage the conservation of energy resources in the planning, design, operation and maintenance of park and recreation faciliies. The goals of this activity are to:

locate and share the best available information on energy conservation innovations, design concepts, funding sources, etc.;

encourage joint funding of energy conservation projects at the State and local levels;

encourage energy conservation demonstration projects in State and local parks to serve as models for others; and

foster public education and involvement through the park and recreation setting by use of interpretative and environmental education techniques and programs.

Efforts in this area are largely devlopmental to date. They include:

a contract with the University of Michigan to develop an energy conservation training package for park and recreation practitioners;

a publication to explain the various outdoor lighting media available for park and recreation situations including cost, longevity and energy consumption comparisons.

a publication providing a case study of the Shenandoah Recreation Center Solar Energy Project (Georgia).

Role #2:

Demonstrator. Demonstration projects are used to illustrate techniques, concepts, and skills for dealing with current recreation issues. Projects are selected from many candidates on the basis of their ability to illustrate significant opportunities for recreation practitioners. HCRS' role is primarily as a convener of people, organizations and resources in order to solve some pressing problem while providing an example for use by others. Some past and current projects are:

In Houston, Texas, the service entered into a partnership with Harris County, the city, and the state of Texas to develop for the first time in the city's history, a comprehensive approach to recreation and neighborhood preservation. A strong neighborhood outreach program is well underway; $16 million in lands and other donations have been received; a major bond issue was passed; and the commitment by both private and public sectors to provide close-to-home urban recreation opportunities is leading to a parks master plan and public policy changes. 'Give A Park to Houston Month,' itself, resulted in the donation of $15,200,000 and 1353 acres of parkland to the city.

In Colorado, Utah, Wyoming, North Dakota and South Dakota, 20 energy impacted communities were assisted in exploring ways to provide recreation services in the face of rapid growth.

In Portland, Oregon, the service is helping to develop and implement a park user plan that is based on low energy access through bus/bike/walking transportation approaches. The effort should provide an example for use by other localities in meeting both the pressures of increased demand for close-to-home recreation and energy conservation.

In the Seattle-Tacoma-Everett metropolitan area of Washington State, the service is sponsoring a project to collect data on accessibility to public recreation areas by disabled persons. The project has served as an impetus for an effort by the city of Seattle to renovate facilities in 34 park and recreation areas to make them more accessible to the disabled, using Urban Park and Recreation Recovery Program grant funds. The service has received two awards from the city of Seattle for its sponsorship of this recreation access project.

In Denver, Colorado, the service has begun a project with the Trust for Public Land to explore the concept of neighborhood self-help in acquiring and developing recreation areas without the use of public funds. Aspects being tested include the formation of nonprofit, tax exempt groups for the acquisition of land or property not being used to its full potential. To date over $250,000 in non-public funds and loans have been made available to help the inner city Denver residents. This work follows previous efforts that resulted in

publishing the Citizen's Action Manual. The service is in the process of expanding this project to locations throughout the Nation in order to assist local governments develop their own capability for encouraging and supporting citizens' efforts to establish neighborhood run park and recreation sites.

In New Orleans a partnership is being initiated with the city, the State Office of Program Development and HCRS for the implementation and coordination of rural and small community recreation development policy goals on the Red River Waterway project.

Role #3:

Deliverer. In order to transfer proven ideas, concepts and practices to the practitioner, the Park and Recreation Technical Services program has developed varied dissemination systems and techniques. Built on the premise of updating through user feedback, the information assistance, training, and consultation activities offered by the program provide the user with the best available tools to choose from.

It is through these mechanisms that the information developed on Park and Recreation Management, Private Sector Involvement, Land Conservation and Preservation Techniques, Environmental Design for Recreation and Energy Conservation are transferred.

1. Information Assistance: The HCRS Information Exchange is the foundation of the information dissemination networks. The Exchange transfers information on ideas, skills, techniques, and approaches for dealing with problems and opportunities in recreation, natural conservation and cultural preservation. It does this by registering interested practitioners for membership (current membership: 7884) and by providing members with information on new issues, techniques, and training opportunities, through the publication NOTIFICATIONS. Data bases contain summary information on key materials and innovative projects. Members, in turn, contribute to this process by proposing and donating useful materials, relaying information on future training opportunities, nominating exemplary projects, and generally sharing their experiences. More than 100,000 informational items have been exchanged among members.

SHARE is a computer-based system containing descriptions of innovative, exemplary, or otherwise special activities. It is designed to complement the NOTIFICATIONS data base, which contains information on written materials, films, etc., by providing actual examples of methods, approaches and procedures.

Park Practice, a cooperative publication effort with the National Recreation and Park Association, consists of three publications - Trends, Grist, and Design. Trends is a quarterly publication of general interest topics in park

and recreation management and programming; Grist is a bi-monthly publication on practical solutions to everyday problems in park and recreation operations; and Design is a quarterly compendium of plans for park and recreation structures.

2. Training and Consultation: The Service offers a variety of self-help ideas for mayors, councils, park and recreation department managers and technical staff, and nonprofit recreation officials.

Informal workshops and consultations are presented on issues such as how to use the private sector to meet public recreation goals, how to use volunteers in lieu of paid staff, how to organize self-help and community action, how to apply land conservation and preservation techniques,and other subjects that can improve productivity.

The payoffs of this program have been enormous--not only have many millions of dollars in donations and cost savings been put to park and recreation use, but also a wide range of community resources have been brought together to bear upon common problems.

Formal training is provided nationwide. The activity uses professionals with practical experience from HCRS, other Federal, State or local government agencies, and the private sector. Courses include such subjects as law enforcement, maintenance, interpretation, management and operations, historic preservation, etc. This program provides to the park and recreation community consultation on training needs, specialized curriculum development, and assistance in securing appropriate instructional expertise.

3. Special consultations: Consultations are provided by the Service to meet specific needs of individual State, municipal and private recreation systems. Such efforts range from helping jurisidictions assess the appropriateness of applying for Federal grants to considering management options, such as contract services, fees and charges, volunteer services, and developing land conservation approaches. Examples of achievements resulting from these special consultations, showing the impact of HCRS technical assistance involvement, are:

St. Paul, Minnesota, received significant benefits for its park and recreation areas as a result of participation by HCRS staff on the St. Paul Negotiated Investment Strategy, including the donation of a $2,000,000, 1100-acre park preserve area, designation of an outstanding UPARR project, and a variety of other benefits.

Fishing, canoeing, and hunting opportunities in Jackson, Michigan were enhanced through assistance related to the rehabilitation of lagoons and an adjacent clubhouse in one of its parks.

Park management and resource allocation problems in Atchison, Kansas were addressed and solutions found using volunteers and a small investment of HCRS Staff time.

Watrous, New Mexico , was able to rehabilitate a school into a community recreation center and develop an adjacent park.

A waterfront park and other recreation facilities will be the result of efforts in Tacoma, Washington to incorporate a recreation component in the historic district plan for that city. A funding strategy for these facilities using private as well as other sources is currently being developed.

The First National Bank of Denver used the restoration of the South Platte River in conjunction with a marketing campaign. The bank sought to generate deposits by offering, as a premium, to plant a tree for every $200 or more deposited in a new or existing savings account. Over $22,000 worth of trees and landscaping was contributed as a result of this project.

The J.S. Alberici Company donated 93 acres of land, valued at $76,000, along the Lower Meramac River in Missouri to Saint Louis County for use as a country park.

Vancouver, Washington, is creating a "instant" park from former Federal surplus property, retained Federal land and privately owned land.

Energy corporations are assisting energy-impacted communities in supplying outdoor recreation opportunities in Colstrip, Montana; Tickaboo, Utah; and Hanna, Wyoming.

Decrease for 1982:		1982 Base	1982 Est.	Decrease
Park and Recreation Technical Services	$	3,724	3,643	-81
	(FTP)	(88)	(88)	(--)

$75,000 of this decrease will be applied to reduce on-site consultations with States, local governments, and private enterprise. Level of effort has been decreased in a budget year of fiscal restraint and increased fixed costs. $6,000 of this decrease is a portion of a $25,000 reduction in administrative travel from the Salaries and Expenses Account, as part of the governmentwide effort to reduce such travel.

Object Class Distribution

The object class breakdown for the $81,000 decrease is as follows:

	1982 Estimate
Travel and transportation of persons	$ 11,000
Printing and reproduction	4,000
Supplies and materials	3,000
Equipment	2,000
Other Services	61,000
Total	$ 81,000

Justification of Program and Performance

Activity: Natural Programs
Subactivity: Resource Area Designation

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Rivers System	$	1,411	1,536	1,543	+7
[RAM AE1]	(FTP)	(40)	(40)	(40)	(--)
Trails System	$	399	434	434	--
[RAM AE2]	(FTP)	(15)	(15)	(15)	(--)
Special Designated Studies	$	122	133	--	-133
[RAM AE3]	(FTP)	(3)	(3)	(--)	(-3)
(Common Program Services)	$	(520)	(592)	(656)	(+64)
Total Requirements	$	1,932	2,103	1,977	-126
	(FTP)	(58)	(58)	(55)	(-3)

General

The Resource Area Designation program involves a comprehensive approach to natural resource system planning and policy development. The program is concerned with quantitative and qualitative assessments of Natural resources and systems of resources, establishment of criteria and guidelines for recreation resource systems planning, and recommending action which will both assure the availability of the resources in question for recreation purposes, and protect and conserve them. Two specific systems are addressed in the FY 1982 Resource Area Designation program: Wild, Scenic and Recreation Rivers; and National Scenic, Historic and Recreational Trails.

Rivers System

Authorization: Outdoor Recreation Organic Act, Public Law 88-29; Wild and Scenic Rivers Act, P.L. 90-542, as amended.

Objective: Except for the field study and management of Congressionally designated rivers, HCRS is the lead Federal agency for the development of policy and program recommendations for Wild, Scenic and Recreation River Conservation through Federal, State, local and private action.

The major program objective is to take the lead in proposing reforms in related policies and programs to:

- Recognize the significance of river corridors as concentrations of natural, historic, and recreation resources;
- Realize the vast recreation benefits that are possible as a result of public investment in the clean up of the nation's rivers;
- Meet the need for close-to-home, water-based recreation;
- Reduce the need for direct Federal acquisition, ownership, and management of rivers by assisting State, local, corporate, and private entities in assuming primary responsibility for river conservation.
- Assure the maintenance of private ownership and private sector shoreline development to the maximum extent possible;
- Maintain a balance between river corridor development and conservation of natural values;
- Assure adequate public access to the nation's rivers and their resources.

Base Program: The HCRS rivers program is concerned with assessing river conservation programs and needs and developing appropriate responses to issues raised by the Administration, Congress, and the public.

For example, a 1978 report to the Congress by the General Accounting Office found that by 1984 the American people will have spent an estimated $248 billion to restore our nation's waters to swimmable and fishable quality. Another report by GAO concluded that the process for studying and adding rivers to the national wild and scenic rivers system is too slow and too costly.

HCRS went further than the GAO reports by calling attention to these addtional major problems:

1) There are no policies to assure that the taxpayers will receive adequate recreation benefits from the billions they are paying to restore rivers to swimmable and fishable quality;

2) The expectation of Congress that State and local administered components would be a major part of the National Wild and Scenic Rivers System is not being realized;

3) Relatively few rivers near urban centers have been added to the system; and

4) Better alternatives to full acquisition and federal management are needed.

HCRS has been addressing these problems by:

1) Proposing several generic and administrative changes to improve and strengthen the Wild and Scenic Rivers Act and program,

2) Providing technical assistance to States in the establishment of State and local river conservation efforts or the addition of State rivers to the national system;

3) Identifying more than 60 rivers for potential study designation by Congress under Section 5(a) of the Wild and Scenic Rivers Act.

In addition, by the end of FY 81 the Service will have screened over 1,000,000 miles or rivers and streams and identified more than 100,000 miles of river that may meet the requirements of the Wild and Scenic Rivers Act or are potential candidates for State and local conservation. Also, the Service has been working with private interest and government agencies to avoid or mitigate adverse actions on potential wild and scenic rivers where possible.

Program Iniatives and Workload Factors:

During FY 1982 the Service will:

* Explore and develop new conservation strategies for increasing the roles of private interests and local governments in river conservation. Specifically, the Service will, among other projects, complete a feasibility study of the Des Plaines River Valley Corridor undertaken in FY 81.

* Provide planning and technical assistance to States in the development of State and local river conservation systems and in the review of applications for national designations of State administered scenic rivers;

* Provide technical and planning assistance to State water quality management agencies to increase public recreation use of the rivers;

- Maintain, distribute, and update information in the Nationwide Rivers Inventory on more than 100,000 miles of rivers;

- Review existing components of the System to determine if they are being administered in accordance with the purposes of the Act, and, if not, make recommendations to the appropriate managing authorities for corrective measures;

- Consult with Federal agencies concerning proposed direct and indirect Federal actions in an effort to avoid and/or mitigate adverse actions that could foreclose wild, scenic, or recreational potential on inventory rivers;

- Identify those rivers that could be considered by the Congress for addition to the list of rivers in Section 5(a) of the Act for study as potential components of the system.

Trails System

Authority: National Trails System Act, P.L. 90-543, as amended.

Objectives: The President, in his 1979 Environmental Message, called for a substantially increased trails planning effort and expansion of the National Trails System. Further impetus was added to this directive through the 1979 Third Nationwide Outdoor Recreation Plan which called for a new direction in the National Trails System. Through the Trails Program, the Service seeks:

- To promote the development and expansion of trail opportunities nationwide for users of varied skills and capabilities seeking diverse trail-related activities.

- To provide expertise, training, technical assistance, and support to States, localities, and private interests for the development of "on the ground" trails as well as for designation of those trails which qualify for inclusion in the National System.

- To encourage further trail development and designation of close-to-home recreation trails by States, localities, and private interests.

Base Program: The purpose of the National Trails System is to promote the development of trails in both urban and rural settings for persons of all ages, interest, skills, and physical abilities. Although millions of Americans participate in trail-related activities, the national trails system has not yet achieved the potential envisioned for it when the enabling legislation was enacted.

During the twelve years since the Act's passage, approximately 7,000 miles of "on the ground" trails have been added to the system; over

15,000 miles of national trails have been designated, but exist only on paper. The development of the National Trails System has proceeded slowly and without the benefit of an overall view of the Nation's trail needs and available opportunities. The National Trails System, therefore, needs to be examined to respond to contemporary use and trends.

The 1980-81 National Trails System Assessment was initiated to assess the supply, deficiencies, problems, and needs of trail activities across the country. Accomplished with the cooperation and assistance of Federal, State, and local officials, trail organizations and interest groups, the Assessment was accomplished through a series of workshops, consultation meetings, and written surveys.

Upon completion of the Assessment in FY 81, the Service will address and prioritize the findings and action recommendations to further complement the on-going responsibilities and activities of the trails program.

These on-going responsibilities and actions include:

- Active participation with a broad cross-section of Federal, State, local, and private trail interest to develop more "on the ground" trails, and to provide information and expertise beyond simple designation of trails into the National System.

- Coordination with a variety of trail-related interests to locate and investigate potential trail corridors (utility lines, railroad rights-of-way, etc.) for possible development, taking maximum advantage of current State and local government authorities, financial assistance programs, and other alternatives to Federal acquisition.

- Identification of those potential trail corridors which should be further considered for study and/or possible designation as components of the National System.

- Encouragement of trail development by promoting the designation of close-to-home national recreation trails.

Program Initiatives and Workload Factors: In addition to the base program during FY 1982, the Service will implement those action recommendations of the National Trails System Planning effort that 1) have the highest priority for meeting needs; 2) are attainable given economic and energy constraints; and 3) provide a balance between urban and rural trail development. The intent is to utilize these findings and action recommendations of the trails assessment to:

- Develop and propose generic amendments to the National Trails System Act which will be designed to better implement the purpose and intent of the act to get more trails on the ground;

- Identify sources of funds for trail programs and projects;
- Promote the organization of trail users and coordination of trail interests;
- Further trail maintenance and policing;
- Encourage additional volunteer group efforts; and
- Resolve user conflicts.

Increase for 1982:		1982 Base	1982 Est.	Increase
Rivers System	$	1,536	1,543	+7
	(FTP)	(40)	(40)	(--)

This modest increase is necessary to enable this subactivity to handle increased fixed costs for FY 1982.

Decrease for 1982:		1982 Base	1982 Est.	Decrease
Special Designated Studies	$	133	--	-133
	(FTP)	(3)	(--)	(-3)

Deletion of this line item is requested because the program for rivers and trails is sufficiently flexible to fund high priority studies of new areas.

Object Classification Distribution

The distribution of the $126,000 decrease is as follows:

	1982 Estimate
Personnel compensation and benefits	$ 90,000
Travel and transportation of persons*	2,000
Printing and reproduction	4,000
Other services	30,000
Total	$ 126,000

*This is part of a $25,000 decrease in administrative travel from the Salaries and Expenses account, as part of the governmentwide effort to reduce such travel.

74-939 O—80——36

Justification of Program and Performance

Activity: Natural Programs
Subactivity: Federal Lands Coordination

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-).
Federal Real Property	$	975	1,063	718	-345
[RAM AF1]	(FTP)	(26.0)	(26.0)	(23.0)	(-3)
Federal Recreation Fee Program	$	49	51	50	-1
[RAM AF2]	(FTP)	(1.5)	(1.5)	(1.5)	(--)
(Common Program Services)	$	(276)	(314)	(255)	(-59)
Total Requirements	$	1,024	1,114	768	-346
	(FTP)	(27.5)	(27.5)	(24.5)	(-3)

General

Federal Lands Coordination is comprised of several programs which provide an innovative and comprehensive approach to natural resource conservation and public recreation use. The goal of the Federal Real Property Program is to identify and make available for public use unutilized, underutilized and surplus Federal real property having wilderness, wildlife conservation, historic monument and park recreation value. The Federal Recreation Fee Program assures comparability of the fee activities of the seven Federal land managing agencies required to operate fee programs. In addition, the fee program supplies this information not only to the land managing agencies and Congress, but to State and local governments as well. The Fee Program also administers the Golden Eagle/Golden Age/Golden Access Passport Program. Each program offers opportunities for flexibility in the use of various management tools when cooperating with other Federal and non-Federal agencies.

Federal Real Property Program

Surplus Property

Authorization: Outdoor Recreation Organic Act, P.L. 88-29; Federal Property and Administrative Services Act of 1949, as amended, P.L. 91-485; National Parks and Recreation Act of 19 P.L. 95-625.

Objectives:

- To identify the potentials for outdoor recreation, wilderness, wildlife conservation values and convey Federal surplus real property to States and their political subdivision for these purposes;
- To conduct compliance inspections, as required, to assure that orderly and sufficient development is occurring to facilitate increased public use; and
- To assure that the property is being used in accordance with the approved plan of use.

Base Program: Under Section 303(c) of P.L. 95-625 the early notification of a survey or the intent to declare Federal land excess to agency needs will assure that (1) wilderness, wildlife conservation, and park and recreation values of unutilized or underutilized real property owned by the United States are conserved, enhanced and developed; and, (2) timely studies are made of unutilized and/or underutilized excess Federal real properties for the above purposes.

The Federal Property and Administrative Act of 1949, as amended by P.L. 91-485, provides for technical assistance to State and local governments for transfer of surplus Federal real property for park and recreation purposes. The Service has the sole responsibility to assure the transferred lands are in compliance and developed in accordance with an approved plan of use. Concurrently, the Service is responsible for conducting biennial compliance inspections for approximately 1020 properties.

In October 1970, P.L. 91-485 amended the Federal Property and Administrative Services Act and authorized the disposal of Federal surplus real property for park and recreation purposes at no cost to the local governments. The following table indicates the number of transfers made under this authority:

Surplus Property Transfers to Local Units of Government

Fiscal Year	Number of Properties	Acres (000)	Value (Millions)
1971	108	12	53
1972	155	29	82
1973	144	20	31
1974	104	9	40
1975	79	8	16
1976	70	4	36
1977	64	4	24
1978	50	4	29
1979	42	1.7	29
1980	45	3.7	23
1981 (anticipated)	40		
1982 (anticipated)	40		

The Service provides technical assistance to each potential recipient of surplus real property including site visitations to assure the plan of use will be compatible with the natural resources.

Cooperative Management

Authorization: Outdoor Recreation Organic Act, P.L. 88-29.

Objectives:

- To implement annually 10 Cooperative Management Projects whereby underutilized Federal properties are managed for recreation benefits by a non-Federal public entity.

- To monitor current agreements with the potential for increasing existing public recreation opportunities.

Base Program: The program provides data and guidance to Federal land-holding agencies in developing cooperative agreements with States and local units of governments for the development and utilization of Federal lands for park and recreation and wildlife conservation purposes.

Program Initiatives and Workload Factors:

- To monitor current agreements to increase the potential public recreation opportunities.

Sikes Act

Authorization: Sikes Act, P.L. 93-452; Outdoor Recreation Organic Act, P.L. 88-29.

Objectives:

- To promote planning, development, maintenance and coordination of recreation and wildlife conservation and rehabilitation on military reservations.

Base Program: A total of 57 HCRS-Military-State cooperative agreements have been signed through Fiscal Year 1980. These agreements are kept current by annual meetings between HCRS, the military installation and the State to determine if adjustments to the plan are necessary. The majority of these agreements are with the Air Force, with the Army having its first agreement signed in 1979.

Program Initiatives and Workload Factors:

- Consultation will be provided in the preparation of at least 15 HCRS-Military-State cooperative agreements.

Federal Recreation Fee Program

Authorization: Golden Eagle/Golden Age/Golden Access Passport Program, Restoration, P.L. 92-347; Federal Recreation Areas. Fees, P.L. 93-81; P.L. 96-344, P.L. 93-303; Land and Water Conservation Fund, P.L. 88-578.

Objectives:

- To regulate administration of Federal recreation fees based on the provisions of Public Law 92-347, primarily emphasizing uniformity and comparability.
- To coordinate the reporting of public outdoor recreation data from the seven land managing agencies pertaining to Federal recreation area fees and visitation and prepare the annual Federal Recreation Fee Report to Congress.
- To distribute the Golden Eagle/Golden Age/Golden Access Passports and brochures to the interested public.
- To inform the American public of the Golden Eagle/Golden Age/Golden Access Passport Program and any significant changes in the Federal Recreation Fee Program, particularly fee rate changes and fee areas.

Base Program: The Service continues to monitor the Federal recreation fee program and coordinate the fee activities of the seven Federal land managing agencies required to implement these programs. Increased efforts have been instituted to improve public awareness to the Golden Eagle/Golden/Age/Golden Access Passport program. Based on the desires of the seven participating Federal agencies, the Service instituted a change in the Federal regulation to provide for comparability as the bases of establishing fees and charges at individual sites. The Service will continue to improve the Fee Program onsite evaluations to gather user satisfaction information for the participating Federal agencies and the Congress.

Program Initiatives and Workload Factors:

- Calculate, code and tabulate all data submitted by the 7 land-managing agencies and prepare the annual Federal Recreation Fee Report.
- Arrange for publication and distribution of 2500 copies of the annual report and approximately 700,000 copies of the Golden Eagle Golden Age/Golden Access Passport Brochure.
- Arrange for biannual meetings of the Federal Recreation Fee Task Force (consisting of representatives from all agencies participating in the program).
- Arrange for quarterly meetings of the 3 predominent agencies participating in the fee program (NPS, FS, COE).

Decrease for 1982:		1982 Base	1982 Est.	Decrease
Federal Real Property	$	1,063	718	-345
	(FTP)	(26)	(23)	(-3)
Federal Recreation Fee Program	$	51	50	-1
	(FTP)	(1.5)	(1.5)	(--)

$345,000 of this decrease is to reduce effort in developing alternatives to less-than-fee acquisition for use by non-Federal groups. This reduction in effort is made in recognition of the general need for budgetary restraint. The remainder of the reduction, $1,000, is part of the $25,000 decrease in administrative travel from the Salaries and Expenses account. This is part of the governmentwide effort to reduce such travel.

Object Classification Distribution

The object class breakdown for this $346,000 decrease is as follows:

	1982 Estimate
Personnel compensation and benefits	$ 87,000
Travel and transportation of persons	1,000
Printing and reproduction	15,000
Other services	243,000
Total	$ 346,000

Justification of Program and Performance

Activity: Natural Programs
Subactivity: Natural Area Program

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Natural Landmarks Program	$	760	827	826	-1
(RAM AG1)	(FTP)	(9)	(9)	(9)	(--)
(Common Program Services)	$	(205)	(233)	(274)	(+41)
Total Requirements	$	760	827	826	-1
	(FTP)	(9)	(9)	(9)	(--)

Natural Landmarks Program

Authorization: Historic Sites Act of 1935, P.L. 74-292, as amended; the General Authorities Act of 1976, P.L. 94-458; the Mining in National Parks Act of 1976 , P.L. 94-429; and National Historic Preservation Act Amendments of 1980, P.L. 96-515.

Objectives: To identify and recognize those nationally significant areas which best represent the ecological and geological character of the United States and illustrate the diversity of the country's natural environment. The goals of the National Natural Landmarks Program are:

- To encourage the preservation of sites illustrating the ecological and geological character of the United States;
- To insure that such areas are considered in public and private planning efforts and facilitate well-informed decisionmaking by owners and managers.
- To strengthen appreciation of the natural history of the Nation;
- To foster a greater concern for the conservation of the Nation's natural heritage;

- To monitor the welfare and integrity of and report to the Congress on those national natural landmarks whose values are threatened or damaged;
- To provide resource data on existing and potential landmarks to public and private agencies;
- To provide protection planning information and assistance to both public and private owners of national natural landmarks;
- To enhance the education and scientific values of those areas designated; and
- To coordinate the activities of the Department of the Interior in the World Heritage Program.

Base Program: The Natural Landmarks Program includes the identification, designation, and monitoring of nationally significant natural areas and coordination of the Department's involvement in the activities of the World Heritage Convention.

Identification and Designation

To provide a logical and scientific basis for identifying potential national natural landmarks, the United States, Puerto Rico, the Virgin Islands and the Pacific Trust territories are divided into 33 natural regions (based on Fenneman's Physiographic Divisions of the United States). Each natural region is studied by natural scientists who produce a classification and description of ecological and geological features and an annotated list of areas which appear to be of national significance.

Each site identified in one of the above studies which appears to be of national signficance is then subjected to a more detailed evaluation through comparative analysis of natural feature data from other sources including State natural heritage program inventories, as well as on-site evaluations conducted by the Service's regional offices or by natural scientists. Areas identified as potential natural landmarks are compared against criteria for significance, then again evaluated by field scientists in conjunction with the Division of Natural Landmarks. The resulting recommendations are then forwarded to the Director for nomination to the Secretary of the Interior.

Contracts for both natural region and/or on-site evaluation studies are necessary to insure that potential natural landmarks are reviewed by natural scientists who have particular knowledge of and expertise in the ecological or geological values for the specific regions of the country where potential landmarks are located.

In addition to serving as the primary source of potential natural landmarks, natural region studies also provide valuable resource information for other purposes. State natural area programs conduct continuing inventories for the identification and protection of plant and animal communities, special plant and animal species native to the State, and in some cases, geologic features and landforms. These programs are also used by the State to set priorities for protection of significant natural areas by each State and are essential contributors to determining outdoor recreation acquisition policies as part of the Action Program for the Statewide Comprehensive Outdoor Recreation Plan required by the Land and Water Conservation Fund Act. Natural region study contractors use State natural area programs to assist in the identification of potential landmarks and, in turn, provide data for inclusion in State inventories. State natural area programs also provide assistance to the Heritage Conservation and Recreation Service in the comparison of potential landmarks of like resource types within a specific natural region. Twenty eight States had established natural area programs by the end of FY 1980.

Natural region studies are also made available to the Bureau of Land Management, U.S. Fish and Wildlife Service, and the U.S. Forest Service for use in planning. Information contained in the studies are used by these agencies in the development of their land use and management plans.

Approximately 65 areas which appear to meet the criteria for landmark status will be submitted to the Secretary for designation in FY 1981 bringing the total areas listed on the National Registry of Natural Landmarks to 596.

Limited funds and staff available to the landmarks program under current funding levels have severely curtailed the number of on-site evaluations which can be undertaken in FY 1981 and FY 1982. Over 1000 additional potential landmarks will be identified in FY 1981 as the on-going natural region studies are completed, thus increasing the gap between initial identification of potential landmarks and completed evaluations.

Monitoring

Under Section 8 of the General Authorities Act of 1976, P.L. 94-458, the Heritage Conservation and Recreation Service monitors the condition and integrity of national natural landmarks and prepares the annual report to the Congress which identifies those landmarks that are damaged or have threats to their integrity. Continuing integrity of the landmarks is essential to maintaining the quality of national significance, i.e., the natural values for which the landmark received recognition as being nationally significant. Loss of integrity may result from natural change, inattention, or mismanagement. A landmark may also lose integrity if, even through no fault of the owner or administrator,

circumstances or events within the landmark or on adjacent lands threaten or damage the landmark resources for example, run-off, erosion and changes in the natural drainage patterns resulting from nearby needed highway improvements.

The landmark monitoring is initially accomplished by staff of the Service's seven Regional Offices and the Alaska Area Office and includes on-site property inspections (after receiving permission from owners), discussions with the landmark owners, and consultation with public officials with responsibilities for or interest in activities which have impacts on landmarks. Findings of the field staff are then reviewed and validated by the Division of Natural Landmarks, which has specific expertise in the type of landmark adversely affected. The resulting report is forwarded to the Congress by the Secretary of the Interior. In the 1980 report, 302 of the 511 existing landmarks were reviewed; 39 of these exhibited known or anticipated damaged or threats to the integrity of their resources.

Beyond the responsibility to report on threatened or damaged landmarks to Congress, direct protection against such threats is now limited to consideration of landmark values by Federal agencies in their actions affecting landmarks. For non-federal actions, there is no specific protection except for the willingness of owners and others to respect nationally significant properties. Of the 39 areas identified as threatened or damaged in the 1980 report, 7 (18 percent) are totally in Federal ownership, 11 (28 percent) are privately owned, 6 (15 percent) are owned by State or local governments, and 15 (39 percent) are in some combination of public and private ownership. On 13 of these landmarks (33 percent), the owners or administrators had entered into voluntary agreements with the Heritage Conservation and Recreation Service to protect the nationally significant values of the area.

Under the Mining in National Parks Act of 1976, P.L. 94-429, the Heritage Conservation and Recreation Service also monitors those natural landmarks which may be irreparably lost or destroyed by surface mining activity, and requests advice from the Advisory Council on Historic Preservation as to alternative measures that the Service can suggest be taken to mitigate or abate the adverse effects of such activity. The Service seeks to provide interim and short-term protection planning assistance to selected landmark owners by directing them to sources of professional advice in management of the landmark; advising them of the advantages of conservation and preservation easements; directing them to sources of public financial or technical assistance; and offering technical publications on conservation techniques. The Service also encourages other public and private entities to adopt practices compatible with the natural values of national natural landmarks.

World Heritage Program

In 1972, the United Nations Educational, Scientific and Cultural Organization (UNESCO) adopted the Convention Concerning the Protection of the World Cultural and Natural Heritage. This action was in response to the critical need to preserve irreplaceable natural and cultural properties which have special meaning not only to individual countries, but also to all the peoples of the world. The United States was the first Nation to ratify the World Heritage Convention. In addition, 52 other countries throughout the world have now approved the Convention.

The World Heritage Convention establishes a system of international cooperation and assistance through which natural and cultural properties of outstanding universal value to mankind may be recognized and protected. This system includes the development and maintenance of a World Heritage List to be comprised of natural and cultural properties of outstanding universal value.

In the United States, the Secretary of the Interior is responsible for implementing the provisions of the Convention, including the preparation of United States nominations to the World Heritage List. Recommendations on proposed nominations are made to the Secretary by a Federal interagency panel.

Within the Department of the Interior, the Heritage Conservation and Recreation Service has responsibility for coordinating the Department's involvement in the World Heritage Convention. This responsibility includes coordinating the preparation of U.S. nominations, consulting a wide variety of Federal agencies, State and local officials, private organizations, and citizens, and preparing Federal Register notices and press releases announcing nominations and other program activities. In 1980, the Service compiled an inventory of 275 suggested World Heritage properties in the United States which had been recommended by an array of organizations and individuals. This inventory will help provide the basis for selecting U.S. nominations for 1981 and subsequent years. Three nominations were submitted to the UNESCO 21-nation World Heritage Committee for inclusion on the World Heritage List in 1981.

Program Initiatives:

Identification and Designation

- Initiate new memoranda of understanding with other Federal agencies that own or administer lands on which are located natural landmarks to complement memoranda of understanding with the Forest Service, Bureau of Land Management, Fish and Wildlife Service, and National Park Service.

- Insure and enhance the exchange of resource information between State natural area programs and the Natural Landmarks program.

- Continue development of automated data processing system to computerize national natural landmark resource information compatible with existing state systems.

- Continue reevaluation of older natural landmarks against new criteria for significance.

- Nominate approximately 75 new natural landmarks for designation in FY 1982, raising the total number of landmarks to 671 or 33 percent of the 2000 landmarks expected to be derived from all natural regions studies.

- Identify approximately 1400 potential landmarks from natural region studies completed in FY 1982.

Monitoring

To make the most effective use of limited staff and financial resources, the Service has developed several program initiatives to assist in monitoring natural landmarks which will be fully operational in FY 1982. These include:

- A memorandum of agreement with the Boy Scouts of America, Inc., for a pilot project to monitor one NNL within the area served by each of the Service's Regional Offices.

- A memorandum of agreement with the Soil Conservation Service, USDA, for a pilot project to monitor selected NNL's and report to the Service's Regional Offices.

- A memorandum of agreement with the state of Maine to facilitate mutual inventory, identification, and monitoring efforts.

- Continued negotiations with State agencies and other public and private organizations on agreements to monitor NHL's and report findings to the Service.

HCRS also intends to expand its environmental education and public awareness responsibilities as available resources allow. This will include:

- Technical assistance to landmark owners;

- Interpretive programs through State environmental education offices;

- Publication of guidebooks, brochures, articles and other environmental education aids.

World Heritage

- Coordinate the preparation and review of U.S. World Heritage nominations.

- Publish program procedures and prepare departmental manual release.

Workload Factors:

	FY 1980	FY 1981	FY 1982
New designations	76	65	75
Total landmarks	531	591	666
Evaluation reports of potential National Natural Landmarks undertaken	225	15	15
Evaluation reports of potential NNL reviewed	0	125	100
Reports on the integrity and condition of natural landmarks	302	414	466
Natural region study contracts monitored	29	27	15
World Heritage List nominations reviewed	0	3	2

Decrease for 1982:		1982 Base	1982 Est.	Decrease
Natural Landmarks	$	827	826	-1
Program	(FTP)	(9)	(9)	(--)

This is part of a $25,000 decrease in administrative travel from the Salaries and Expenses account, as part of the governmentwide effort to reduce such travel.

Justification of Program and Performance

Activity: Cultural Programs
Subactivity: Preservation Policy, Planning and Evaluation

(Dollar amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Preservation Policy, Planning and Evaluation (RAM AH1)	$	280	305	304	-1
	(FTP)	(4)	(4)	(4)	(--)
(Common Program Services)	$	(69.4)	(86)	(100.8)	(+14.8)
Total Requirements	$	280	305	304	-1
	(FTP)	(4)	(4)	(4)	(--)

Policy, Planning and Evaluation

General: The Preservation Policy, Planning and Evaluation subactivity establishes priorities and maintains consistency in the cultural programs through the development, analysis, and coordination of budget proposals, personnel allocations, legislative initiatives, and program activities. The HCRS cultural programs interrelate a range of preservation activities such as: survey and identification of cultural resources; evaluation of historic significance; documentation of important architectural and engineering structures; rehabilitation of historic structures; archeological data recovery; materials preservation; and setting of standards for each of these activities. The Preservation Policy staff plays a coordination, evaluation, and research role to insure that these different components of the Federal historic preservation effort complement and encourage State, local, and private preservation activities; operate in a consistent way; and provide efficient and effective programs that accomplish national historic preservation objectives. The National Historic Preservation Act Amendments of 1980 direct a wide range of changes in both structure and content of the historic preservation prog a. These include: the certification of local governments to participate n the national program; direct grants for such purposes as preservation of hreatened National Historic Landmarks and ethnic and minority resources; an sured loan program; owner agreement to listing in the National Register of Hi oric Places; and development and promulgation of standards for preservation, identification, and archeological activities. The amendments also direct the Secretary to conduct special studies on folklife,

cultural parks, and arson in historic properties. The Division of Preservation Policy is responsible for developing the implementation strategy for and coordinating the implementation of these changes. In general, during FY 1981, HCRS will undertake to implement as many as possible of the various required structural changes to the program, including development of an appeals process for National Register listing; revisions to existing and formulation of new regulations; and development of a process for owner consultation in listing on the National Register. HCRS will also begin to formulate and promulgate required standards and guidelines. In FY 1982, the only additional activity proposed for implementation under the 1980 Amendments will be the National Historic Landmark district boundary studies.

Authorization: Historic Sites Act of 1935, P.L. 74-292; National Historic Preservation Act of 1966, P.L. 89-665, as amended; Executive Order 11593 of 1971; Tax Reform Act of 1976, P.L. 94-445; Amendments to the General Authorities Act of 1970, P.L. 94-458; Revenue Act of 1978, P.L. 95-600. Other selected legislation affecting the program: Department of Transporation Act of 1966, P.L. 89-670; National Environmental Policy Act of 1969, P.L. 91-190; Emergency Home Purchase Assistance Act of 1974, P.L. 93-449; Housing and Community Development of 1974; P.L. 93-383; Public Buildings Cooperative Use Act of 1976, P.L. 94-541; Rail Transporation Improvement Act of 1976, P.L. 94-555.

Objectives:

- To insure that HCRS cultural programs operate to meet common objectives and integrate the results of policy and program evaluation in determining program priorities.

- To define with Federal agencies areas of mutual concern and to develop interagency agreements and joint projects in these areas for implementation by the cultural programs divisions.

- To provide legislative oversight, review, and comment on important historic preservation issues. To ensure that cultural program divisions are kept informed on the status of legislation affecting their programs and to coordinate preparation by the divisions of comments on legislation.

- To provide the Director and the Secretary with recommendations, information, and counsel needed to make decisions about historic preservation controversies, legislative positions, and funding.

- To propose and coordinate analytical studies and special projects on major issues in historic preservation. To work closely with the divisions on issues that cut across program areas. To identify from these studies and projects recommendations for dealing with issues in a responsive, cost-effective manner.

- To integrate cultural program activities with the recreation and natural programs of HCRS.

Base Program: In FY 1978, HCRS initiated a national historic preservation policy planning process to identify major issues in preservation and to develop alternatives for dealing with these issues. The policy planning effort demonstrated the importance of an ongoing policy evaluation and analysis component in the historic preservation program. The Division of Preservation Policy was formed to provide policy and management oversight for the Cultural Programs. This Division operates to insure that the HCRS cultural programs effectively promote the preservation of the Nation's historical and cultural heritage and integrate preservation values in public and private decisions through: identifying, recording, and preserving historic properties; promoting increased institutional capabilities at the State and local level; developing and disseminating preservation information and technology; and assisting selected historic properties. The Division of Preservation Policy makes sure that the implications of proposed policy and program directions are evaluated in a broad context, from a perspective beyond that of program advocates. The Division works closely with the other cultural programs divisions to insure that they work in a complementary rather than duplicative fashion and respond when appropriate to broader national and departmental priorities.

FY 1980 and FY 1981 Activities

- During FY 1980, proposals were made for revisions to the National Register and National Historic Landmark criteria and designation processes. In FY 1980, the NHL criteria revisions were published in the Federal Register as interim regulations; they will be made final during FY 1981. The National Register proposal will result in the preparation by the National Register Division, during FY 1981, of guidelines and "how to" examples as informational tools for States and local communities to use in the National Register nomination process.

- During FY 1980, a manual for local decisionmakers to use in predicting the impacts of preservation-oriented development in comparison to other development options in areas such as employment, local government costs and revenues and private investment was contracted for and completed. The "Economics of Revitalization" is a practical, "how to" guide that will help local communities assess the full range of development costs and benefits before local resources are committed. A series of technical assistance and training workshops are being developed and will be implemented later in FY 1981 using this manual and other cultural program training tools.

- In FY 1980, analysis and recommendations on historic preservation policy issues contained in various proposals for national heritage legislation were prepared, including loans and loan guarantees for historic preservation projects and certification for local governments to enable them to participate directly in the national historic preservation program. During FY 1981, additional general information on insured loan programs will be gathered to identify issues relevant to any future implementation of the newly authorized insured loan program for historic preservation projects.

74-939 O—80——37

- In FY 1980 and FY 1981, comments were prepared on proposed legislation dealing with conservation easements, historic preservation, requirements under the UDAG program, historic preservation tax incentives, public buildings policy, and miscellaneous historic site designations.

- In FY 1980, an outline was developed for and work was coordinated on an HCRS/Department of the Treasury examination of historic preservation tax incentives.

- In FY 1981, a strategy is being developed for implementation of the National Historic Preservation Act Amendments of 1980.

- In FY 1980, staff work and oversight were provided for planning and allocation of functions, staff and funding for cultural programs regionalization in FY 1980. In FY 1981, an evaluation will be conducted.

- In FY 1980 and FY 1981, a series of working sessions were arranged with HCRS Director, cultural programs directorate, cultural programs division chiefs, and cultural programs division representatives in order to formulate and articulate an HCRS cultural mission and goals for objectives to meet these goals.

- In FY 1980, provided staff assistance to HCRS recreation divisions for the development of interagency Memoranda of Understanding between HCRS/DOL, HCRS/HUD AND HCRS/AOA.

- Provided in FY 1980 staff work for initial contact and structural program division involvement with the National Main Street Center, an interagency and private sector small town revitalization initiative.

- In FY 1980, developed concepts for local participation in HCRS historic preservation activities for consideration by the Director.

- During FY 1980 and FY 1981, worked on establishing the charter for and helping the cultural program divisions set up the Historic Preservation Advisory Committee which will advise the Secretary of the Interior, through the Director of HCRS, on policies and procedures developed for and administered by the HCRS cultural programs.

- During FY 1980 and FY 1981, worked on preparing a directive on policies and procedures for establishing donation accounts, the use of general Donation Funds, the criteria for spending appropriated funds on donation projects, and the guidelines for staffing funded through donations.

Program Initiatives and Workload Factors:

- Work with cultural program divisions on assessment of the HCRS cultural programs after the first full year of regionalization. Assessment will determine whether the balance of responsibilities between Washington and

the Regions is appropriate, whether HCRS policies are being carried out consistently, and whether legally mandated functions are being handled in accordance with regulations. Prepare recommendations for policy and program refinements and appropriate redistribution of resources.

- Coordinate with other Federal agencies and develop at least 2 interagency agreements. Initiate as a result of these agreements at least 2 joint projects by the Cultural Programs divisions and other Federal programs.

- Continue to evaluate, refine, and formulate annual goals and strategies to guide the HCRS cultural programs.

- Supervise and participate in the systematic program evaluation of at least 1 Washington office Cultural Program area.

Decrease for 1982:		1982 Base	1982 Est.	Decrease
Preservation Policy, Planning and Evaluation	$	305	304	-1
	(FTP)	(4)	(4)	(--)

This is part of a $25,000 decrease for administrative travel from the Salaries and Expenses account, as part of the governmentwide effort to reduce such travel.

Justification of Program and Performance

Activity: Cultural Programs
Subactivity: Maintenance of the National Register

(Dollar amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Evaluation and Registration	$	784	853	850	-3
(RAM AJ1)	(FTP)	(11)	(15)	(15)	(--)
Identification and Designation of NHLs	$	399	434	779	+345
(RAM AJ2)	(FTP)	(9)	(9)	(12)	(+3)
Public Notice and Information Services	$	349	380	380	--
(RAM AJ3)	(FTP)	(10)	(6)	(6)	(--)
(Common Program Services)	$	(388)	(469)	(666)	(+197)
Total Requirements	$	1,532	1,667	2,009	+342
	(FTP)	(30)	(30)	(33)	(+3)

General

The Maintenance of the National Register subactivity includes programs to recognize properties of State and local significance (Evaluation and Registration), and of national significance (Identification and Designation of NHLs), as well as to maintain records and provide information on these properties (Public Notice and Information). These activities form the basis for all the historic preservation programs of the Heritage Conservation and Recreation Service. If historic properties are to be protected and preserved, they must first be identified, their relative historical significance evaluated, and those worthy of preservation and reuse recognized. The National Register of Historic Places is the Nation's official list of historic properties worthy of preservation for their contribution to the appreciation and understanding of the Nation's heritage. Designation as a significant historic resource calls attention to the special qualities of historic properties in a community and helps stimulate community interest in preservation of important cultural resources.

Evaluation and Registration

Authorization: Historic Sites Act of 1935, P.L. 74-292; National Historic Preservation Act of 1966, P.L. 89-665, as amended; Executive Order 11593 of 1971; Tax Reform Act of 1976, P.L. 94-455; Amendments to the General Authorities Act of 1970, P.L. 94-458; Revenue Act of 1978, P.L. 95-600; Tax Treatment Extension Act of 1980. Other selected legislation affecting the program: Department of Transportation Act of 1966, P.L. 89-670; National Environmental Policy Act of 1969, P.L. 91-190; Emergency Home Purchase Assistance Act of 1974, P.L. 93-383; Public Buildings Cooperative Use Act of 1976, P.L.94-541; Rail Transportation Improvement Act of 1976, P.L. 94-555.

Objectives:

- To build institutional capabilities in Federal agencies, States, and local governments for identifying and evaluating historic properties and considering them in development planning.
- To identify and list in the National Register of Historic Places properties of national, State and local significance in American history, architecture, engineering, archeology and culture.
- To determine whether or not properties to be affected by Federal action are eligible for the National Register.
- To certify historic structures for historic preservation tax incentives and to encourage private investment in commercial rehabilitation through dissemination of information on these tax incentives.
- To certify historic structures for charitable tax deductions for conservation purposes.
- To develop and disseminate standards, guidelines, information, and advice to professionals and the general public to assist them in identifying historic properties in their communities.

Base Program: The Historic Sites Act of 1935 established a Federal responsibility for encouraging the protection of nationally significant properties; the National Historic Preservation Act of 1966 extended that responsibility to properties of State and local significance. As the Federal government's official list of significant cultural properties, the National Register is a key tool in Federal program planning to help conserve the man-made environment and has been referenced in numerous pieces of legislation. National Register listing:

- Assures consideration of historic properties in Federal program planning by assisting Federal agencies in the evaluation of resources in project areas.

- Makes historic properties eligible for Federal programs including Department of the Interior Historic Preservation Fund grants-in-aid; insured loans; benefits under the Tax Reform Act of 1976, the Revenue Act of 1978 and the Tax Treatment Extension Act of 1980; National Trust for Historic Preservation Endangered Historic Properties fund, and GSA Public Buildings Cooperative Use Act Program.

- Serves as a catalyst to community recognition of heritage values and encourages community revitalization by public and private interests.

The National Register program functions through a network of State Historic Preservation Offices and review boards, Federal Agency representatives, local officials, historic preservation commissions, and private organizations and individuals.

The three principal elements of the evaluation and registration function are: nominations to the National Register, determinations of eligibility, and certifications of significance to establish which properties qualify for the Federal historic preservation tax incentives.

National Register Activities:

Nominations

The evaluation process often begins with a survey of a large area to identify historic resources. This process is selective and requires scholarly and professional evaluation of properties. After careful study of the survey results, only those properties found to meet the National Register criteria are selected for inclusion in the National Register.

In FY 80, 3000 listings were added to the National Register bringing the total number of listings to 23,000.

Standards, guidelines and training concerning the registration process are provided to States, Federal agencies, local governments and others in the form of workshops, consultations and technical publications to insure that all nominations to the National Register are prepared with a consistent understanding of the standards set by HCRS.

In conformance with the 1980 amendments to the National Historic Preservation Act, National Register nomination procedures are being substantially revised in FY 1981 to give States and Federal agencies more responsibility in the listing process with HCRS putting more emphasis on State and Federal program monitoring, "spot check" reviews, and indepth consideration of controversial nominations. As a result of the amendments, the National Register is also being substantially modified in FY 1981 to provide for more extensive notification and to provide owners an opportunity to concur in or object to listing, to

include an open appeals process for the nomination and removal of properties from the National Register, and to provide for the participation of certified local governments, and others in the nomination process.

Determinations of Eligibility

Determinations of National Register eligibility, made at the request of Federal agencies, assist those agencies in complying with protective provisions of the National Historic Preservation Act, Executive Order 11593, and the National Environmental Policy Act by establishing which properties should be given special consideration in the planning process. For example, determinations of eligibility on several important historic properties in Detroit assisted the city in considering these resources in the planning of federally assisted community development and mass transit projects.

Information and training concerning the determination of eligibility process are provided to States, Federal agencies, and localities in the form of workshops, consultations, and technical publications. In FY 1980, the National Register reviewed 1400 requests for determinations of eligibility.

As required by the 1980 amendments to the National Historic Preservation Act, a new determination of eligibility process is being established in FY 1981 for nominations where private owners object to listing of their property in the National Register.

Certifications of Significance

Tax considerations have an important bearing on whether private interests are willing to maintain and rehabilitate historic structures rather than allow them to deteriorate or replace them with new buildings. Section 2124 of the 1976 Tax Reform Act, as reauthorized for three years by the Tax Treatment Extension Act of 1980, and the 1978 Revenue Act enable owners of historic buildings to claim certain Federal tax benefits provided that the Secretary of the Interior certifies that the buildings are historic and that the rehabilitation work is consistent with the historic character of the property. The tax incentives have stimulated significant private sector investments in commercial rehabilitation.

The National Register administers three major elements in the rehabilitation tax incentives program: certification of the significance or non-significance of buildings located within historic districts, certification of State and local historic district statutes and certification of local districts established by those statutes. Certifications that properties contribute to a district's significance, made at the request of property owners, enable these taxpayers to claim Federal tax benefits for rehabilitating historic properties. Certification of rehabilitation plans is performed under the Technical Preservation Services subactivity.

The Tax Treatment Extension Act of 1980 extended the 1976 tax provisions to December 31, 1983, and included an additional responsibility to certify structures and historically important land areas for charitible tax deduction purposes.

The demand by the public for certifications grew dramatically from 525 requests in FY 78 to 1600 in FY 80. Due to passage of the Tax Treatment Extension Act of 1980 the demand is expected to increase, specifically for certifications relating to charitable donations. The growth in requests and the workload it creates are a function of private sector investment decisions and therefore are not controllable or easily predictable. From the beginning of the implementation of the Tax Reform Act program through FY 1980, 2,636 requests for certifications have been reviewed. These have involved both individually listed National Register properties and properties within historic districts. In the same time period, 88 statutes creating State and local districts were certified, thus allowing individual property owners to apply for tax benefits for rehabilitating buildings in all of the certified districts designated under those statutes. To better meet this continuing demand, HCRS has improved the efficiency of the certification process by providing additional, more precise guidelines to the States for their use in technical assistance and so they can perform a first level of review.

The tax incentives serve as an effective means to stimulate private investment in commercial revitalization of older buildings and neighborhoods. Rehabilitation projects range from small scale, one-building projects to large scale multi-million dollar renovations. For example, in Washington D.C., the Georgetown Flour Mill was converted into condominiums. The National Historic Landmark Pullman Historic District in Illinois obtained needed subsidized housing when the Pullman wheelworks, an important building in the district was adapted and rehabilitated using the tax incentives. In Harrisburg, Pennsylvania, a residence in the historic district is being converted to professional offices.

During FY 1980 and 1981 substantial revisions and administrative reforms have been and are being undertaken in the National Register to streamline the nominations review process, to insure full public participation, and to strengthen the quality of the National Register evaluation process. These include:

- Introducing a computer information system which will (1) increase efficency in responding to Federal, State, and local needs for information, and (2) lead to complete computerization of the National Register nomination, determination of eligibility and certification evaluations; improved record keeping notifications, and public information dissemination.

- Modifying the National Register programs to strengthen the role and responsibilities of the States, Federal agencies, and local governments, and to focus the HCRS role more sharply on setting program standards, providing technical guidance, making decisions on controversial issues, and serving as program coordinator.

- Working with the Preservation Policy Division to examine the National Register criteria and to develop specific guidelines to more precisely explain and define what is eligible.

- Issuing standards and guidelines to explain and clarify National Register policies and the application of criteria to properties in a regional and local context.

- Designing and implementing an appeals system which permits owners to petition for and against listing, based on the historic or cultural significance of the property.

Program Initiatives:

- Examine the evaluation and registration processes in order to expedite listing of identified properties.

- Monitor and assist State, Federal, and local programs to assure the proper application of National Register criteria and standards and to update standards as appropriate.

- Work with Federal agencies to insure proper and timely identification of historic properties as part of the Federal planning process.

- In conjunction with Technical Preservation Services, train and assist State and local officials, professionals, and private individuals concerning the role of tax treatments in bringing about rehabilitation of commercial properties.

- Implement program revisions required by the National Historic Preservation Act Amendments of 1980 to provide determinations of eligibility on nominations where private owners object to the listing of their properties in the National Register of Historic Places.

- Implement systems for including certified local governments in the nomination process and for directly accepting nominations from individual citizens and local governments if there is no approved State program.

- Develop regulations for and respond to requests to certify historic properties so the owners may obtain tax deductions for charitable contributions.

* Computerize the National Register program and continue to microfiche nomination forms and related documents to provide permanent storage and protection of the record of the Nation's historic places.

Workload Factors:

	FY 1980	FY 1981	FY 1982
Nominations listed	2950	3000	3000
Federal determinations of eligibility reviewed	1400	1400	1400
Determinations of eligibility where owners object to listing		50	250
Appeals for listing and removal		25	50
Tax Act certifications of significance processed	1100	1650	1800
Tax Act certifications of significance cases re-examined through the appeal process	5	5	5
Tax Act certifications of State and local statutes	30	50	50
Tax Act certifications of districts established under State and local statutes	25	50	50
State and Federal training sessions	5	15	15

Decrease for 1982:		1982 Base	1982 Est.	Decrease
Evaluation and Registration	$	853	850	-3
	(FTP)	(15)	(15)	(--)

This is part of a $25,000 decrease in administrative travel from the Salaries and Expenses account, as part of the governmentwide effort to reduce such travel.

Identification and Designation of National Historic Landmarks

Authorization: Historic Sites Act of 1935, P.L. 74-292; National Historic Preservation Act of 1966, P.L. 89-665, as amended.

Objectives:

- To select and evaluate for national significance properties to recommend to the Secretary of the Interior for designation as National Historic Landmarks.
- To prepare studies of properties for nomination by the Secretary of the Interior to the World Heritage List.
- To provide technical assistance to encourage owners to protect the nationally significant values of landmark properties.
- To encourage public recognition and appreciation of National Historic Landmarks for their significance to the Nation.
- To establish boundaries for National Historic Landmark districts that do not now have them.

Base Program: The Historic Sites Act of 1935 established a national policy of preserving historic properties of national significance for the inspiration and benefit of the people of the United States. Implementation of the Act led to the development in the early 1960's of procedures by which the Secretary of the Interior designates properties as National Historic Landmarks. Some 1,500 landmarks have been recognized to date; it is estimated that the number of designations might eventually total 3,500.

The 1980 amendments to the National Historic Preservation Act require significant program revisions, including the implementation of procedures which would allow owners to concur in or object to National Historic Landmark designations; establishing an appeals process for designations and removals; and making determinations of eligibility on nominations where private owners object to designation. The amendments also direct that boundaries be established for National Historic Landmark districts for which no boundaries currently exist, and that these boundaries be published in the "Federal Register" and submitted to Congressional Committees prior to approval. This will affect an estimated 70 National Historic Landmark districts which are currently without precisely defined boundaries.

Responsibility for activities under the World Heritage Convention, to which the United States is a party, are vested in the Secretary of the Interior. To date, two cultural properties have been added to the World Heritage List. They are Mesa Verde National Park, Colorado, and Independence Hall, Philadelphia, Pennsylvania. One additional cultural property will be nominated in FY 1981. The 1980 amendments to the

National Historic Preservation Act require the promulgation of regulations for nominating historic properties for inclusion in the World Heritage List.

In FY 1980, management improvements have included:

- Temporary suspension of the program to reevaluate its status, to make major revisions in program management and operation, and to publish new regulations.
- Review of NHL themes to ensure appropriate coverage of ethnic minorities.
- Development of a system for quick, professional evaluation of landmark nominations from States or Federal agencies and the public.
- Increased public participation in the NHL designation process including broader notification of owners and local jurisdictions and opportunity to comment.
- Work with Preservation Policy Division to reconstitute the NHL advisory committee as a subcommittee of the Historic Preservation Advisory Committee.

Program improvements being undertaken in FY 1981 include:

- Revisions to the NHL designation process to provide owners with the opportunity to concur in or object to designation.
- Creating an appeals process for the designation and removal of National Historic Landmarks.
- Establishing systematic priorities for scheduling and conducting theme and special studies to identify nationally significant properties.
- Development of a determination of eligibility process for properties where the private owners have objected to designation.

Program Initiatives:

- Examine the program to further streamline the evaluation and designation processes.
- Better coordinate evaluation and designation processes with National Register nomination processes to avoid duplication and take advantage of research done on historic properties as part of the nomination process.

- Complete the project to provide permanent storage and protection of landmark records through microfiche.

- Develop cooperative arrangements with other Federal agencies to identify and designate NHLs in categories of special interest to those agencies.

Workload Factors:

	FY 1980	FY 1981	FY 1982
Thematic nominations	0 [1]	30 [2]	30 [2]
Special study nominations	20	10	10
State and Federal nominations received/proposed for designation	150	200	200
Boundary determinations/revisions	90 [3]	50	70
Plaques/certificates presented	45	45	45
Status reports reviewed in cooperation with Technical Preservation Services	100	100	125
Consideration of NHL appeals	0	2	5
World Heritage nominations	0	1	2

1 Because of program revisions, no theme nominations were completed although one theme was researched and announced for study.

2 Estimates are projections and performance will depend upon the development and implementation of procedures which give owners an opportunity to concur in or object to designation as NHL's.

3 About 320 National Historic Landmarks created prior to 1977 do not have official boundaries. These figures represent estimates since these boundaries are in various stages of completion.

(Dollar amounts in Thousands)

Increase for 1982:		FY 1982 Base	FY 1982 Estimate	Increase
Identification and Designation of NHLs	$	434	778	+345
	(FTP)	(9)	(12)	(+3)

The National Historic Presevation Act Amendments of 1980 require that boundaries be established for NHL districts that do not now have them. There are 70 NHL districts that fall in this category. The status of these districts as NHLs is jeopardized and properties in the districts may not be able to receive grants or tax incentives until boundaries are defined and submitted to the authorizing Committees. This requested increase will enable completion of this mandated task by the end of FY 1982. Without additional funding, it will not be possible to maintain the NHL program and perform the necessary studies to establish appropriate district boundaries and restore these districts to NHL status.

Object Classification Distribution

The object class breakdown for the $345,000 increase is as follows:

	1982 Estimate
Personnel compensation and benefits	90,000
Travel and transportation of persons	45,000
Other services	94,000
Common Program Services*	116,000
Total	345,000

*Increases for Common Program Services are detailed in that section of the justification.

Public Notice and Information Services

Authorization: Historic Sites Act of 1935, P.L. 74-292; National Historic Preservation Act of 1966, P.L. 89-665, as amended; Executive Order 11593 of 1971; Tax Reform Act of 1976, P.L. 94-455; Revenue Act of 1978, P.L. 95-600. Other selected legislation affecting the program is the Department of Transportation Act of 1966, P.L. 89-670; National Environmental Policy Act of 1969, P.L. 91-190; Emergency Home Purchase Assistance Act of 1974, P.L. 93-449; Housing and Community Development Act of 1974, P.L. 93-383; and the Rail Transportation Improvement Act of 1976, P.L. 94-555.

Objectives:

- To provide accurate and timely information concerning the location and significance of National Register properties.
- To respond quickly and thoroughly to public inquiries regarding the identification and preservation of historic properties.
- To maintain a comprehensive record of historic resources.

Base Program: The National Register is the central source of information concerning the location and significance of historic properties. Through an efficient public information program, it is possible to use this listing as a guide in planning projects affecting cultural properties. Because National Register listing has a major impact on certain types of litigation, the receipt of tax benefits, and other financial and preservation planning considerations, it is necessary to provide safeguards for this information.

Major reforms have been undertaken in the management of this information. The microfiching of site-related data to provide a safe record storage and retrieval system for the immediate future was 100 percent complete for the National Historic Landmarks by the end of FY 1979, and is expected to be 50 percent complete for National Register properties by the end of FY 1981. Also in FY 1980, HCRS began to develop a computer information system which will significantly increase the efficiency of information retrieval and of the registration process itself. Phase I of this system, scheduled to begin early calendar year 1981, will increase efficiency in the retrieval of information about properties which have been listed in the National Register and properties which are under evaluation This will allow HCRS to provide more and better service to the States, the Federal agencies, the localities, and the public. When fully implemented, this system will allow nomination of properties by computer, thereby significantly expediting the registration process.

Information is currently made available about new listings through notice to States and Federal agencies and Members of Congress and publication in the "Federal Register."

Information on the status of National Register actions is also provided in response to a large number of requests from the public and to assist Federal agencies in planning.

Program Initiatives:

- Continue to provide for protection of Federal documents
- Continue implementation of the computerization plan
- Expedite responses to public inquiries

Workload Factors:

	FY 1980	FY 1981	FY 1982
Inquiries by the public.....	60,000	50,000 [1]	50,000
Number of publications mailed.....	70,000	70,000	70,000
Number of documents processed for microfiching.....	1,250,000	1,250,000	1,250,000

Notifications of NHL designations, listings, determinations of eligibility and certifications.....	18,000	20,000	20,500

[1] This decrease will result from transferring responsibility to the States for notifying property owners of nominations to the National Register.

Justification of Program and Performance

Activity: Cultural Programs
Subactivity: Technical Preservation Services

(Dollar amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Prepare and Disseminate Technical Preservation Information (RAM AK1)	$	362	394	393	-1
	(FTP)	(5)	(3)	(3)	(--)
Advise Congress and Federal Agencies on Cultural Properties (RAM AK2)	$	337	367	367	--
	(FTP)	(3)	(2)	(2)	(--)
Certify Commercial Rehabilitation For Federal Tax Benefits (RAM AK3)	$	358	389	388	-1
	(FTP)	(2)	(5)	(5)	(--)
(Common Program Services)	$	(349)	(324)	(381)	(+57)
Total Requirements	$	1,057	1,150	1,148	-2
	(FTP)	(10)	(10)	(10)	(--)

General: Technical Preservation Services sets standards and develops technical information for the treatment of historic properties. This includes development and maintenance of the "Secretary of the Interior's Standards for Historic Preservation Projects," which provide guidance regarding all aspects of preservation work for the use of state and local officals, property owners, developers, and architects. The National Historic Preservation Act Amendments of 1980 also require the development of professional standards for the preservation of historic properties in Federal ownership or control.

Technical Preservation Services also develops and provides technical information and practical advice regarding the technology of building materials, their deterioration and repair. This information is made available to public and private decisionmakers for application to the Nation's significant cultural resources.

74-939 O—80——38

These standards and technical materials help to insure that cultural properties are actively utilized for commerce, housing, and public assembly while preserving the properties' significant architectural and/or historic features.

Technical Preservation Services also reviews and evaluates project proposals and project work for Tax Reform Act and Revenue Act certifications (rehabilitation), Historic Preservation Fund grants-in-aid, and Federal surplus historic property transfers to assure conformance with the Secretary of the Interior's Standards for Historic Preservation Projects. Finally, the program advises State and local governments and Federal agencies in the preservation and maintenance of National Register properties, including endangered National Historic Landmarks.

Prepare and Disseminate Technical Preservation Information

Authorization: National Historic Preservation Act of 1966, P.L. 89-665, as amended; Executive Order 11593; Federal Property and Administrative Services Act of 1949, 20 U.S.C. 484; Tax Reform Act of 1976, P.L. 94-455; Revenue Act of 1978, P.L. 95-600.

Objectives:

- To provide Federal leadership in the development and dissemination of technical information on methods of building repair, rehabilitation and maintenance for use by preservation practitioners and the public.

- To develop and disseminate technical information and professional standards for the preservation of historic properties owned or controlled by Federal agencies and State and local governments.

Base Program: Since 1968, this program has provided current, professional information on techniques and products used in the preservation of historic buildings. In FY 1980, these capabilities were extended by transferring specific program functions and related resources to the HCRS Regional Offices.

Through the Washington and Regional Offices, this program responds to technical inquiries regarding preservation from all across the country, averaging 75 letters and 300 phone calls weekly.

Additionally, the staff makes presentations on preservation technology at regional and national preservation conferences (approximately 12 annually) and at graduate schools (approximately 4 annually). Also, HCRS sponsors professional training courses (1 and 2 day seminars) for approximately 150 architects, builders, and SHPO staff members annually.

To improve the quality of preservation work undertaken and to assure that historic properties can meet the needs of contemporary society, HCRS has implemented a comprehensive publications and assistance plan to provide technical information to the general public, practitioners, and government decisionmakers. By evaluating inquiries from the public, from the SHPO's and from architects and owners receiving HCRS financial assistance or tax benefits, HCRS has been able to identify the areas of need for preservation information and to set priorities for publications. The demand for this information has resulted in the distribution of approximately 3000 individual publications weekly.

To provide technical preservation information to the broadest possible audience, HCRS develops technical leaflets for public distribution, entitled "Preservation Briefs." This series has addressed topics such as cleaning and repair of masonry, energy conservation, and roof repairs. There are now 9 titles in the series. Approximately 35,000 of each are distributed free to the public annually; 100,000 copies of the earliest two briefs are now in print. The demand for "Preservation Briefs" has grown from about 30 weekly requests in 1977 to 300 weekly requests in 1981.

A second publication series of technical reports was begun in 1976 to provide more detailed reference documents for decisionmakers in Federal agencies and practitioners in the field. Topics addressed include cyclical maintenance procedures, epoxy repairs for wood, repair techniques for architectural metals, and methods to improve access for the disabled to historic properties. There are now 12 such technical reports which are sold through the Government Printing Office, with annual sales at about 2,000 copies each.

Additionally, HCRS has conducted field demonstration projects to explore and demonstrate practical solutions to commonly encountered preservation problems such as the repair and preservation of historic commercial storefronts and structural problems resulting from foundation and ground water problems.

The HCRS information program continually assesses the information needs of building owners, architects, and contractors. The State Historic Preservation Offices and individuals involved with the 2000 projects which receive financial assistance or benefits from HCRS each year have identified both complex preservation problems and the need for innovative solutions and treatments for a wide range of conditions.

Program Initiatives:

- Develop and disseminate 5 "Preservation Briefs" to provide practical information on topics such as metal roof repairs, treatments for wet basements, and window accessories to conserve energy.

- Develop and disseminate 3 technical reports to investigate potential solutions to the problems of waterproof coatings for masonry, repair techniques for deteriorated concrete, and applications of passive and active solar energy technologies.

- Develop a clearinghouse of relevant preservation information prepared outside of HCRS to make such information readily available to both public and private users.

- Implement strategies to stimulate research, the preparation of technical reports, and the evaluation of building materials by other Federal agencies, such as the National Bureau of Standards, the National Park Service, Department of Energy and the National Science Foundation.

- Continue and expand project to improve masonry conservation in historic buildings, particularly national historic landmarks, through research and technical assistance to evaluate the impact of environmental pollution (acid rain) and irresponsible human intervention (i.e., improper brick cleaning treatments).

Workload Factors:

	FY 1980	FY 1981	FY 1982
Preservation Briefs			
Number	4	5	5
Distribution of each Brief	35,000	40,000	35,000*
Technical Reports Briefs			
Number	3	3	3
Distribution of each Report	3,000	4,000	5,000
Reprints of Existing Preservation			
Number	11	15	17
Distribution of each Brief	20,000	20,000	20,000
Historic Masonry Conservation Project			
Number of nationally significant buildings monitored	2	10	20

*This figure reflects and increased reliance on sales from the Government Printing Office.

Advise Congress and Federal Agencies on Cultural Properties

Authorization: Federal Property and Administrative Services Act of 1949, as amended, 40 U.S.C. 484; Historic Sites Act of 1935, P.L. 74-292; National Historic Preservation Act of 1966, P.L. 89-655, as amended; Executive Order 11593; General Authorities Act of 1976, P.L. 94-458; Mining in the National Parks Acts of 1976, P.L. 94-429.

Objectives:

- To prepare the portion of the annual Section 8 Report to Congress which describes the status of cultural resources of national significance (National Historic Landmarks) which may be threatened or damaged.

- To develop and implement a technical assistance program for National Historic Landmarks. The program will provide technical assistance for all National Historic Landmarks to advise on their care, maintenance, and preservation; and emergency technical assistance and possible direct grant-in-aid assistance (as authorized by the National Historic Preservation Act Amendments of 1980) to National Historic Landmarks identified as endangered in the Section 8 Report to Congress.

- To provide technical assistance to 70 Federal agencies and State and local governments on the preservation and maintenance of historic public buildings.

- To develop and carry out (through HCRS Regional Offices) training sessions for Federal agencies, State and local governments on professional methods and techniques for preserving historic properties.

- To provide technical assistance on 30 applications for Surplus Property Transfers for Historic Monument Purposes.

- To prepare reports on National Historic Landmarks which may be irreparably lost or destroyed by surface mining activities, to be submitted to the Advisory Council on Historic Preservation pursuant to Section 9 of P.L. 94-429.

Base Program: The National Historic Preservation Act Amendments of 1980 and Executive Order 11593 direct the Secretary of the Interior to:

- Advise Federal agencies in the identification, evaluation, preservation, restoration, and maintenance of historic properties.

- Review and comment on agency procedures for the protection and enhancement of the cultural environment.

- Review and evaluate the plans of transferees of surplus Federal properties for historic monument purposes.

As enumerated in the National Historic Preservation Act Amendments of 1980 and Executive Order 11593, the responsibilities for advising Federal agencies on cultural properties are extremely broad.

Heretofore, the principal method of discharging these responsibilities has been for HCRS to advise and consult with Federal agencies in Washington to insure that the National Register properties under their individual jurisdictions are dealt with in a responsible manner. To better assist Federal agencies in making these important decisions on the preservation, rehabilitation and maintenance of the thousands of cultural properties under their jurisdiction, an outreach program for technical assistance has been initiated through HCRS regional offices. This progam, which will increase HCRS' effectiveness in providing assistance includes: This program, which will increase HCRS; effectiveness in providing assistance includes: advice on individual preservation proposals, assistance in solving specific technical problems, and training programs for building managers and first-line decisionmakers.

Under the General Authorities Act of 1976, the Secretary of the Interior must transmit to Congress annually a complete list of all areas of national significance listed on the National Register of Historic Places which exhibit known or anticipated damage or threats to the integrity of their resources (the Section 8 report on demaged and threatened national historic landmarks). Information on the status of National Historic Landmarks is gathered from owners and Federal, State and local officials. Onsite inspections are also performed. Decisions as to which landmarks will be included are made, and the report is then prepared.

The Mining in the National Parks Act of 1976 directs the Secretary to notify persons conducting surface mining activities adjacent to or within a National Historic Landmark when such activities may result in the irreparable loss or damage to the landmark, and to submit a report to the Advisory Council on Historic Preservation with the basis for the finding that irreparable loss or damage will occur.

Revised procedures developed in FY 1980 for the annual review of national historic landmarks have produced a more accurate Section 8 Report to Congress on the status of cultural resources of national significance which may be threatened or damaged. The FY 1980 Section 8 Report cited 40 National Historic Landmarks as being threatened or damaged, the majority of which are privately owned. The two most prevalent threats to national historic landmarks were found to be commercial and residential development and insufficient funds for maintenance and preservation.

Strategies are being developed in FY 1981 to provide technical and grant-in-aid assistance to endangered National Historic Landmarks. Proposals for utilizing Historic Preservation Fund monies for developing a direct assistance program for endangered National Historic Landmarks not owned by the Federal government will be developed in FY 1981, in accordance with the authorizing language of the 1980 amendments. One technical assistance pilot project in Virginia City, Nevada, is to

provide technical services to the State of Nevada to help make modern mining operations as compatible as possible with historic district and not cause irreparable damage to this National Historic Landmark.

Program Initiatives:

During FY 82, HCRS will:

- Continue a major technical assistance and direct grant assistance program for threatened or damaged national historic landmarks.
- Expand the training programs for Federal agencies--especially through the Federal Regional Councils--on the preservation and maintenance of cultural resources, concentrating on the district, area, and field offices of these agencies.

Workload Factors

	FY 1980	FY 1981	FY 1982
Review of the status of National Historic Landmarks...	116 1/	1,555 2/	730 3/
Reports on National Historic Landmarks threatened by surface mining.....	1	1	1
Technical assistance to National Historic Landmarks.....	10	30	45
Surplus property transfer for historic monument purposes			
Application review and amendments.....	20	30	40
Biennial inspections.....	0 3/	45	70
Technical assistance to Federal agencies and governments.....	(Number of Agencies/State governments) 30	70	70

1. Only those properties for which there was a known or anticipated threat or damage were reviewed in depth during FY80. New procedures for monitoring National Historic Landmarks reduced the number of forms and made the process more accurate and efficient.

2. Request by Director to inspect and/or report on status of all national historic landmarks in FY 1981.

3 Biennial inspections were not conducted in this program prior to FY 1981.

Certify Commercial Rehabilitation for Federal Tax Benefits

Authorization: Section 2124 of the Tax Reform Act of 1976 (P.L. 94-459), as reauthorized by the Tax Treatments Extension Act of 1980; Section 701(f) and 315 of the Revenue Act of 1978 (P.L. 95-600).

Objectives:

- To certify rehabilitation projects undertaken on historic structures permitting taxypayers to claim certain Federal tax benefits.

- To provide technical assistance to owners of historic buildings to ensure that rehabilitations are consistent with the historic character of such structures.

Base Program: Tax considerations have an important bearing on whether private interests are willing to maintain and rehabilitate historic structures rather than allow them to deteriorate or replace them with new buildings. The provisions of 1976 Tax Reform Act, as re-authorized in 1980, and the 1978 Revenue Act, enable owners of historic buildings to claim certain Federal tax benefits provided that the Secretary of the Interior certifies that the buildings are historic and that the rehabilitation work is consistent with the historic character of the property. Expeditious review of these requests for certification, along with broad-based understanding of the tax incentives, stimulates private sector investment in commercial revitalization.

In FY 1980, over 100 rehabilitation projects representing an investment of $600 million were reviewed and approved. Another 90 projects were denied certification for failing to conform with the Secretary's Standards.

In addition, program staff provided assistance to architects and developers of these projects to improve the quality of rehabilitation work and to ensure the long-term preservation of the buildings. The wide range of projects approved and for which technical assistance was provided includes:

- $5 million conversion of an historic mill complex in Central Falls, Rhode Island into housing for the elderly. Part of the work involved the restoration of a water turbine to provide electricity for the new apartments.

- $5 million renovation of a National Historic Landmark, the Marquette Building, in Chicago to provide first class office space for downtown.

An extensive outreach program of workshops and publications, begun in FY 1978, continues to provide technical assistance to property owners and to professionals in the fields of law, real estate, architecture and

finance whose skills bear directly on the quality and quantity of rehabilitation work performed across the country. Among the workshops held and technical publications prepared in FY 1980 were:

- A series of 3 preservation law conferences sponsored by the Practising Law Institute, which attracted over 250 attorneys and helped to focus attention on the economic benefits of reusing historic buildings.

- Two case studies providing in-depth information on the rehabilitation of historic hotels and office buildings. Each study analyzed the economics of adaptive use and the impact of tax incentives upon rehabilitation.

Also undertaken in FY 1980 and continuing in FY 1981 with the National Register and the Department of Treasury is a study assessing the financial impact of the preservation tax provisions and comparing the incentives with other direct subsidy programs.

Program Initiatives: Because of the public support for this program and its benefits to historic preservation, the incentives provisions were reauthorized in 1980 for a three year period ending December 31, 1983. Ability to carry out program initiatives depends in large part on the number of requests for certification received. Due to the nature of the certification process, HCRS can anticipate, but cannot control, certification requests. Building on a clear and positive private sector interest in tax incentives as a means to stimulate commercial revitalization, HCRS plans to:

- establish a centralized data retrieval system both to simplify and assure consistency in the handling of certification requests and to provide information on specific projects, building types, preservation treatments, and rehabilitation costs on a nationwide basis;

- continue a series of rehabilitation case studies which share successful development strategies and technical innovations with other architects, developers, and public officials;

- develop information for property owners and municipal officials on the use of facade easements as a preservation tool for commercial buildings;

- assist the Advisory Council on Historic Preservation in the development of a study analyzing the effectiveness of the preservation tax provisions in promoting the rehabilitation and reuse of historic properties as required by the National Historic Preservation Act Amendments of 1980; and

- continue analysis of tax incentives as an efficient, effective tool to promote preservation goals.

WORKLOAD FACTORS:	FY 1980	FY 1981	FY 1982
Certification of Rehabilitation Projects	1100	1300*	1500*
Training Sessions	50	50	30
Case Studies	2	3	3
Requests for Information about Tax Treatment	6500	7700	8500

*HCRS has no control over the number of requests for rehabilitation certification

Decrease for 1982:		1982 Base	1982 Est.	Decrease
Prepare and Disseminate Technical Preservation Information	$	394	393	-1
	(FTP)	(3)	(3)	(--)
Certify Commercial Rehabilitation for Federal Tax Benefits	$	389	388	-1
	(FTP)	(5)	(5)	(--)

These are part of a $25,000 decrease in administrative travel from the Salaries and Expenses account, as part of the governmentwide effort to reduce such travel.

Justification of Program and Performance

Activity: Cultural Programs
Subactivity: National Architectural and Engineering Record (NAER)

(Dollar amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Historic American Buildings Survey (HABS)	$	689	750	749	-1
[RAM AM1]	(FTP)	(9)	(9)	(9)	(--)
Historic American Engineering Record (HAER)	$	336	365	365	--
[RAM AM2]	(FTP)	(7)	(7)	(7)	(--)
(Common Program Services)	$	(297)	(314)	(369.5)	(+55.5)
Total Requirements	$	1,025	1,115	1,114	-1
	(FTP)	(16)	(16)	(16)	(--)

National Architectural and Engineering Record

General: The National Architectural and Engineering Record (NAER) is comprised of two programs, the Historic American Buildings Survey (HABS) and the Historic American Engineering Record (HAER). These programs address two different areas of expertise requiring different professional backgrounds and are supported by services including photography, architectural drafting, historical research and archival records management. The Historic American Buildings Survey administers a national program to identify and record significant examples of the Nation's architectural heritage. The Historic American Engineering Record administers a national program to identify and record significant examples of the Nation's engineering and industrial heritage. Documentation produced, including measured drawings, high quality photographs and histories, are deposited in the permanent collection in the Library of Congress for use by architects, engineers, preservationists, historians, scholars and the general public.

Historic American Buildings Survey

Authorization: Historic Sites Act of 1935, P.L. 74-292; Executive Order 11593; National Historic Preservation Act of 1966, P.L. 89-665, as amended; National Environmental Policy Act of 1969, P.L. 91-190; Archeological and Historic Preservation Act of 1974, P.L. 93-291.

Objectives:

- To produce accurate, comprehensive documentation of significant examples of the Nation's architectural heritage through measured drawings, photographs, histories and written data.
- To provide information and assistance to organizations and individuals on the techniques and standards of architectural documentation.
- To assist State and local governments, Federal agencies and other organizations in identifying historic resources and planning for their preservation through documentation activities, information, and materials.
- To provide information to organizations and individuals on the architectural heritage of the United States through documentation, exhibits and special studies.
- To make documentary information available to the public, primarily through the permanent collection at the Library of Congress.

Base Program: The Historic American Buildings Survey (HABS) documents significant examples of the Nation's architectural heritage through the use of measured drawings, photographs, histories and written data for a large variety of purposes related to historic preservation. Documentation studies are undertaken to identify cultural resources; to provide an adequate basis for further preservation planning; to prepare a permanent record to be used for repair or reconstruction purposes if the building is subsequently damaged; to facilitate adaptive reuse; to assist in the development of architectural controls; to aid in interpretation and education; to provide a basis for enforcement of preservation easements; to record buildings that cannot be preserved; to provide accurate, objective and comprehensive information for scholars, professionals and others interested in historic buildings; and for other preservation purposes. Documentation is produced by summer field teams under the direct supervision of HABS personnel; through government contractors working to HABS standards and subject to HABS approval; and through the acceptance of large amounts of documentation produced at no expense to the government and donated to HABS by architects and other professionals.

HABS, the oldest operative Federal program in historic preservation, was founded in 1933 to provide work for unemployed architects. However, unlike other depression programs, HABS was originally conceived as a permanent program to be continued after the need for public support of architects had passed because the documentation produced would provide a continuing and lasting record of our architectural heritage for public use.

HABS Activities:

Identification and Inventory

The cultural inventory is the first step in planning and preserving historic buildings. The cultural inventory is a basic planning tool used by decisionmakers and planners in transportation, energy, housing, recreation, conservation, defense and numerous other fields. A form of documentation, the inventory provides basic data on large numbers of buildings. HABS has expertise in survey methodology and advises agencies and others in the conduct of cultural inventories. In selected instances, HABS undertakes cultural inventories for Federal, State and local agencies seeking assistance. HABS participation in the inventory process establishes a methodology which governmental agencies and contractors can use to perform the work, guarantees the quality of the final product, provides training for students and professionals, and insures that the results of the documentation projects are made available to the public through the Library of Congress permanent collection. Cultural inventories permit HABS to identify those buildings with particular significance that should be recorded through full documentation including measured drawings, photographs, and histories as appropriate.

During FY 1980, HABS assisted other Federal agencies in conducting two such inventories. HABS conducted a cultural inventory of the U.S. Naval Academy for the Department of the Navy and a cultural inventory of Fort Sam Houston, Texas, for the Department of the Army; both sites are National Historic Landmarks (NHLs). In both cases, HABS inventoried the entire installation and categorized structures as to their relative importance within the district. Two hundred and seventy-five buildings located on the Naval Academy's grounds and on their 856-acre dairy farm were recorded on inventory forms. Eight structures and the Academy's Beaux Arts plan designed by Ernest Flagg are being documented in greater detail. The Naval Academy needed the historic structures inventory to provide data for a new master plan. HABS' work at Fort Sam Houston required surveying an area of over 3,000 acres and almost 2,500 buildings. A combination of survey techniques was involved including "windshield surveys" of some areas. Fifteen hundred structures were recorded on inventory forms and categorized based on historic and architectural importance. The inventory will serve as the basis for an historic structure maintenance plan. In addition to the inventory, eighteen buildings at Fort Sam Houston are being documented in greater detail by HABS.

Recording

After the identification process is completed, HABS records, in appropriate levels of detail, selected sites and structures with architectural measured drawings, large format photography and/or written historical and/or architectural data developed by field teams of students under the supervision of a HABS staff member. These records are reviewed for accuracy and compliance to HABS standards by HABS staff, edited, corrected, accessioned and transmitted to the Library of Congress for inclusion in the HABS permanent collection. As of the end of fiscal year 1980, HABS had transmitted

documentation on 20,000 sites and structures (including the transmittal of 40,000 measured drawings, 68,000 photographs, and 30,000 histories and data sheets) to the Library of Congress permanent collection.

The HABS and HAER (Historic American Engineering Record) collections in the Library of Congress are the largest body of comprehensive documentation of historic buildings and sites in the United States. As such, the collections are extensively used by researchers, scholars, publishers, and the general public.

A recent study conducted by the Library of Congress indicates that this collection is used for such diverse purposes as restoration, moving of historic buildings, study of the energy conservation aspects of historic buildings, adaptive reuse analyses, plans for the design of contemporary buildings, model making, illustration of architectural and engineering publications and similar uses. During FY 1980, over 16,000 items from the HABS and HAER collections were reproduced from the collections at private request and expense. These collections are also purchased and maintained on microfilm, in whole or in substantial part, by 110 public, university and other libraries throughout the U.S., making the documentation even more easily accessible to the general public.

The HABS method of preparing records through professionally supervised teams of university students provides important training and educational benefits. Often this is the only field experience in historic preservation received by prospective architects, historians, and other professionals. During the past 47 years, over 1,600 architects, historians and photographers have received such training. The 12-week long recording projects conducted during the summer afford students an unusual training opportunity that includes: living in a community or region with a unique built environment; a low student-teacher ratio; and first-hand exposure to historic building techniques and materials. In 1980, 15 recording teams produced valuable documentation while providing employment and professional training for 97 students. HABS also has cooperative teaching programs with 22 schools of architecture throughout the United States. Students in these programs develop drawings to HABS standards for donation to the HABS collection.

HABS recording projects are also directed at the resolution of particular preservation problems. One HABS team, in Tucson, Arizona, developed recommendations to the city for an architectural control ordinance on the design of new construction, "in-fill" buildings in the historic Barrio district. A HABS team at Berkeley Plantation, Virginia developed the documentation needed for the enforcement of the preservation easement held on the property by the Virginia Landmarks Commission. Another HABS team, recording the Adler and Sullivan Auditorium Building in Chicago, provided plans needed by Roosevelt University space planners. Other HABS projects provided needed information to facilitate the preservation planning, restoration, maintenance and use of the buildings under study.

The data and information collected by HABS inventory and recording projects can be applied directly to specific societal needs. For example, in a project initiated in 1980, HABS is working with the Department of Housing and Urban

Development on the development of consumer information on how to make older buildings, including historic buildings, more energy efficient. Using data collected in its recording projects, HABS is developing a publication to make owners of older homes aware of energy conserving features that might have been modified or altered during the years of inexpensive energy. Restoring such design features could conserve substantial energy at little capital outlay.

Federal Agency Documentation

Executive Order 11593 has required, and the National Historic Preservation Act Amendments of 1980 codify the requirements, that Federal agencies document threatened historic buildings under their control to HABS Standards, so that there will be a graphic and written record of historically or architecturally significant buildings that are not to be otherwise preserved. Although occasionally documented by HABS summer field teams, most of these buildings are documented to HABS standards by contractors employed by other Federal agencies or their agents. These records, once reviewed, edited and accessioned by HABS staff, become a part of the permanent HABS collection at the Library of Congress.

Federal agency documentation projects began modestly, with seven requests for assistance in FY 1974. These projects have grown significantly in the intervening years to 900 such requests for assistance in FY 1980. The documentation received under Executive Order 11593 has become the second largest source of HABS documentation transmitted to the Library of Congress and has become an invaluable addition to the collection, particularly since most of these buildings no longer exist.

Donations

HABS receives donation of drawings and other documentation prepared by practicing architects, architectural students and other professionals. This material, prepared at no expense to the program, is edited, accessioned and processed by HABS for inclusion in the Library of Congress collection. Approximately 400 donated measured drawings were received in FY 1980.

Program Initiatives:

- Establish a uniform process and standards for documenting historic properties by public agencies and private parties for purposes of incorporating that documentation into the HABS collection within the Library of Congress, as required by the National Historic Preservation Act Amendments of 1980.

- Reduce the number of incomplete past projects, and edit and transmit to the Library of Congress, documentation remaining from previous years.

- Increase the documentation of National Historic Landmarks (NHLs) in the Library of Congress permanent collection through the use of HABS recording teams and photographic coverage and, where feasible, through photoduplication of any existing documentation. An adequate documentary

record of NHLs is needed to permit the repair and reconstruction of these buildings and sites in the event of damage due to storms, fire, earthquakes, etc. A recent HABS study indicated that of the 707 architecturally significant NHLs, only 250 are adequately documented and deposited in the Library of Congress.

- Conduct additional special studies applying HABS collected information and data to preservation and design problems. Energy conservation studies will be continued and new studies on reducing seismic damage, fire damage, and similar problems facing historic buildings will be explored.

Workload Factors:

	FY 1980[1/]	FY 1981[2/]	FY 1982
Recording teams fielded	7	4	7
Sites and structures transmitted	846	100	300
Historical reports/pages	3655	500	1200
Photographs	5453	600	1500
Drawings	1048	125	300

1/ In FY 1980, the Director placed a priority on editing and transmitting backlogged documentary materials.

2/ Regionalization of the HABS program in FY 1981 may result in a temporary initial decrease in recording teams and transmittals.

Decrease for 1982:		1982 Base	1982 Est.	Decrease
Historic American Buildings Survey	$	750	749	-1
	(FTP)	(9)	(9)	(--)

This is part of a $25,000 decrease in administrative travel from the Salaries and Expenses Account, as part of a government wide effort to reduce such travel.

Historic American Engineering Record

Authorization: Historic Sites Act of 1935, P.L. 74-292; Executive Order 11593; National Historic Preservation Act of 1966, P.L. 89-665, as amended; National Environmental Policy Act of 1969, P.L. 91-190; Archeological and Historic Preservation Act of 1974.

Objectives:

- To produce accurate, comprehensive documentation of significant examples of the Nation's historic engineering and industrial sites through measured drawings, photographs, histories and written data.
- To provide information and assistance to organizations and individuals on the techniques and standards of documentation of engineering and industrial sites.
- To assist State and local governments, Federal agencies and other organizations in identifying historic resources and planning for their preservation through documentation activities, information and materials.
- To provide information to organizations and individuals on the technological heritage of the United States through documentation, exhibits and special studies.
- To make documentary information available to the public, primarily through the permanent collection at the Library of Congress.

Base Program: The Historic American Engineering Record (HAER) documents significant examples of the Nation's historic engineering and industrial sites through the use of measured drawings, photographs, histories and written data for a large variety of purposes related to historic preservation. Documentation studies are undertaken to identify cultural resources; to provide an adequate basis for further preservation planning; to prepare a permanent record to be used for repair or reconstruction purposes if the property is subsequently damaged; to facilitate adaptive reuse; to assist in the development of architectural controls; to aid in interpretation and education; to provide a basis for enforcement of preservation easements; to record properties that cannot be preserved; to provide accurate, objective and comprehensive information for scholars, professionals and others interested in historic buildings; and for other preservation purposes. Documentation is produced by summer field teams under the direct supervision of HAER personnel; through government contractors working to HAER standards and subject to HAER approval; and through the acceptance of large amounts of documentation produced at no expense to the government and donated to HAER by architects and other professionals. HAER was established in 1959 as a sister organization to HABS for the purpose of documenting the historic engineering and industrial sites of the U.S.

HAER Activities:

Identification and Inventory

HAER assists States and other organizations in conducting inventories of engineering and industrial sites of historic significance. Unlike historic architecture, few surveys of engineering and industrial sites have been conducted. This is primarily due to a general shortage in U.S. institutions

74-939 O—80——39

of technical expertise in historical engineering. HAER is virtually the only locus of such expertise and provides assistance through conducting inventories for States, and providing technical assistance in how such inventories should be accomplished. These inventories form the basis for preservation planning by Federal, State, and local governments, and by private organizations. HAER inventories also serve as a basis for selecting properties for full documentation. HAER inventories are supported primarily through outside funding. In FY 1980, HAER conducted three statewide inventories in Connecticut, Indiana and Washington State, and five inventories on engineering heritage in California, Montana, Wisconsin, Alaska, and Massachusetts.

Recording

After the identification of technologically significant sites, HAER comprehensively records selected sites through an integrated program of documentation, including measured drawings, photographs, and written historical and engineering data developed by field teams under the supervision of a HAER staff member. These records are reviewed for accuracy and are deposited in the Library of Congress. Some reports of HAER recording projects are published by the Government Printing Office for public sale and dissemination.

In the summer of FY 1980, HAER was involved in four recording projects documenting historic engineering or industrial sites in West Virginia, Louisiana, Georgia, South Carolina, and Nevada. The FY 1980 HAER summer recording project in the city of Shreveport, Louisiana exempifies the activities of HAER summer teams. The McNeil Street Pumping Station is a rare, fully steam-powered municipal water pumping facility still in use by the city. Its functions are shortly to be taken over by newer electric pumps located nearby, but the city wishes to maintain the pumping station for standby duties and explore possibilities for its use as a museum. HAER is fully documenting the pumping station with a scholarly historical monograph, a set of measured drawings (including site plans, building plans, elevations, sections, machinery details, and a process diagram) and a series of large format photographs processed for archival permanence. In addition, a written report, illustrated by architectural renderings, will examine the interpretive potential of the site; raise and answer specific restoration questions; and present one or more general plans for opening and interpreting the plant to visitors. A pamphlet summarizing these options will be printed and distributed in the field in FY 1981. The team consisted of six persons: an historian/team supervisor, a museum/preservation planner, and four architectural delineators.

HAER recording projects also facilitate adaptive reuse. For example, the FY 1980 HAER summer team in Guthrie, Oklahoma worked with data from previous recording and inventory projects in that city to demonstrate the feasibility of rehabilitating historic commercial and industrial structures for continued use.

A HAER project conducted in FY 1980 in the National Historic Landmark Comstock Lode Mining District in Virginia City, Nevada addressed the area of conflict resolution. In that project, a HAER team demonstrated a potential balance between renewed mining in the area and conservation of the historic commercial, residential and mining related resources.

HAER also sponsors interdisciplinary recording projects of significant buildings. In FY 1980, HAER, in conjunction with HABS, completed the documentation of Louis Sullivan's Auditorium Building in Chicago. This documentation demonstrated the evolution of the building's unusual and innovative structural and mechanical systems and will be used by planners to make future changes to the building needed by the present occupant, Roosevelt University.

The data and information collected by HAER inventory and recording projects can be applied directly to specific preservation and design needs. HAER provides technical information on the characteristics of historic building materials and the processes which developed them. This information is used in structural analyses, reconstruction and other preservation activities. HAER is also working with the Department of Transportation and other organizations to develop feasible approaches for preserving historically significant bridges.

Federal Agency Documentation

Executive Order 11593 has required, and the National Historic Preservation Act Amendments of 1980 codify the requirements, that Federal agencies document threatened historic structures and sites under their control to HAER standards in order to provide a graphic and written record of significant properties scheduled for demolition. These records become a part of the HAER collection at the Library of Congress. HAER determines the extent of documentation required for each property based on its significance, reviews the work in progress, and approves the final submission.

An example of HAER's work with other Federal agencies is the Northeast Rail Corridor Project of the Federal Railroad Administration (FRA). For the past three years, HAER has worked with the Federal Railroad Administration and their consultants concerning plans for improvements to the Northeast Corridor Railroad System between Washington, D.C. and Boston. HAER assisted the FRA in a preliminary helicopter survey of all historic engineering sites along the corridor. The high quality survey photographs taken for archival purposes have also been useful for other environmentally related material disseminated by the FRA for the project.

Program Initiatives:

- Establish a uniform process and standards for documenting historic properties by public agencies and private parties and for incorporating that documentation into the HAER collection within the Library of Congress, as required by the National Historic Preservation Act Amendments of 1980.

- Reduce the number of incomplete past projects, and edit and transmit to the Library of Congress, documentation remaining from previous years.

- Increase the documentation of National Historic Landmarks (NHLs) in the Library of Congress permanent collection through the use of HAER recording teams and photographic coverage and, where feasible, through photoduplication of any existing documentation. An adequate documentary record of NHLs is needed to permit the repair and reconstruction of these buildings and sites in the event of damage due to storms, fire, earthquakes, etc.

Workload Factors:

	FY 1980 1/	FY 1981 2/	FY 1982
Recording teams fielded	4	3	4
Inventories	8	3	3
Sites & structures transmitted	163	50	75
Historical reports/pages	2518	150	300
Photographs	2143	200	400
Drawings	487	75	150

1/ In FY 1980, the Director placed a priority on editing and transmitting backlogged documentary materials.

2/ Regionalization of the HAER program in FY 1981 may result in a temporary initial decrease in tramittals.

Justification of Program and Performance

Activity: Cultural Programs
Subactivity: Interagency Archeological Services

(Dollar amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Data Recovery [RAM AP1]	$	1,609	1,751	1,523	-228
	(FTP)	(13)	(13)	(13)	(--)
Executive Order Project Monitoring [RAM AP2]	$	738	803	801	-2
	(FTP)	(8)	(7)	(7)	(--)
Federal Antiquities Program [RAM AP3]	$	128	139	139	--
	(FTP)	(2)	(3)	(3)	(--)
(Common Program Services)	$	(611)	(758)	(817)	(+59)
Total Requirements	$	2,475	2,693	2,463	-230
	(FTP)	(23)	(23)	(23)	(--)

General

The Interagency Archeological Services subactivity has subdivided its functions under multiple authorities into three components. The Data Recovery program provides technical and financial assistance for the recovery of historic and prehistoric remains and data that are threatened with damage or destruction by Federal undertakings; coordinates the Federal efforts to recover prehistoric and historic remains and recommends the most economical and efficient means to do so; and makes the results of data recovery available to the public. The Executive Order Project Monitoring program provides technical advice and assistance to Federal agencies, States, local governments and the general public on the location, evaluation, and nomination of prehistoric and historic sites to the National Register of Historic Places and provides methods, techniques and standards for their management and preservation. The Federal Antiquities Program protects antiquities on public and Indian land, provides for legitimate research under permit, and provides a public awareness and information program about antiquities.

Archeological remains represent an important but often neglected component of historic preservation. Their study adds a greater time depth to our cultural heritage by providing means to study man's activities before recorded history. They also provide a test of the accurancy of historical records and augment recorded history with information not contained in written records. This kind of information can be essential to providing historical orientation particularly to cultural minorities whose history was seldom recorded.

Data Recovery

Authorization: Archeological and Historic Preservation Act of 1974, P.L. 93-291, as amended by Section 603 of the National Parks and Recreation Act of 1978, P.L. 95-625; National Historic Preservation Act of 1966, P.L. 89-665, as amended. Section 7 (b) and (c) of The Archeological and Historic Preservation Act of 1974 authorizes an appropriation of $5 million for FY 1982 to provide for data recovery.

Objectives

- To oversee and coordinate governmentwide efforts to protect and recover the scientific information uniquely contained in archeological sites by continuing to procure needed investigation and by preparing guidelines and standards to direct the work of others toward preservation, where possible, and adequate data recovery where not.
- To recover archeological data endangered by federally funded or financially assisted projects.
- To make the results of the Federal data recovery program available for the benefit and use of the public.
- To report to Congress on the scope, effectiveness, cost, and benefits of government-wide data recovery activities.
- To provide regulations for the curation of recovered historic and prehistoric data and materials.

Base Program: Under the Archeological and Historic Preservation Act of 1974 (P.L. 93-291), Interagency Archeological Services (IAS) coordinates a nationwide program to recover archeological resources in advance of Federal, federally funded or federally assisted construction or terrain-altering activities. Data recovery occurs when other options that allow for long-term preservation of archeological resources in place are not feasible. Data recovery represents a last resort effort to salvage a part of the information and material remains of sites before they are destroyed.

As part of this program, IAS receives notifications that archeological resources may be endangered, investigates to determine if important data are involved, and provides advice and assistance for appropriate salvage or preservation efforts. Other Federal agencies are directed either to recover data endangered by their programs or to transfer up to one percent of the project funds to the Secretary of the Interior so that IAS can provide for the data recovery. In addition to coordinating all efforts to recover endangered data, IAS is responsible for making information available to the public and reporting annually to Congress on the scope and effectiveness, cost, and results obtained from the investigations. IAS also investigates allegations that data recovery efforts are being done unprofessionally or inadequately and provides appropriate advice to the responsible agency.

When other agencies conduct data recovery projects, the role of IAS is one of coordination and oversight. IAS helps agencies define the level and type of work required and monitors the data recovery through review of project reports and special coordination reports to ensure that Federal requirements are being met and that Federal funds are being expended to recover important data only from those sites meeting Federal significance criteria. IAS also assists agencies by providing standards and guidelines; suggesting the most appropriate, cost-effective means of data recovery; reviewing the results of data recovery projects; and making results available to the public.

When funds are transferred to the IAS for data recovery, IAS insures compliance with all Federal requirements and contracts with professionally qualified organizations for all necessary work. IAS assures that the work is adequate to meet professional and Federal standards by monitoring and reviewing the work and all resulting reports. In cases where the funding for a project is inadequate to meet data recovery needs, IAS attempts to augment the amount available with appropriated funds on a case by case basis. Such augmentation is based on the availability of funds, manpower and travel ceilings, and occurs only when IAS has determined that delays for the involved agency to seek additional funds would endanger life or property, cause project or data recovery costs to escalate excessively, or endanger the cultural resources.

In conducting the activities that are necessary for the proper functioning of the data recovery prorgram, IAS will:

- Accept and utilize transferred funds as mandated in sections 4, 6 and 7 of P.L. 93-291 to recover endangered archeological remains to the extent that financial, personnel, and travel ceilings permit.

- Respond under expedited procedures when archeological resources are discovered after construction or implementation of a project has begun by providing an analysis of data recovery needs and recommendations in order to avoid incurring costs for contract delays or loss of the use of private land.

Program Initiatives:

IAS will continue work begun in FY 1981 to:

- Explore innovative ways consistent with the recommendations in the GAO audit of nationwide archeological programs to expand manpower and financial capabilities of IAS to supplement other agencies' funding where 1% transfer funds are inadequate and delays would cause undue hardship; endanger life, property or the cultural resources; or increase the costs to the Federal government of completing the projects.

- Prepare or revise regulations and guidelines to implement the provisions of the National Historic Preservation Act Amendments of 1980 as they relate to archeological resources and data recovery, such as clarifying the 1% waiver provisions for Federal project data recovery.

- Prepare regulation for curation of archeological materials and records as required by the National Historic Preservation Act Amendments of 1980.

Workload Factors:

	FY 1980	FY 1981	FY 1982	FY 1981 estimated average unit cost
Corps of Engineers permit reviews [1]	1,750	1,800	1,850	$7.00
Reviews and assistance	264	300	370	500.00
Dual-funded contracts	11	7	3	28,500.00
Publications mailed	7,000	8,400	10,500	4.00
Controlled correspondence	140	140	140	116.00
National Technical Information Service submissions[2]	150	200	400	35.00
Regulations prepared and/or amended	3	2	4	10,000.00
Investigations[2]	6	10	25	7,000.00

IAS activities under various data recovery programs are undertaken in response to requests from and to actions of other agencies, and are, therefore, difficult to predict.

1 The Corps of Engineers issues approximately 27,000 permits each year for which review is required; IAS reviews the most critical on a sampling basis.

2 Includes anticipated increases in these activities as a result of greater awareness of legal requirements on the part of other agencies as a result of the Spring 1981 publication of 36 CFR 1210.

Decrease in FY 1982		1982 Base	1982 Est.	Decrease
Data Recovery	$	1,751	1,523	-228
	(FTP)	(13)	(13)	(--)

$225,000 of this decrease is money added in 1981 for archeological investigations of the Ozette Village Archeological Site. In light of this reduction, continuation of that work is not anticipated. These funds are being reallocated to the Maintenance of the National Register subactivity to help fund boundary definition of National Historic Landmarks (NHL) districts. The National Historic Preservation Act Amendments of 1980 mandated establishment of boundaries of NHL districts that do not now have boundaries.

The remainder of the decrease, $3,000, is part of a $25,000 decrease in administrative travel from the Salaries and Expenses account. This is part of the governmentwide effort to reduce such travel.

Object Classification Distribution

The object class breakdown for this $225,000 decrease is as follows:

	1982 Estimate
Other Services	$ 225,000
Total	$ 225,000

Executive Order Project Monitoring

Authorization

Historic Sites Act of 1935, P.L. 74-292; Historic Preservation Act of 1966, P.L. 89-665, as amended; Executive Order 11593.

Objectives

- To advise and assist Federal agencies in the evaluation, identification, preservation, improvement, restoration and maintenance of archeological properties.
- To develop and make available information concerning professional methods and techniques for preserving, improving, restoring and maintaining archeological properties.
- To prepare standards for adequate identification, evaluation, preservation, improvement, restoration and maintenance of archeological properties for use by Federal agencies, States, local governments, private citizens and historic preservation professionals.
- To assist Federal agencies to develop appropriate expertise to provide adequate care and treatment for historic and prehistoric cultural resources through their identification, evaluation and preservation activities.

Base Program

Under the National Historic Preservation Act Amendments of 1980 and Executive Order 11593, IAS provides consultation and technical assistance to other Federal agencies, States and private individuals on the location, evaluation, nomination, preservation, improvement, restoration and maintenance of archeological properties. Using a contracting program to obtain professional services, IAS provides assistance to other agencies in fulfilling their archeological responsibilities, fosters the development of improved methods and techniques through special studies and demonstration projects, and disseminates studies and information illustrating innovative and cost-effective approaches, techniques and policies to Federal agencies, States, and the private sector. IAS also provides standards, policy and advice on the systematic inventory of Federal lands for historic properties and the evaluation of those properties for listing on the National Register of Historic Places.

To assist agencies in obtaining the maximum amount of useful scientific information with the minimum expenditure of public funds, IAS frequently serves as a liaison between Federal agencies and their contractors. This involves assisting such agencies on a cost-reimburseable basis in contract preparation, field consultation and monitoring, reviewing interim and final reports and making recommendations regarding the adequacy of the

technical or scientific work. In many cases, such work forms the identification phase of further work that will be performed under the IAS data recovery program. The principal focus of this assistance is to help agencies develop internal capabilities to fulfill their inventory, evaluation and nomination requirements.

IAS also assists agencies to develop internal capabilities by preparing and presenting formal courses designed to inform Federal managers about archeological values and the appropriate means of complying with preservation laws and policies.

Program Initatives

- In consultation with the Advisory Council on Historic Preservation, the Departments of Agriculture and Defense, the Smithsonian Institution, and the General Services Administration, prepare standards for conducting scientifically adequate archeological inventories pursuant to the National Historic Preservation Act Amendments of 1980.
- In consultation with the Advisory Council on Historic Preservation, provide guidelines for the scientifically adequate inventory of archeological properties pursuant to the National Historic Presevation Act Amendments of 1980.
- Work closely with agencies with histories of difficult environmental problems and agencies involved in energy development and delivery to expedite projects needed to meet national priorities.

Workload Factors:	FY 1980	FY 1981	FY 1982	FY 81 estimated average unit costs
Consultations[1]	520	600	695	$100.00
Document Reviews[1]	64	75	100	500.00
Training sessions	3	5	8	3500.00
Controlled correspondence	100	100	100	116.00
Regulations prepared and/or amended	0	2	15	10,000.00

1 Includes anticipated increases in these activities as a result of increased awareness of requirements because of their codification in the National Historic Preservation Act Amendments of 1980, P.L. 96-515.

Decrease for 1982:		1982 Base	1982 Est.	Decrease
Executive Order	$	803	801	-2
Project Monitoring	(FTP)	(7)	(7)	(--)

This is part of a $25,000 decrease in administrative travel from the Salaries and Expenses account, as part of a governmentwide effort to reduce such travel.

Federal Antiquities Program

Authorization: American Antiquities Act of 1906, Public Law 59-209; Archaeological Resources Protection Act of 1979, Public Law 96-95.

Objectives

- To protect antiquities on public and Indian lands by governing their legal removal through the issuance of permits and the promulgation of uniform rules and regulations, and through civil and criminal penalties for the unauthorized removal, damage or destruction of antiquities.
- To assure that antiquities from public and Indian lands are investigated and preserved to provide the greatest benefit to the American people through policies and regulations that assure long term curation and ultimate disposition of antiquities among museums, universities, and other appropriate educational institutions.
- To foster and improve communication, cooperation, and exchange of information among private individuals, Federal authorities, and professional archeologists to provide the greatest possible knowledge, understanding and appreciation of the importance of preserving antiquities.
- To report annually to Congress on actions taken for the preservation and management of antiquities and make recommendations that will improve protection of antiquities on public and Indian lands.

Base Program: Under the Antiquities Act of 1906 and the Archaeological Resources Protection Act of 1979, IAS is directed to formulate policy and regulations; issue permits for removal of antiquities from public and Indian lands; foster communication among professional archeologists, individuals, and Federal authorities; and provide public education to encourage preservation of antiquities on or from Indian lands. IAS is also required to report annually to Congress on actions taken and changes needed to facilitate the preservation of antiquities. The Federal Antiquities Program provides nationwide management, administration, and policy direction of archeological and paleontological research investigations on public and Indian lands to facilitate the preservation of significant historic and archeological

properties and information. Through a professional review process, permits are issued to qualified educational and scientific institutions, private professional firms, and qualified individuals. The program is responsible for educating industry and the public about the value of preservation and the judicious use of archeological and paleontological resources. The Archeological Resources Protection Act of 1979 directs the Antiquities Program to assume permitting responsibilities for agencies delegating such authority to the Secretary of the Interior.

Program Initiatives:

- Develop a computerized system to track the review and permitting process in order to increase the efficiency and improve the management of the nationwide permitting program.

Workload Factors:

	FY 1980	FY 1981	FY 1982	FY 81 estimated average unit cost
Controlled correspondence	40	40	40	$116.00
Permit application reviews	240	260	280	70.00
Permit issuance	212	230	240	31.00
Permit report evalulation and review	75	80	85	42.00
Permit monitoring	10	10	10	740.00
Regulations prepared and/or amended	1	2	2	10,000.00
Litigation	2	2	2	950.00

Justification of Program and Performance

Activity: Administrative Programs
Subactivity: Environmental and Compliance Review

(Dollar amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Environmental Assignments	$	267	291	291	--
(RAM AR1)	(FTP)	(8)	(8)	(8)	(--)
Transportation Project Coordination	$	342	372	371	-1
(RAM AR2)	(FTP)	(9)	(9)	(9)	(--)
(Common Program Services)	$	(164)	(187)	(220)	(+33)
Total Requirements	$	609	663	662	-1
	(FTP)	(17)	(17)	(17)	(--)

General

Environmental and Compliance Review involves reviews of Federal and federally assisted projects under general environmental laws and mandates and reviews of transportation projects under environmental provisions of transportation-related laws. Although the work is similar in both actvities, it is based on different legislative authority and different criteria are used to determine the adequacy of the documents reviewed.

Environmental Assignments

Authorization: Bureau of Outdoor Recreation "Organic Act" (P.L. 88-29); Section 102(2)(C) of the National Environmental Policy Act (NEPA) of 1969, P.L. 91-190; November 29, 1978, Council on Environmental Quality regulations implementing NEPA; Historic Preservation Act of 1966, P.L. 89-665; and Executive Order 11593, "Protection and Enhancement of the Cultural Environment"; Executive Order 11988, "Floodplain Management"; Executive Order 11990, "Protection of Wetlands"; Executive Order 12185, "Conservation of Petroleum and Natural Gas"; National Energy Conservation Policy Act of 1978, and the Emergency Energy Conservation Act of 1979.

Objectives: To insure that Federal and federally assisted projects adequately consider protection of natural, scenic, historic, archeological, architectural, recreational, and related environmental resources, together with potentials for enhancing them. To develop approaches to reduce the environmental impacts of Federal energy projects by providing technical assistance and to encourage energy conservation in HCRS projects. To monitor and enforce compliance with Executive Order 11988, Floodplain Management, and Executive Order 11990, Protection of Wetlands, in all programs of the Service. To provide policy and procedural guidance to all units of the Service on complying with the National Environmental Policy Act and to monitor that compliance.

Base Program: Section 102(2)(C) of the National Environmental Policy Act of 1969 requires HCRS to: (a) consider the environmental implications of its proposed program actions; (b) prepare written environmental statements evaluating the environmental effects of those proposed actions which would have major and significant impacts; and (c) consult with other agencies regarding impacts on recreation, historical, archeological and natural resources of their proposed actions.

The Heritage Conservation and Recreation Service's general environmental work falls into three categories: (1) preparing environmental impact statements and environmental assessments; (2) reviewing and commenting on environmental statements prepared by other agencies; and (3) participating in general activities where the Service's environmental interests are concerned, including membership on multi-disciplinary task forces or work groups assigned to environmental projects of major Departmental significance.

The Service annually prepares 4,500 environmental assessments and 5 environmental impact statements (EIS) for Land and Water Conservation Fund projects; 800 environmental assessments for Urban Park and Recreation Recovery projects; and 1500 environmental assessments for Historic Preservation Fund projects.

Of the approximately 2,000 environmental impact statements received by the Department each year from other agencies, the Service reviews about 1,800 for their impacts on recreation, historical, archeological, and natural resources. In addition, the Service will participate in 45 "scoping" meetings and be a cooperating agency for 5 EISs.

Transportation Project Coordination

Authorization: Section 4(f) of the Department of Transportation Act of 1966; P.L. 89-670; Section 102 (2)(C) of the National Environmental Policy Act of 1969, P.L. 91-190; November 29, 1978, Council on Environmental Quality's regulations implementing NEPA; Federal Aid Highway Act of 1968, P.L. 90-495; Section 16(c)(4) of the Airport and Airway Development Act of 1970, P.L. 91-258; Historic Preservation Act of 1966, P.L. 89-665; Urban Mass Transportation Assistance of 1970, P.L. 91-453; and Executive Order 11593 "Protection and Enhancement of the Cultural Environment".

Objectives: To preserve and enhance public recreation land, wildlife and waterfowl refuges, and historic/archeological sites by providing constructive review comments on environmental/4(f) statements as prepared by transportation agencies; to provide technical assistance in the form of early coordination and "scoping" advice to transportation agencies to minimize the impacts and conflicts that transportation projects might otherwise have on recreation and cultural resources; and to comply with the Council on Environmental Quality's guidelines for cooperating/reviewing agencies.

Base Program: As the lead agency in preparing Interior's comments on transportation environmental statements, the Service evaluates and presents Departmental views on 300 environmental impact statements for proposed federally aided transportation projects; evaluates and presents Departmental views on 175 proposed federally aided transportation projects which could involve encroachment on public recreation lands, wildlife and waterfowl refuges, and historical sites of National, State or local significance; and provides technical assistance in early project planning to help determine project feasibility for another 200 transportation projects. Special attention is given to protection of cultural resources (historic, archeological and architectural) and Natural Landmarks which are threatened by proposed transportation construction activities. The bridge replacement and rehabilitation program authorized by Section 124 of P.L. 95-599 (92 STAT.2689) calls for early consultation with highway agencies to enhance and protect recreation and historic resources.

Section 4(f) (of the Department of Transportation Act) determinations entail preliminary screening of all environmental statements, coordination with other Interior agency programs involving existing and proposed park and recreation areas, wildlife and waterfowl refuges, historic sites, etc.; participation in interagency meetings, public hearings and field inspections; preparation of reports and comments; and constant communication with concerned Federal, State and local officials.

Section 6(f) of the Land and Water Conservation Fund (L&WCF) Act is applicable to public areas if the affected Section 4(f) lands have received moneys from the L&WCF grant program. Section 6(f) prohibits conversion of land from recreational use unless conversion is approved by the Secretary of the Interior. In transportation projects involving both Section 4(f) of the DOT Act and Section 6(f) of the L&WCF Act, the Service coordinates efforts to assure that appropriate conversion actions are in compliance with the law.

Decrease for 1982:		1982 Base	1982 Est.	Decrease
Transportation Project	$	372	371	-1
Coordination	FTP	(9)	(9)	(--)

This is part of a $25,000 decrease in administrative travel from the Salaries and Expenses account, as part of the governmentwide effort to reduce such travel.

74-939 O—80——40

Summary of Requirements by Object Class
(dollar amounts in thousands)

Appropriation: Salaries and Expenses

Object class		1982 Base			1982 Estimate			Inc. (+) or Dec. (-)		
		Pos.	Avg. No.	Amount	Pos.	Avg. No.	Amount	Pos.	Avg. No.	Amount
11	Personnel compensation:									
11.1	Full-time permanent positions	322	295	$8,091	319	292	8,012	-3	-3	-79
11.3	Position other than full-time permanent	144	144	2,240	144	144	2,240	---	---	---
11.5	Other personnel compensation	---	2	33	---	2	33	---	---	---
11.9	Total personnel compensation	466	441	10,364	463	438	10,285	-3	-3	-79
	Other objects:									
12.1	Personnel benefits			1,201			1,193			-8
13.0	Benefits for former personnel			9			9			---
21.0	Travel and transportation of persons			511			517			+6
22.0	Transportation of things			36			36			---
23.1	Standard level user charges			1,148			1,148			---
23.2	Communications, utilities and other rent			367			367			---
24.0	Printing and reproduction			290			243			-47
25.0	Other services			3,153			2,746			-407
26.0	Supplies and materials			221			212			-9
31.0	Equipment			61			56			-5
42.0	Insurance claims and indeminities			30			30			---
	Total requirements			17,391			16,842			-549

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE

SALARIES AND EXPENSES

For necessary expenses of the Heritage Conservation and Recreation Service, not otherwise provided for, [$15,980,000] $16,842,000. (16 U.S.C. 1a-5, 4601-4601-3, 461, 467, 469c, 470; Public Law 96-514, making appropriations for the Department of the Interior and related agencies, 1981.)

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
SALARIES AND EXPENSES

Program and Financing (in thousands of dollars)

Identification code 14-0700-0-1-303	1980 actual	1981 estimate	1982 estimate
Program by activities:			
Direct program:			
1. Recreation programs	3,453	5,488	5,571
2. Natural programs	2,431	3,858	3,571
3. Cultural programs	10,043	11,335	7,038
4. Administrative programs	400	632	662
5. Railways conversion	1,092	3,207	---
Total direct program	17,419	24,520	16,842
Reimbursable program	4,625	11,000	11,000
Total program costs, funded	22,044	35,520	27,842
Change in selected resources (undelivered orders)	-1,419	-7,300	---
10.00 Total obligations	20,625	28,220	27,842
Financing:			
11.00 Offsetting collections from: Federal funds	-4,625	-11,000	-11,000
21.40 Unobligated balance available, start of year	-990	-630	---
24.40 Unobligated balance available, end of year	630	---	---
39.00 Budget authority	15,640	16,590	16,842
Budget authority:			
40.00 Appropriation	15,701	15,980	16,842
40.01 Appropriation rescinded (Public Law 96-304)	-61	---	---
43.00 Appropriation (adjusted)	15,640	15,980	16,842

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
SALARIES AND EXPENSES

P. 2

Program and Financing (in thousands of dollars)

Identification code 14-0700-0-1-303	19 80 actual	19 81 estimate	19 82 estimate
44.20 Supplemental for civilian pay raises.....	---	610	---
Relation of obligations to outlays:			
71.00 Obligations incurred, net.....	16,000	17,220	16,842
72.40 Obligated balance, start of year.....	21,259	10,172	1,761
74.40 Obligated balance, end of year.....	-10,172	-1,761	-2,263
90.00 Outlays, excluding pay raise supplemental.....	27,087	25,039	16,322
91.20 Outlays from civilian pay raise supplemental.....	---	592	18

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
SALARIES AND EXPENSES

Object Classification (in thousands of dollars)

Identification code 14-0700-1-1-303		1980 actual	1981 estimate	1982 estimate
	Direct obligations:			
	Personnel compensation:			
11.1	Full-time permanent positions..	8,924	8,192	8,012
11.3	Positions other than full-time permanent.....	1,866	1,990	2,240
11.5	Other personnel compensation...	26	33	33
11.9	Total personnel compensation.	10,816	10,215	10,285
12.1	Personnel benefits: Civilian...	1,116	1,321	1,193
13.0	Benefits for former personnel...	9	9	9
21.0	Travel and transportation of persons.....	562	492	517
22.0	Transportation of things.....	74	119	36
23.1	Standard level user charges.....	787	1,088	1,148
23.2	Communications, utilities, and other rent.....	683	356	367
24.0	Printing and reproduction.....	524	288	243
25.0	Other services.....	751	2,776	2,746
26.0	Supplies and materials.....	215	216	212
31.0	Equipment.....	467	284	56
41.0	Grants, subsidies, and contributions.....	-30	30	---
42.0	Insurance claims and indemnities	26	26	30
99.0	Total, direct obligations.....	16,000	17,220	16,842

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
SALARIES AND EXPENSES

PERSONNEL SUMMARY

Identification code 14-0700-0-1-303	FY 80 actual	FY 81 estimate	FY 82 estimate
Direct:			
Total number of full-time permanent positions	333	322	319
Total compensable workyears:			
Full-time equivalent employment	473	427	436
Full-time equivalent of overtime and holiday hours	2	2	2
Average ES salary	$49,596	$50,010	$50,061
Average GS grade	10.15	10.15	10.15
Average GS salary	$24,183	$26,366	$26,366

Appropriation Summary Statement

Appropriation: Urban Park and Recreation Fund.

The Urban Park and Recreation Recovery (UPARR) Act of 1978 (Title X of P.L. 95-625) established a new grant program to help physically and economically distressed urban areas improve recreation opportunities for their residents. This program provides grants to local governments to rehabilitate existing indoor and outdoor recreation facilities; to demonstrate innovative ways to enhance park and recreation opportunities at the neighborhood level; and to develop local Recovery Action Programs that identify community needs, objectives, action priorities and strategies for revitalization of the total public and private recreation system. One hundared fifty million dollars ($150 million) is authorized for each of the Fiscal Years 1979-82 and $125 million for Fiscal Year 1983 to fund urban recreation revitalization efforts.

Funds in the amount of $75,000,000 are requested for fiscal year 1982 for this program. Of this amount $71,895,000, is requested for grants-in-aid to urban governments for assistance in the improvement of deteriorated park and recreation systems and $3,105,000 is requested to administer the program.

The program was implemented in FY 1979 after extensive consultation with city, county, State and private park and recreation interests. Eligibility criteria were developed in cooperation with the U.S. Bureau of the Census and published in March 1979, (CFR, Part 1228, Appendix A) in accord with the 120 day time limit included in P.L. 95-625. Requirements for local park and recreation Recovery Action Programs (CFR 1228.10-1228.18) and grant application procedures (CFR, 1228.30-1228.66) were also published in 1979 and the first national grants competition was completed by the end of September. These first grant offers, totalling $17.1 million were announced on October 4, 1979. The first FY 80 grant round was completed in December 1979 with announcement of $35.6 million in grant offers. Two grant rounds were completed in July and December of 1980. To date, UPARR has awarded over 535 grants totalling $121 million.

HERITAGE CONSERVATION AND RECREATION SERVICE

Summary of Requirements
(Dollar amounts in thousands)

Appropriation: Urban Park and Recreation Recovery Fund	Perm Pos.	Amount	Perm. Pos.	Amount
Summary of adjustments to base and built-in changes:				
Appropriation enacted to date, 1981			37	20,000
Adjustments to base and built-in changes:				
Adjustment for 1981 pay increases and related costs		+104		
Annualization of 1981 pay increase		+1		
Subtotal, adjustments for 1981 pay increase			37	+105 20,105
Other increases:				
Employees Compensation Fund		+1		
GSA space cost increases		+25		
Subtotal, adjustments to base and built-in changes			37	+131
1982 base				20,131

Comparison by activities:	1980 Actual Perm. Pos.	1980 Actual Amount	1981 Appropriation Enacted to Date Perm. Pos.	1981 Appropriation Enacted to Date Amount	1982 Base Perm. Pos.	1982 Base Amount	1982 Estimate Perm. Pos.	1982 Estimate Amount	Inc. (+) or Dec. (-) Over 1982 Base Perm. Pos.	Inc. (+) or Dec. (-) Over 1982 Base Amount
Grants-in-Aid to Cities	--	107,600	--	18,800	--	18,800	--	71,895	--	+53,095
Administrative Expenses	53	2,400	37	1,200	37	1,331	37	3,105	--	+1,774
Common Program Services	(4)	(710)	(5)	(724)	(1)	(300)	(1)	(300)	(--)	(--)
Total Requirements	53	110,000	37	20,000	37	20,131	37	75,800	--	+54,869

HCRS-112

Urban Park and Recreation Fund

Justification of Adjustments to Base and Built-in Changes
(Dollar amounts in thousands)

Adjustment for 1981 pay increase and related costs	Amount
Total cost in FY 1981 of pay increase	104
Additional amount in 1982 to provide full-year cost of pay increase	1
Total	105

The anticipated increase in 1981 of $104,000 is for the general schedule pay increase effective in October, 1980.

An additional $1,000 is required in 1982 to cover the full-year cost of the 1981 pay increase.

Other increases

Employees' Compensation Fund	1
Rent payments to GSA (SLUC)	25
Total, Other increases	131

The increase in the repayment to the Employees' Compensation Fund is the result of higher costs in 1980 than in 1979. The 1980 charges will be reimbursed to the Department of Labor Employees' Compensation Fund in 1982 pursuant to P.L. 86-767.

The GSA conducted a Fair Annual Rental (FAR) appraisal for 1982 which resulted in increases over the 1981 rates of $25,000.

Justification of Program and Performance

Activity: Urban Park and Recreation Fund
Subactivity: Grants-in-Aid

(Dollar amounts in Thousands)

	1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-).
Grants to Cities	$ 18,800 *	18,800	71,895	+53,095
	(FTP) (--)	(--)	(--)	(--)
Total Requirements	$ 18,800 *	18,800	71,895	+53,095
	(FTP) (--)	(--)	(--)	(--)

*$42,200 in FY 80 grant funds were deferred to FY 1981, providing a total of $61,000 for grants in FY 1981.

Grants to Urban Areas

Authorization: The Urban Park and Recreation Recovery Act of 1978; Title X of P.L. 95-625, The National Parks and Recreation Act of 1978.

Objectives:

- To help physically and economically distressed urban areas improve recreation opportunities for their residents by increasing local commitments to continuing revitalization, operation and maintenance of their recreation systems.
- To provide grants to local governments to rehabilitate existing indoor and outdoor recreation facilities.
- To provide grants to local governments to demonstrate innovative and cost-effective ways to enhance park and recreation opportunities at the neighborhood level.
- To provide grants to local governments to develop local Recovery Action Programs that identify community needs, objectives, action priorities and strategies for revitalization of the total public and private recreation system.

Base Program: Rehabilitation grants are matching capital funds (70% Federal/30% local) to localities for the purpose of rehabilitating, renovating, or expanding existing outdoor or indoor recreation areas and facilities. Funds may be used to improve park landscapes, buildings or support facilities, but may not be used for routine maintenance and upkeep.

Innovation grants are matching funds (70% Federal/30% local) to local governments to cover costs of personnel, facilities, equipment, supplies or services designed to demonstrate innovative and cost-effective ways to enhance park and recreation opportunities at the neighborhood level. Innovation projects should demonstrate solutions to common problems in system management and the delivery of recreation services to residents.

Recovery Action Program grants are matching funds (50% Federal/50% local) for planning to aid localities in development of park and recreation Recovery Action Programs required for participation in the grant program. They may be used to fund preparation of resource and need assessments, and for coordination, citizen involvement, and policy development activities which contribute to public definition of Recovery goals and priorities.

The FY 1982 request takes into account program progress based on appropriations for the first 3 years of the program ($20 million in FY 1979; $110 million in FY 1980; $20 million in FY 1981). $45 million of the FY 1980 appropriation was deferred to FY 1981, providing an effective funding level of $65 million in each of the last two fiscal years. Thus, the FY 1982 request will supply a comparable grant level to maintain incentives for local governments now participating in the program. Applications for grants in FY 82 could exceed the amount of funds available by 3 to 5 times. There will be no difficulty in limiting grants to the very best applicants and projects, and this will ensure a high demonstration value for the program.

The program was implemented in FY 1979 after extensive consultation with city, county, State and private park and recreation interests. It became fully operational in FY 80, and 2 full grant rounds were completed by July of that year. The first grant round of FY 81 was completed in December 1980 and a second grant round is anticipated in mid-1981.

TABLE 1
UPARR Grants and Planning Levels
October 1979 - December 1980

Rehabiliation and Innovation Grants	
No. of local proposals in national competition	888
Total amount of proposals	$311,500,000
No. of grants	323
Total amount awarded	$116,767,000
Recovery Action Program Grants	
No. of grants approved as of 11/30/80	212
Total amount awarded	$4,497,000

In FY 82, the emphasis of the program will remain the same; however grants will be directed according to Recovery Action Programs and increased emphasis will be placed on monitoring, evaluation and assistance to assure adherence to the Plans.

- 250-300 grants for Rehabilitation, Innovation and Recovery Action Programs will be approved in direct support of urban jurisdictions.

- The competitive project selection process will emphasize local implementation of Recovery Action Programs which over 300 localities are committed to completing by January, 1981. Certification of 300-350 updated Recovery Action Programs is expected in FY 82. National competitions will place greater weight on local commitments in terms of the progress made toward realizing the objectives and priorities identified in Recovery Action Programs.

- Grant assistance will be available to cities, urban counties and townships. Grants will be awarded in national competitions that favor those communities with the greatest commitments to addressing the most pressing needs of their own residents through improvements in overall recreation systems, including public and private facilities, financing, service and maintenance programs.

- The program will continue to emphasize cooperation in funding and technical assistance among city, county, State, and Federal agencies and the private sector, in support of national goals for the overall physical and economic revitalization of urban areas.

The UPARR Act (Section 1003 and 1013) mandates a limited duration, five-year program and provides $725,000,000 in budget authority between FY 79 and FY 83, to remain available until appropriated and expended. Based on this authorization and the initial FY 79 and FY 80 appropriations, many cities and urban counties have committed themselves to long-term programs of park and recreation revitalization, on the assumption that grants would be available in future years. The program, in fact, encourages urban areas to make such commitments on the implicit assumption that the best commitments and the best implementation efforts will be rewarded with Federal grants.

The first four UPARR grant rounds have demonstrated the program's potential for increasing local commitments to improvement of community recreation systems. Rehabilitation and Innovation grants comprise only a small percentage of an estimated $3.5 to $4 billion spent annually on park and recreation programs by localities. Nevertheless, these limited grant funds are targeted not only to the most distressed urban areas but also to program areas (recycling of existing resources, improvements in the efficiency and responsiveness of management and service programs, and systematic planning) which are now neglected in local recreation budgets. Moreover, these neglected areas are precisely those in which the most creative possibilities exist to meet close-to-home recreation needs at reasonable costs and to increase community support for essential programs which might otherwise become a burden to taxpapers.

Applicants for UPARR grant assistance are required to submit evidence of long-term local commitments to recreation system recovery and maintenance. These commitments--to continuous programs for system planning, rehabilitation, operation, and maintenance--are expressed in a five-year Recovery Action Program prepared by each local applicant. Recovery Action Programs must identify overall recreation system needs, objectives, problems and opportunities related to physical facilities, service programs, system maintenance and opportunities for coordination with other urban programs (community development, education, housing, transportation, etc.). They must set forth action priorities and strategies in the light of the needs and objectives identified and in response to the wishes of citizens as expressed in a well-defined public participation process. Recovery Action Programs must be useful action guides for local citizens, Federal and State agencies and others who may wish to support a community's recreation recovery efforts. To ensure the relevance and action-orientation of local planning, the competitive national process for selection of UPARR Rehabilitation and Innovation grants places heavy emphasis on the relationships of proposed projects to the goals, priorities and implementation schedules contained in approved Recovery Action Programs.

Because this program encourages leveraging of other public and private resources, it provides an incentive for local acceptance of recreation responsibilities which might otherwise be placed upon the Federal government (e.g. through establishment of new National Parks in major

urban areas). Many local officials also believe that relatively small park and recreation recycling efforts have a disproportionately positive impact by becoming a catalyst for much broader physical and economic revitalization programs. UPARR is closely linked to national urban policy and energy conservation goals. Experience with the program to date supports the original assumptions about the catalytic effect of seed money public investments to stimulate much larger private investments in neighborhood and community revitalization. Mayor James McGee of Dayton, Ohio recently summarized this catalytic potential: "The park and recreation system in Dayton is one of the most important selling points of our community in attracting new business."

- The UPARR Act (Section 1008) contains a "State Action Incentive" provision to stimulate greater attention by State governments to the recreation needs of their own urban areas. In the first 4 grant rounds, 18 States provided financial assistance to their communities, thereby reducing the amount of local matching funds required from economically hard pressed cities and counties. In 1979, Texas and Louisiana passed UPARR-specific legislation to provide funding for this purpose, while the other States utilized a variety of discretionary or special grant sources to supply their share of grants.

STATES THAT HAVE PARTICIPATED IN UPARR PROGRAM
THROUGH FINANCIAL ASSISTANCE UNDER
SECTION 1008 OF P.L. 95-625.

California	Maryland	Puerto Rico
Connecticut	Massachusetts	Rhode Island
Florida	Minnesota	Texas
Georgia	New Jersey	Virginia
Illinois	New York	West Virginia
Louisiana	Oregon	Wisconsin

- Section 1007 of the Act emphasized the importance of local commitments to systematic planning, revitalization and maintenance of urban recreation systems. The major tools for expression of such commitments are Recovery Action Programs required by the Act. Over 300 Recovery Action Programs were under development during 1980, and many cities and counties will be completing their first Recovery Action Programs in early 1981.

- UPARR's primary goal is to stimulate increased local investment in urban recreation systems by encouraging systematic planning and increasing community support for recreation programs. An example of this stimulus effect is the Detroit Recreation Recovery Action Program for 1980-85, one of the first Recovery Action Programs approved by the Heritage Conservation and Recreation Service (HCRS).

The UPARR planning process appears to have shifted the city from an almost exclusive focus on new recreation developments to a perspective which includes social and economic stabilization of older neighborhoods through investments in renovation and redevelopment of existing facilities. UPARR planning has also encouraged greater involvement of neighborhood residents in setting recreation priorities.

In Detroit and other cities, UPARR has encouraged close linkages between recreation programs and overall physical and economic revitalization efforts, including those supported by other Federal programs such as Community Development Block Grants, EDA Public Works and Urban Development Action Grants.

- Another city that has actively participated and benefitted from the UPARR Program is Louisville, Kentucky. Mayor William Stansbury described the program as follows:

> "The Urban Parks Program is one of those modest initiatives that can mean so much to cities like Louisville. Small expenditures in this area can be a big difference in making the city more livable, particularly for the urban poor and disadvantaged... The city's Metro Park System has obtained three grants thus far. Some of these monies have been used to prepare a comprehensive plan and the plan has identified the most urgent needs for rehabilitation -- needs which will be the heart of the applications we plan to submit in Fiscal Year 1981... We have made a good start at rehabilitating our parks in Louisville."

Increase for FY 1982:	1982 Base	1982 Est.	Increase
Grants to Cities	18,800	71,895	+53,095

Funds deferred from FY 80 ($42.2 million) plus the FY 81 ($18.8 million) appropriation made a total of $61 million available for grant obligation during FY 81. The increase for FY 82 is a recognition of the need for this program as witnessed by the fact that $100 million in proposals, about 75% of which were judged to be worth funding, were received for the first grant round of FY 81 when only $25 million was available.

It is anticipated that even more requests will be received for the second round of FY 81 when approximately $18 million will be available.

Justification of Program and Performance

Activity: Urban Park and Recreation Fund
Subactivity: Administrative Expenses

(Dollar amounts in Thousands)

	1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Administrative Expenses	$ 1,200 *	1,331	3,105	+1,774
	(FTP) (37)	(37)	(37)	(--)
(Common Program Services)	$ (724)	(824)	(300)	(-524)
Total Requirements	$ 1,200*	1,331	3,105	+1,774
	(FTP) (37)	(37)	(37)	(--)

*$2,800 in FY 1980 administrative funds were deferred to FY 1981, providing a total of $4,000 for FY 1981.

Administrative Expenses

Authorization: The Urban Park and Recreation Recovery Act of 1978; Title X of P.L. 95-625.

Objectives: To provide leadership, oversight and technical assistance in order to maximize the program's effectiveness in challenging State and local governments to make the fullest possible use of their own resources for overall revitalization of their recreation systems and to administer grants-in-aid to urban areas in a responsive and accountable way, in accordance with Federal regulations and policies.

Base Program: As well as normal grants processing and monitoring activities, the UPARR workload includes a large amount of staff effort for direct assistance to localities in development of grant proposals, and for technical guidance in the development and improvement of local Recovery Action Programs.

In FY 1979, UPARR administration involved development and implementation of a new grant assistance program. This was accomplished in record time. The first grant offers were announced less than 11 months after enactment of the authorizing legislation. In FY 1980, the focus of administration shifted to technical assistance in preparation of local

74-939 O—80——41

Recovery Action Programs and the creation of a new grants management system. It is normal for the workload to increase steadily during the first few years of a new grant program since certifications, billings, audits and other compliance activities grow rapidly as more projects are approved and implemented. FY 1981 is the second full operational year of the program. Administrative emphasis, therefore, is on efficient grants management to provide full accountability, while minimizing increases in Federal administrative costs. Program evaluation efforts will also be emphasized, based on the substantial number of completed Recovery Action Programs and grant projects from the previous two years.

In FY 82, these emphases will continue, together with more careful monitoring of local implementation efforts in relation to the commitments made in Recovery Action Programs. Intensive technical assistance and monitoring efforts are critical to ensure a high level of local commitment and to support the national demonstration goals of the program. The national challenge objectives of the program require a number of special assistance, coordination and evaluation efforts. For example, we anticipate that some cities will need detailed guidance in coordinating implementation and updating of their Recovery Action Programs. In other areas, potential links with federally supported community development, housing, transportation or employment programs will require staff support if they are to be realized. This will involve both headquarters coordination activities and Regional office efforts to facilitate program links in specific localities. Since the program has now matured somewhat, both applicants and the agency have learned much. Substantial effort must be devoted in FY 82 to dissemination of information on common problems and the approaches of successful jurisdictions in solving these problems. An annual program evaluation is mandated by the reporting provisions of the legislation (P.L. 95-625, Section 1015, annual report on innovation grants).

Program Initiatives: In accord with the overall Federal emphasis on reducing total Federal employment and in light of a current program level that is less than the authorized level originally anticipated ($150 million year) there will be a moderate reduction in Full Time Permanent staffing for the program in Fiscal Year 1982. Increased use will be made of the HCRS Advanced Information System to track grant and fiscal activities, thereby reducing the amount of manual paperwork.

To further ensure grants accountability, funds are programmed under "Other Services" for continuation of cooperative grants administration agreements with States negotiated in FY 1981, and for other contracted services related to financial management including project inspections, monitoring of funds and evaluation of grant impacts. State cooperative efforts suffered a temporary setback in FY 80 due to funding uncertainties, but agreements with 5-10 States are expected to be completed. Because of previously expressed Congressional concerns, it is important to note that, in accord with the program mandates, existing and proposed administrative agreements with States do not allow State

control of the grant selection process; nor do these agreements interfere in any way with the direct relationship between the Service and localities which this program is intended to provide. Nevertheless, State involvement, where appropriate and feasible, is clearly encouraged by the UPARR Act. The experience of the Service clearly supports such involvement, particularly in a number of the more urbanized States that already have their own local assistance programs in place.

Since many States already have grants assistance mechanisms in place, it would be wasteful for the Federal Government to duplicate these mechanisms in States which are willing to help their own cities. Therefore, Federal administrative cost and work-year estimates in the FY 82 budget are based upon the assumption that 5-10 of the more urban States will be helping to administer the program, and that States will be reimbursed for some of the costs of assisting the Service in grant administration. Without continuing, substantial involvement by some urban States and sufficient funds for technical assistance, grants monitoring, and program evaluation, the overall effectiveness of the program in terms of responsive technical assistance to localities and accountable financial assistance will be severely impaired.

As expected, the grant compliance aspects of the program are proving to be particularly complex and demanding, since Rehabilitation and Innovation grants involve a number of new elements and relationships (e.g. processing of advance payments and billings on private, non-profit, pass-through grants, engineering and architectural certifications on older structures for which original plans are not available, monitoring of Innovation grants involving expenditures for personnel, equipment and supplies not covered by the Service's capital grant programs).

The FY 1982 request provides for maintenance of the Service's current commitments to accountable and responsive grants program administration.

The following workload is projected for FY 1982:

- Assistance to localities in development of Recovery plans and proposals, processing of 800 pre-applications and approval of approximately 300 applications for Rehabilitation, Innovation and Recovery Action Program Grants.

- Development, review, evaluation, and approval of at least 50 new local Recovery Action Programs and approval of 200-250 updates of approved Recovery Action Programs.

- Continuing refinement of an automated project tracking system to facilitate efficient program management and continuing evaluation, including progress monitoring on projects approved in through FY 81 and processing of 600 interim and final billings.

- Continuation of 5-10 cooperative agreements with States to aid HCRS in accountable grants management.

- Completion of the third annual report on the demonstration aspects of UPARR grants and dissemination of information on successful local programs and projects.

Increase or Decrease for 1982:		1982 Base	1982 Est.	Increase or Decrease
Administrative Expenses	$	1,331	3,105	+1,774
	(FTP)	(37)	(37)	(--)

Funds deferred from FY 1980 make the total available for administrative expenses in FY 1981 $4,000,000. Thus, in terms of actual dollars available, the 1982 estimate represents a decrease of $1,026,000. Over half of this decrease is from a decreased common program services charge against this account. The remainder of the dollar decrease is attributable to reduced costs resulting from expanded utilization of States in the grants management efforts and increased automation of grants tracking.

Object Classification Distribution

The object class breakdown for the $1,774,000 increase is as follows:

Personnel compensation	
Permanent positions	932,000*
Positions other than FTP	311,000*
Other Personnel Compensation	7,000*
Personnel benefits	134,000*
Other Services	390,000*
Total	1,774,000

* These increases reflect only the differences from the FY 1981 appropriation of $1,200,000. They do not take into account the $2,800,000 in deferred FY 1980 administrative funds which covered these costs in FY 1981.

Summary of Requirements by Object Class
(dollar amounts in thousands)

Appropriation: Urban Park and Recreation Fund

		1982 Base			1982 Estimate			Inc. (+) or Dec. (-)		
		Pos.	Avg. No.	Amount	Pos.	Avg. No.	Amount	Pos.	Avg. No.	Amount
Object class										
11	Personnel compensation:									
11.1	Full-time permanent positions	37*	34*	---	37	34	932	---	---	+932
11.3	Position other than full-time permanent	20*	20*	---	20	20	311	---	---	+311
11.5	Other personnel compensation	---	---	---	---	---	7	---	---	+7
11.9	Total personnel compensation	57*	54*	---	57	54	1,250	---	---	+1,250
	Other objects:									
12.1	Personnel benefits			---			134			+134
13.0	Benefits for former personnel			1			1			---
21.0	Travel and transportation of persons			100			100			---
22.0	Transportation of things			7			7			---
23.1	Standard level user charges			50			50			---
23.2	Communications, utilities and other rent			62			62			---
24.0	Printing and reproduction			30			30			---
25.0	Other services			1,023			1,413			+390
26.0	Supplies and materials			15			15			---
31.0	Equipment			39			39			---
41.0	Grants, subsidies, and contributions			18,800			71,895			+53,095
42.0	Insurance claims and indeminities			4			4			---
	Total requirements			20,131			75,000			+54,869

* In FY 1981 these positions are funded with funds deferred from FY 1980.

HCRS-133

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE

URBAN PARK AND RECREATION FUND

For expenses necessary to carry out the provisions of the Urban Park and Recreation Recovery Act of 1978 (title 10 of Public Law 95-625), [$20,000,000] $75,000,000, to remain available until expended. (Public Law 96-514, making appropriations for the Department of the Interior and related agencies, 1981.)

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
URBAN PARK AND RECREATION FUND

Program and Financing (in thousands of dollars)

Identification code 14-0720-0-1-303	19 80 actual	19 81 estimate	19 82 estimate
Program by activities:			
1. Grants-in-aid	1,706	49,100	52,200
2. Administrative expenses	2,234	4,104	3,105
Total program costs	3,940	53,204	55,305
Change in selected resources (undelivered orders)	56,145	36,444	19,695
10.00 Total obligations	60,085	89,648	75,000
Financing:			
21.40 Unobligated balance available, start of year	-19,733	-69,648	---
24.40 Unobligated balance available, end of year	69,648	---	---
39.00 Budget authority	110,000	20,000	75,000
Budget authority:			
40.00 Appropriation	125,000	20,000	75,000
40.01 Appropriation rescinded (Public Law 96-304)	-15,000	---	---
43.00 Appropriation (adjusted)	110,000	20,000	75,000
Relation of obligations to outlays:			
71.00 Obligations incurred, net	60,085	89,648	75,000
72.40 Obligated balance, start of year	56	56,323	92,771
74.40 Obligated balance, end of year	-56,323	-92,771	-112,471
90.00 Outlays	3,818	53,200	55,300

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
URBAN PARK AND RECREATION FUND

Object Classification (in thousands of dollars)

Identification code 14-0720-0-1-303		19 80 actual	19 81 estimate	19 82 estimate
	Personnel compensation:			
11.1	Full-time permanent positions.	1,376	931	932
11.3	Positions other than full-time permanent.....	67	311	311
11.5	Other personnel compensation..	11	7	7
11.9	Total personnel compensation	1,454	1,249	1,250
12.1	Personnel benefits: Civilian...	141	134	134
13.0	Benefits for former personnel...	1	1	1
21.0	Travel and transportation of persons.....	111	100	100
22.0	Transportation of things.....	7	7	7
23.1	Standard level user charges.....	98	47	50
23.2	Communications, utilities and other rent.....	87	62	62
24.0	Printing and reproduction.....	42	30	30
25.0	Other services.....	928	2,417	1,413
26.0	Supplies and materials.....	25	15	15
31.0	Equipment.....	36	39	39
41.0	Grants, subsidies, and contributions.....	57,152	85,544	71,895
42.0	Insurance claims indemnities....	3	3	4
99.9	Total obligations.....	60,085	89,648	75,000

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
URBAN PARK AND RECREATION FUND

PERSONNEL SUMMARY

Identification code 14-0720-0-1-303	19 80 actual	19 81 estimate	19 82 estimate
Total number of full-time permanent positions	53	37	37
Total compensable workyears:			
Full-time equivalent employment	58	54	54
Full-time equivalent of overtime and holiday hours	1	0	0
Average ES salary	$49,596	$59,010	$59,061
Average GS grade	10.15	10.15	10.15
Average GS salary	$24,183	$26,366	$26,366

Appropriation Summary Statement

Appropriation: Land and Water Conservation Fund

Funds are provided for assisting States in financing up to 50 percent of the cost of preparing recreation plans, acquiring land and water areas and developing areas for public outdoor recreation purposes.

Funds are provided to the Federal agencies; the National Park Service, Forest Service, Fish and Wildlife Service, and the Bureau of Land Management to acquire certain areas for recreation use, the protection of threatened or endangered species, and the preservation of nationally important natural or historic areas.

Funds are provided for the Service to coordinate and administer the State and Federal programs, and to review State recreation plans, State project proposals and Federal land acquisition proposals.

The total appropriation requested for 1982 is $520,365,000, an increase of $141,772, 000 over 1981. This provides $185,000,000 for grants to States, $326,959,000 for Federal acquisition purposes, and $8,406,000 for administrative expenses.

The Federal Programs fund request by agency is as follows:

National Park Service	$ 233,673,000
Forest Service	46,787,000
Fish and Wildlife Service	35,399,000
Bureau of Land Management	3,100,000
Pinelands NR	8,000,000
Total	$ 326,959,000

Advance Contract Authority

Appropriation language has been proposed to repeal Section 9 of the Land and Water Conservation Fund Act, as amended. In recent years significant increases in the authorized level of the Fund and the use of reprogramming procedures have lessened the need for the use of this authority.

Justification of Proposed Language changes

1. Deletion: "$6,000,000" before the phrase "of the amount provided for State Assistance may be available as a contingency reserve."

   Insertion: "$12,000,000."

   This change would increase the limitation on the contingency reserve to a level which would more adequately meet the emergency needs of the States as determined by the Secretary according to the Land and Water Conservation Fund Act as amended.

2. Insertion: ":Provided further, that section 9 of said Act as amended (16 U.S.C. 4601-10a), which provides contract authority, is hereby repealed and subsequent sections are renumbered accordingly" after the phrase "to meet unforseen needs of the States".

   A provision in the appropriation language to remove contract authority permanently is proposed instead of a legislative proposal. The legislative proposal was included in the FY 1980 and FY 1981 President's Budgets but did not progress in Congress beyond the introduction of a bill (S. 732).

3. Deletion: "Notwithstanding the provisions of Public Law 90-401, revenues from recreation fee collections by Federal agencies shall hereafter be paid into the Land and Water Conservation Fund, to be available for appropriation for any or all purposes authorized by the Land and Water Conservation Fund Act of 1965, as amended, without regard to the source of such revenues.

   "Notwithstanding any other provision of law, the Secretary is authorized and shall seek to acquire the lands described in section 505(a) of the Act of November 10, 1978 (92 Stat. 3467) by first acquiring Federal surplus lands of equivalent value from the General Services Administration and then exchanging such surplus lands for the lands described in section 505(a) of that Act with the land owners. Exchanges shall be on the basis of equal value, and any party to the exchange may pay or accept cash in order to equalize the value of the property exchanged."

   These two paragraphs do not need to be included again to accomplish their purpose.

HERITAGE CONSERVATION AND RECREATION SERVICE

Land and Water Conservation Fund

Appropriation, 1981		$378,593,000
Contract authority		30,000,000
Contract authority, unobligated balance lapsing		-30,000,000
Unobligated balance from prior years		219,888,000
Total available for obligation		598,481,000
Decreases:		
Assistance to States,		
Appropriation, 1981	228,745,000	
Unobligated balance from 1980	93,101,000	
Less: Payraise adjustment	-413,000	
Subtotal	321,433,000	
Federal programs		
Appropriations, 1981	142,282,000	
Unobligated balance from 1980	126,787,000	
Subtotal	269,069,000	590,502,000
Subtotal		7,979,000
Increases:		
Assistance to States		
Appropriation, 1982	185,000,000	
Unobligated balance from FY 1981	10,380,000	
Subtotal	195,380,000	
Federal programs		
Appropriation, 1982	326,959,000	
Unobligated balance from FY 1981	---	
Subtotal	326,959,000	
Administrative expenses	427,000	522,766,000
Total available for obligation		530,745,000
Less: Unobligated balance from FY 1981		-10,380,000
Budget estimate 1982		520,365,000

HERITAGE CONSERVATION AND RECREATION SERVICE

Land and Water Conservation Fund

Analysis by Activities

Activity	Appropriation FY 1980	Appropriation FY 1981	No. of Perm. Pos.	FY 1982 Budget Estimate	No. of Perm. Nos.	Budget Estimate 1982 Compared with Appropriation FY 1981	No. of Perm. Pos.
1. Assistance to States							
Appropriation	$299,703,000	$228,332,000		$185,000,000		-43,332,000	
Unobligated bal brought forward	62,497,000	93,101,000		10,380,000		-64,620,000	
Obligation program	269,099,000	311,053,000		189,635,000		-103,317,000	
Unobligated bal carried forward	93,101,000	10,380,000		5,745,000		-4,635,000	
2. Federal Programs							
Appropriation	201,801,000	142,282,000		326,959,000		+184,677,000	
Unobligated bal brought forward	155,760,000	126,787,000		---		-126,787,000	
Obligation program	230,774,000	269,069,000		326,959,000		+57,890,000	
Unobligated bal carried forward	126,787,000	---		---		---	
3. Administrative expenses							
Appropriation	7,290,000	7,979,000	182	8,406,000	185	+427,000	+3
Obligation program	7,127,000	7,979,000		8,406,000		+427,000	
Unobligated bal carried forward	---	---		---		---	
Total Appropriation	508,794,000	378,593,000	182	520,365,000	185	+141,772,000	+3
Total Unobligated brought forward	218,257,000	219,888,000		10,380,000		-191,407,000	
Total Obligation program	507,000,000	588,101,000		525,000,000		-45,000,000	
Total Unobligated carried forward	219,888,000	10,380,000		5,745,000		-4,635,000	

Justification of Program and Performance

Activity:	Assistance to States
Subactivity:	Grants

(Dollar amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-).
Assistance to States	$	228,745	228,745	185,000	-43,745
	(FTP)	(--)	(--)	(--)	(--)
Total Requirements	$	228,745	228,745	185,000	-43,745
	(FTP)	(--)	(--)	(--)	(--)

Assistance to States

Authorization: The Land and Water Conservation Fund Act of 1965, as amended, 16 USC 460 1-8.

Objectives: The following objectives have been identified for the FY 1982 State assistance program:

- To provide a program that will assist in meeting State and local financial needs for outdoor recreation acquisition and development projects while recognizing the need for fiscal constraint.
- To provide financial assistance to the 50 States, Puerto Rico, the Virgin Islands, Guam, American Samoa, and the District of Columbia for preparing and maintaining Statewide Comprehensive Outdoor Recreation Plans (SCORP) and action programs which set forth objectives, policies and actions for providing outdoor recreation resources. Each State and Territory will maintain an ongoing planning program for this purpose.
- To provide financial assistance to the States, and through the States to local governments, for the acquisition of outdoor recreation lands and waters and the development of a wide range of basic outdoor recreation facilities to meet State, regional, and local needs. Projects must be in accord with the SCORP.

- To set aside a small portion of the Land and Water Conservation Fund appropriation in a Secretary's Contingency Reserve to be apportioned on a project-by-project basis. Funding priority will be given to projects which represent significant recreation resource acquisition opportunities and require immediate attention and to projects which demonstrate innovative development or acquisition initiatives for the provision of important recreation resources.

- To provide financial assistance to meet increased needs for "close-to-home" energy efficient outdoor recreation areas and facilities located in populated areas and accessible by foot, bicycle or public transportation.

- To continue an excellent obligation record by obligating no less than 95 percent of funds available to the States in FY 1982 to high priority projects and to increase the expenditure of obligated funds to a level that will continue to stabilize the unexpended balance of appropriated funds.

Base Program: The Heritage Conservation and Recreation Service administers the grants-in-aid program under authorities established in the Land and Water Conservation Fund Act of 1965, as amended. Funds are provided for assisting States in financing up to 50 percent of the cost of preparing SCORPs, acquiring needed outdoor recreation land and water areas and developing a wide range of public outdoor recreation facilities.

A State is eligible to receive Land and Water Conservation Fund assistance if it has completed a SCORP acceptable to the Heritage Conservation and Recreation Service, maintains an ongoing comprehensive outdoor recreation planning process, and provides for the implementation of an Action Program. All States are currently eligible to receive assistance. A State official appointed by the Governor or designated by State law is responsible for administering the program at the State level. Grants are made to the States, and through the States to local governments. All projects are first screened and selected by the States and then submitted to the Service for approval and obligation of funds from the States' apportionment. Projects must be in accord with the SCORP and meet other Federal laws and regulations pertaining to grant programs before funding assistance may be provided.

At the end of FY 1980, the Heritage Conservation and Recreation Service had approved approximately 27,500 Land and Water Conservation Fund-assisted acquisition and development projects providing $2.46 billion in Federal assistance since the program was initiated in 1965. This amount has been matched by State and local governments with an equal amount for a total outdoor recreation investment of $4.92 billion. These moneys have been utilized as follows:

- 7,160 acquisition projects have added some 2.02 million acres to the outdoor recreation estate. Seventy-eight (78) percent of the land acquired has been by State government and 22 percent by local government.

- Sixty (60) percent of the Fund assistance has gone to 19,763 projects for the development of outdoor recreation facilities.

- 328 planning projects involving $24.5 million in assistance have been granted to develop and maintain the SCORP planning process.

- Over the life of the Fund program, 41 percent of the moneys have been obligated to State projects with 59 percent going to locally sponsored projects.

- Sixty (60) percent of all funding has been allocated to projects located within SMSA's and 21 percent has gone to cities with over 40,000 population.

In FY 1980, 2,298 projects were approved including 1,667 development projects, 614 acquisition projects and 17 SCORP planning projects. Approximately 106,104 acres of land were acquired. Sixty-four (64) percent of the funds obligated went to projects within an SMSA. Twenty-three (23) percent, or $59.5 million of the funds obligated, went to projects in cities with populations of 40,000 or over. Tables 1 through 3 provide a further breakdown of the FY 1980 program by State and facility type funded.

The States continue to maintain high obligation and expenditure rates indicating a continuing strong demand for Fund assistance. In FY 1980, all but 3% of the States' regular apportionment, as limited by the Congressional deferral action, was obligated. In addition, $42 million carried over from previous fiscal years has been obligated. Expenditures were $307 million, an increase of $67 million over FY 1979 and $127 million over FY 1978. This level of expenditure was adequate to assure a decrease of $40 million in the amount of unexpended obligations. Based on a survey of the States, funding requests for State and local projects in FY 1980 exceeded apportioned funds (at the $300 million level) by $340 million. Table 4 shows the amounts available to each State at the beginning of FY 1979 and FY 1980, as well as the unobligated balances remaining at the close of each. Chart No. 1 shows obligations, expenditures and unexpended obligations since FY 1977. This information indicates the steady increase in expenditures and the leveling off of unexpended obligations, a considerable improvement in the utilization of available funds.

The State assistance portion of the Land and Water Conservation Fund budget request provides $185 million for grants-in-aid to States and, at the State's option, through the States to local governments.

Table 5 shows the estimated FY 1982 apportionment to each State based on this program funding level. The FY 1982 budget request will enable the States to

maintain a viable SCORP process and will assist in meeting acquisition and development needs of State and local governments through projects which are in accord with SCORP identified needs. Chart No. 2 shows obligations by States over the last 10 years and what those total obligation amounts are worth when adjusted to 1970 dollars. Obligations of $345 million in FY 1979 equal an investment of $140.7 million in FY 1970 dollars. There has been an overall decline in the program funding level over the past 10 years when an adjustment is made for inflation. Therefore the proposed funding level is essential. This funding level is particularly important since 60 percent of appropriated moneys are utilized for locally sponsored "close-to-home" recreation facilities at a time when energy conservation dictates that readily accessible recreation facilities are vitally needed. As the public continues to reduce the number of miles it is willing to travel to recreation facilities, as trends appear to indicate, the pressures of providing adequate assistance for State and local facilities close to population centers will increase.

Based on historical trends, the Service anticipates approximately 1,525 new project requests for Fund assistance, including 25 SCORP planning projects.

Approximately $3.0 million will be requested for projects to support the SCORP planning process. Funds may be utilized for the preparation of action-oriented SCORP plans and the ongoing maintenance of the planning process. Public participation and coordination with other Federal programs providing recreation resources will be an important component of the planning process. Biennial Action Programs to implement the plans will provide a focal point for States to indicate their priority actions for providing recreation resources including funding objectives.

Approximately 70,000 acres will be acquired in FY 1982 through an estimated 400 projects involving $65 million in assistance, which represents a ratio of funding allocated to acquisition projects of 35 percent. About 1,100 new grants (involving $117 million in Fund assistance) will be made to provide for needed outdoor recreation facility development. Table 3 shows the frequency of facilities funded in FY 1980. This same pattern can be expected in FY 1982.

Contingency Reserve

Of the $185 million requested for the State assistance program, $12 million will be allocated to the Secretary's Contingency Reserve. Funds from the Contingency Reserve are apportioned by the Secretary to States on a project-by-project basis. Projects considered for Contingency Reserve assistance are those which meet one of the following criteria:

74-939 O—80——42

1. Acquisition which must be accomplished quickly to avoid the loss of significant recreational opportunity when the State's regularly apportioned funds have been obligated or firmly committed to other high priority projects;

2. Projects which represent innovative ideas in outdoor recreation or encourage State and local governments to meet critical needs; and

3. Emergency situations brought about by natural disasters which require quick action to mitigate the loss of recreation opportunities.

The Contingency Reserve has been used effectively in acquiring and preserving valuable land resources which might otherwise have been lost to uses other than public outdoor recreation. In FY 1980, Contingency Reserve funds were allocated to acquire 16,298 acres of land in both urban and natural settings.

Under the demonstration category of the Contingency Reserve program, the use of existing technology and innovation in the conservation of energy was also stressed in FY 1980. The demonstration criteria have been revised for FY 1981 to emphasize innovation in the use of waterfront areas for recreation, natural and cultural opportunities.

Table 6 shows those projects approved under the emergency and demonstration criteria of the Contingency Reserve with funds available in FY 1980. It is anticipated that the demand for Contingency Reserve assistance will continue to be strong.

The following workload factors are indicated in the Land and Water Conservation Fund assistance program:

	1980	1981	1982
Acres Acquired	106,000	90,000	70,000
Acquisition Projects Approved	614	500	400
Development Projects Approved	1,670	1,200	1,100
Planning Project Approved	17	25	25

Decrease for 1982:	1982 Base	1982 Est.	Decrease
Assistance to States	228,745	185,000	-43,745

This decrease in the funding level for FY 1982 is consistent with the administration's budget for FY 1981 and essential to a program of fiscal constraint necessary to combat inflation and assist in providing balance to the Federal budget.

Table 1

LAND AND WATER CONSERVATION FUND
ASSISTANCE TO STATES

PERCENT OF FUNDS OBLIGATED IN FY 1980

STATE	To local Projects	In SMSA's	For Acquisition
Alabama	32.1	70.0	-0-
Alaska	65.5	33.7	18.4
Arizona	100.0	68.9	27.7
Arkansas	87.4	43.9	33.0
California	75.4	85.4	39.7
Colorado	31.4	84.9	78.0
Connecticut	89.6	88.5	37.3
Delaware	47.7	68.0	57.2
Florida	100.0	96.5	74.0
Georgia	45.1	21.4	68.4
Hawaii	46.5	100.0	100.0
Idaho	32.2	7.3	92.9
Illinois	100.0	87.9	62.2
Indiana	58.7	39.9	40.1
Iowa	41.3	49.0	64.4
Kansas	76.5	54.1	33.6
Kentucky	59.7	71.3	63.1
Louisiana	83.4	63.1	32.8
Maine	90.8	10.2	21.6
Maryland	-0-	100.0	100.0
Massachusetts	62.7	96.2	53.4
Michigan	59.7	54.3	44.0
Minnesota	49.3	24.5	58.2
Mississippi	94.5	37.3	48.5
Missouri	64.1	67.8	62.9
Montana	50.6	7.2	64.0
Nebraska	79.2	46.3	30.6
Nevada	60.9	62.1	-0-
New Hampshire	76.8	60.6	47.2
New Jersey	2.7	78.7	92.0
New Mexico	97.5	4.1	8.9
New York	81.0	83.3	13.2
North Carolina	76.3	44.9	59.4
North Dakota	50.0	6.0	12.1
Ohio	78.0	82.0	62.1
Oklahoma	91.5	53.3	24.2
Oregon	98.3	69.5	63.5
Pennsylvania	73.5	76.8	57.5
Rhode Island	47.1	83.8	33.7
South Carolina	40.2	54.7	61.7
South Dakota	68.1	21.8	6.1

Table 1, cont.

LAND AND WATER CONSERVATION FUND
ASSISTANCE TO STATES

PERCENT OF FUNDS OBLIGATED IN FY 1980

STATE	To local Projects	In SMSA's	For Acquisition
Tennessee	80.0	50.6	45.8
Texas	100.0	76.5	37.7
Utah	100.0	75.3	63.7
Vermont	95.1	-0-	41.6
Virginia	55.5	65.1	71.3
Washington	60.1	73.0	36.2
West Virginia	85.8	50.1	7.6
Wisconsin	52.5	43.0	52.3
Wyoming	77.4	-0-	-0-
District of Columbia	100.0	100.0	-0-
Puerto Rico	51.1	-0-	4.1
Virgin Islands	-0-	-0-	-0-
Guam	82.7	-0-	-0-
American Samoa	-0-	-0-	-0-
TOTAL	68.4	63.9	49.0

Table 2

HERITAGE CONSERVATION AND RECREATION SERVICE
PLANNING PROJECTS IN FISCAL YEAR 1980

State Name	Total Number of Projects	Planning Obligation
California	1	$ 146,024.00
Colorado	1	137,637.50
Connecticut	1	60,000.00
Georgia	1	100,223.00
Iowa	1	342,258.00
Kentucky	1	30,999.54
Mississippi	1	20,000.00
Nevada	1	54,250.00
New Jersey	1	500,000.00
New Mexico	1	75,000.00
North Dakota	1	85,138.50
Rhode Island	1	20,735.00
Vermont	1	43,194.27
Virginia	1	40,000.00
Washington	1	52,000.00
Puerto Rico	1	73,215.00
Virgin Islands	1	57,885.00
	17	$ 1,838,559.81

Table 3

LAND AND WATER CONSERVATION FUND
ASSISTANCE TO STATES

Number of Projects Associated with Facility Types in Fiscal Year 1980[1]

Support Facility[2]	1,872
Sports and Playfield	1,426
Picnic Areas	869
Trails	431
Swimming Facility	206
Campgrounds	182
Fishing Facility	146
Natural Areas	141
Boating Facility	127
Passive Parks	112
Winter Sports Facility	85
Lake Impoundments	42
Interpretive Center	30
Golf Course	29
Amphitheater/Band Shell	24
Visitor Information Center	18
Sheltered Pool	3
Sheltered Ice Rink	2

1/ This listing shows how many projects a given facility type occurred in. The total of all projects will be greater than the total approved in fiscal year 1979 since many projects are multipurpose and include two or more facility types.

2/ Includes walkways, site improvement, landscaping, utilities, roads, parking, lighting, signs, comfort stations, concession buildings and maintenance buildings.

Table 4

FISCAL YEAR 1979 AND 1980
LAND AND WATER CONSERVATION FUND
UNOBLIGATED BALANCE BY STATE

STATE	Total Available FY 1979 [2]	Unobligated Balance 9/30/79	Percent	Total Available FY 1980 [3]	Unobligated Balance 9/30/80 [4]	Percent
Alabama	$ 6,301,370	$ 3,354	-	$4,774,393	$ 816	-
Alaska	2,910,995	178,508	6.1	1,539,291	5300	.3
Arizona	4,928,480	72,267	1.5	4,096,579	-0-	-
Arkansas	4,390,502	1,148,601	26.2	4,562,150	52,884	1.2
California	27,242,832	71,535	.3	15,518,571	202,642	1.3
Colorado	5,823,381	1,879,958	32.3	5,660,347	22,320	.4
Connecticut	6,300,867	123,015	2.0	4,951,502	379,334	7.7
Delaware	7,577,561	3,982,211	52.6	5,787,424	1,028	-
Florida	16,374,473	522,705	3.2	5,011,587	161,352	3.2
Georgia	7,818,111	1,153,897	14.8	5,999,600	91,500	1.5
Hawaii	3,558,853	1,326,854	37.3	3,640,986	-0-	-
Idaho	3,145,887	656,399	20.9	3,288,110	228	-
Illinois	16,204,518	3,517,765	21.7	11,993,532	199,909	1.7
Indiana	8,117,668	-0-	-	6,002,975	-0-	-
Iowa	5,106,732	53,676	1.1	3,347,216	-0-	-
Kansas	4,563,785	25,067	.6	3,785,496	1,942	.1
Kentucky	6,218,256	420,319	6.8	3,744,644	30,013	.8
Louisiana	6,336,774	124,611	2.0	5,243,129	-0-	-
Maine	4,892,296	3,756,702	76.8	3,756,702	2,255,281	60.0
Maryland	7,779,653	6	-	5,866,902	-0-	-
Massachusetts	9,682,030	796,178	8.2	6,205,350	-0-	-
Michigan	12,709,209	130	-	6,506,712	105	-
Minnesota	6,458,084	12,197	.2	4,224,523	29,565	.7
Mississippi	4,317,934	1,037,682	24.0	4,057,814	-0-	-
Missouri	7,340,168	-0-	-	5,884,139	88,308	1.5
Montana	3,196,219	2,711	.1	2,627,651	582	-
Nebraska	3,933,876	1,488	-	2,739,698	19,818	.7
Nevada	3,294,841	405,648	12.3	3,023,040	13,500	.4
New Hampshire	5,737,037	2,452,647	42.8	2,452,647	689,529	28.1
New Jersey	12,782,691	186,227	1.5	9,209,541	49,947	.5
New Mexico	4,658,108	545,115	11.7	3,382,144	1,807	.1
New York	24,287,023	5,313,777	21.9	15,647,927	329,106	2.1
North Carolina	7,719,181	1,276,436	16.5	5,142,088	30,106	.6
North Dakota	3,074,347	25,089	.8	2,579,568	143,786	5.6
Ohio	14,591,332	-0-	-	9,275,978	1,249,112	13.5
Oklahoma	5,108,544	147,051	2.9	4,331,736	1,333	-
Oregon	5,069,833	388,541	7.7	3,325,524	1,552	-
Pennsylvania	15,792,999	1,452,806	9.2	5,157,016	98,967	1.9
Rhode Island	4,433,811	1,219,305	27.5	3,276,659	-0-	-

South Carolina	5,075,807	3,778	.1	3,710,341	18,104	.5
South Dakota	3,163,945	602,873	19.1	3,079,838	7,993	.4
Tennessee	7,996,027	334,929	4.2	3,659,420	-0-	-
Texas	15,599,829	19,959	.1	10,618,848	122,062	1.1
Utah	3,888,642	-0-	-	3,218,912	56,589	1.8
Vermont	4,409,678	572,385	13.0	2,127,009	4,223	.2
Virginia	7,739,669	1,023,476	13.2	6,664,858	169,177	2.5
Washington	6,465,525	1,607,284	24.9	4,975,345	1,505	-
West Virginia	4,279,987	533,347	12.5	3,875,381	-0-	-
Wisconsin	7,394,983	-0-	-	4,492,425	708	-
Wyoming	2,969,263	3,482	.1	2,369,832	1,630	.1
District of Columbia	1,401,402	20	-	691,500	13,252	1.9
Puerto Rico	4,823,565	2,868,008	59.5	2,868,008	1,031,509	36.0
Virgin Islands	201,358	146,358	72.7	146,358	70,000	47.8
Guam	259,904	194,004	77.6	194,004	49,188	25.4
Am. Samoa	120,778	-0-	-	-0-	-0-	-
Contingency						
TOTAL 1/	$385,560,893	$42,190,384	10.9	$260,312,970	$7,697,613 5/	3.0

1/ Totals may not add due to rounding

2/ Includes FY 1979 Apportionment and carryover Funds from FY 1977 and 1978

3/ Includes FY 1980 Apportionment and carryover Funds from FY 1978 and 1979 less 1980 amounts deferred until FY 1981.

4/ Includes Unobligated Balance less Unobligated 1980 Funds which were deferred until FY 1981.

5/ Does not include unapportioned moneys in the Contingency Reserve and the Special Reapportionment Account.

Table 5

ESTIMATED FISCAL YEAR 1982 APPORTIONMENTS TO STATES
FROM THE LAND AND WATER CONSERVATION FUND

State	Estimated FY 82 Apportionment
Alabama	$ 3,001,120
Alaska	1,597,113
Arizona	2,507,465
Arkansas	2,213,752
California	12,540,766
Colorado	2,697,890
Connecticut	3,015,018
Delaware	1,704,628
Florida	5,591,243
Georgia	3,485,922
Hawaii	1,859,273
Idaho	1,707,142
Illinois	6,760,371
Indiana	3,826,511
Iowa	2,465,863
Kansas	2,320,731
Kentucky	2,738,962
Louisiana	3,116,334
Maine	1,808,827
Maryland	3,441,860
Massachusetts	4,423,380
Michigan	5,786,472
Minnesota	3,155,363
Mississippi	2,216,031
Missouri	3,494,592
Montana	1,693,898
Nebraska	2,027,442
Nevada	1,757,688
New Hampshire	1,783,642
New Jersey	5,132,966
New Mexico	1,858,169
New York	10,244,881
North Carolina	3,494,253
North Dakota	1,670,881
Ohio	6,474,951
Oklahoma	2,581,730
Oregon	2,451,408
Pennsylvania	6,995,909
Rhode Island	1,918,315
South Carolina	2,537,442
South Dakota	1,672,974
Tennessee	3,265,068

Texas		7,469,717
Utah		2,053,510
Vermont		1,570,883
Virginia		3,621,694
Washington		3,103,747
West Virginia		2,096,338
Wisconsin		3,420,537
Wyoming		1,554,634
District of Columbia		601,275
Puerto Rico		2,339,465
Virgin Islands		53,786
Guam		58,176
American Samoa		17,992
Apportioned to States	$	173,000,000
Contingency Reserve		12,000,000
Total Appropriation	$	185,000,000

Table 6

LAND AND WATER CONSERVATION FUND
CONTINGENCY RESERVE ASSISTANCE 1/

State	Project Sponsor	Project Name/Purpose	Amount
Alabama	State of Alabama	Gulf Shores Acquisition - Acquisition of 3 acres of land on the Gulf of Mexico shoreline within the Town of Gulf Shores	$377,250
Arkansas	City of Texarkana	Texarkana Loop 245 Park - Development of an energy efficient, family park.	$500,000
Arkansas	City of Little Rock	Little Rock Riverfront Park - Development of 9 acres for a Regional Park on the Arkansas River with playfields, trails, amphitheater/bandshell and support facilities.	$1,002,000
Califorina	County of San Mateo	Edgewood Park Acquisition- Acquisition of 468 acres for use as a Regional Park on the San Francisco peninsula.	$765,200
California	East Bay Regional Park	Claremont Canyon Acquisition I- Acquisition of a 63 acres addition to the existing 108 acres at the Claremont Canyon Preserve.	$225,000
Florida	City of Jacksonville	St. John's River Esplandade - Development of an urban water-front park along the St. John's River in downtown Jacksonville.	$500,000
Florida	City of Clearwater	Mocasin Lake Energy Center - Development of a nature and energy interpretation/demonstration center for a 1,250 acre park.	$43,548

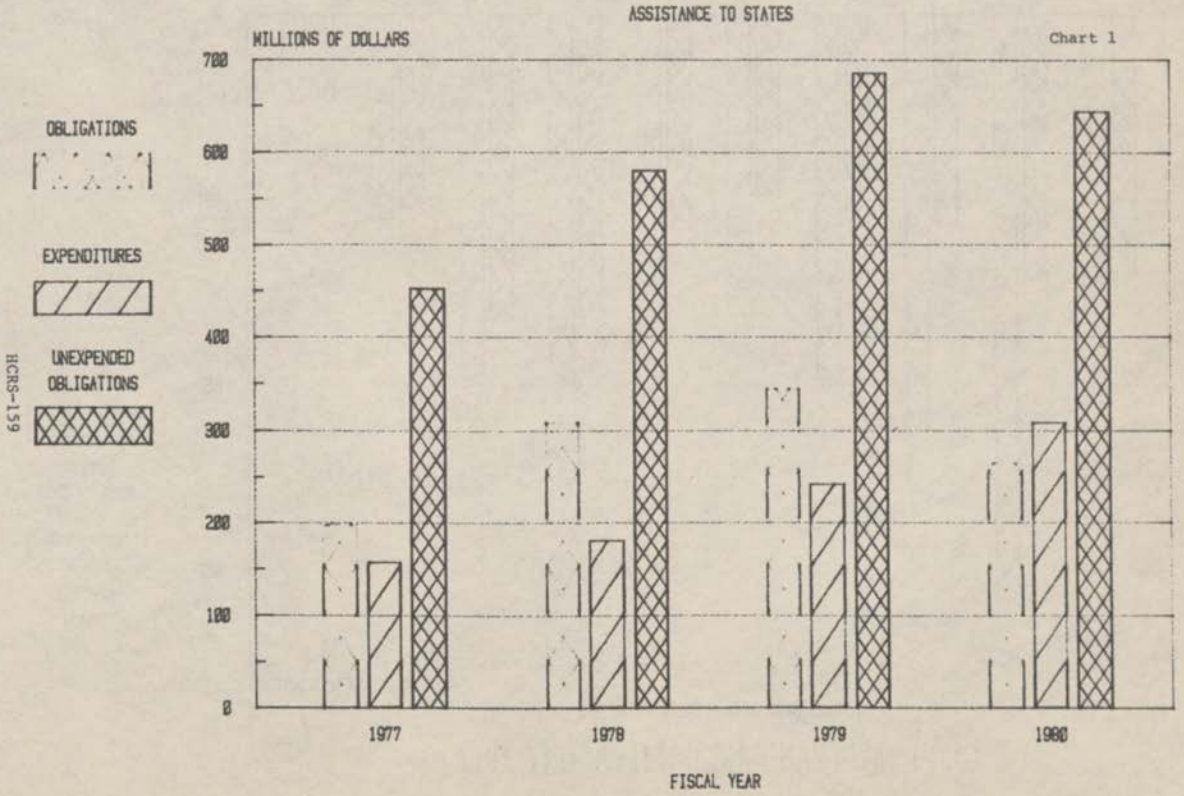
1/ Projects approved with Contingency Reserve Funds available in Fiscal Year 1980.

Florida	City of Miami	Gwen Cherry & Manor Park - Development of park facilities located in the Library City section of Miami. $600,660
Florida	State of Florida	The installation of solar water heaters and/or skylights in bathhouses, restrooms and other support facilities throughout the State Park System. $216,658
Idaho	Idaho Dept. of Parks and Recreation	Development of Eagle Island State Park. The development of an energy innovative State Park on Eagle Island near Boise which will serve as an example of energy conservation in its design and operation. $1,123,900
Indiana	South Bend Board of Park Commissioners	East Raceway Park - Development of a hydroelectric generator in the raceway adjacent to the St. Joseph River will produce energy to operate half of the lights in the park and the water head gates. $500,000
Iowa	State Conservation Commission	Mines of Spain - Acquisition of 1,220 acres of land located in Dubuque County, Iowa. $1,200,000
Massachuetts	Dept. of Environmental Management	Ice Rink Energy Conservation - Modification of 18 ice skating rinks throughout the State to recover waste heat generated by rink refrigeration systems. $250,000
Mississippi	City of Pascagoula	Pascagoula Power Generation - Development of micro-hydropower facility in Pascagoula Community Park which will produce power for high pressure sodium vapor lights associated with a mile-long jogging trail. $24,500
Michigan	Dept. of Natural Resources	Orion Hills Acquisition - Acquisition of 2,400 acres of land for outdoor recreation

		use located in the northeast portion of Oakland County, approximately 30 miles from downtown Detroit.	$1,000,000
Missouri	Dept. of Natural Resources	Weston Bend - Development of 1,015 acre, energy independent State Park located in Platte County with trails, camping and support facilities	$419,225
Missouri	Jackson County	Truman Farm Acquisition - Acquisition of 5 acres to provide a passive park park which illustrates the compatibility of recreation and historic preservation.	$378,250
Missouri	Dept. of Natural Resources	Weston Bend State Park - Acquisition of 1,015 acres of property in Platte County, Missouri, bordered in part by the Missouri River.	$576,000
New Jersey	Dept. of Environmental Protection	Pinelands Planning - To assist in the development of a Comprehensive Management Plan for the Pinelands National Reserve as part of the SCORP planning process.	$500,000
New Jersey	Dept. of Environmental Protection	Caven Point - Acquisition of 300 acres in Jersey City as an addition to Liberty State Park.	$1,400,000
New Mexico	State Natural Resources Department	Systemic Resources Analysis Program - To assist in the development of recreational natural, and cultural policy in New Mexico, as part of the SCORP Planning process.	$75,000
N. Carolina	City of Wilmington	Market Street Plaza Park - Acquisition and development of a passive, waterfront park.	$414,937

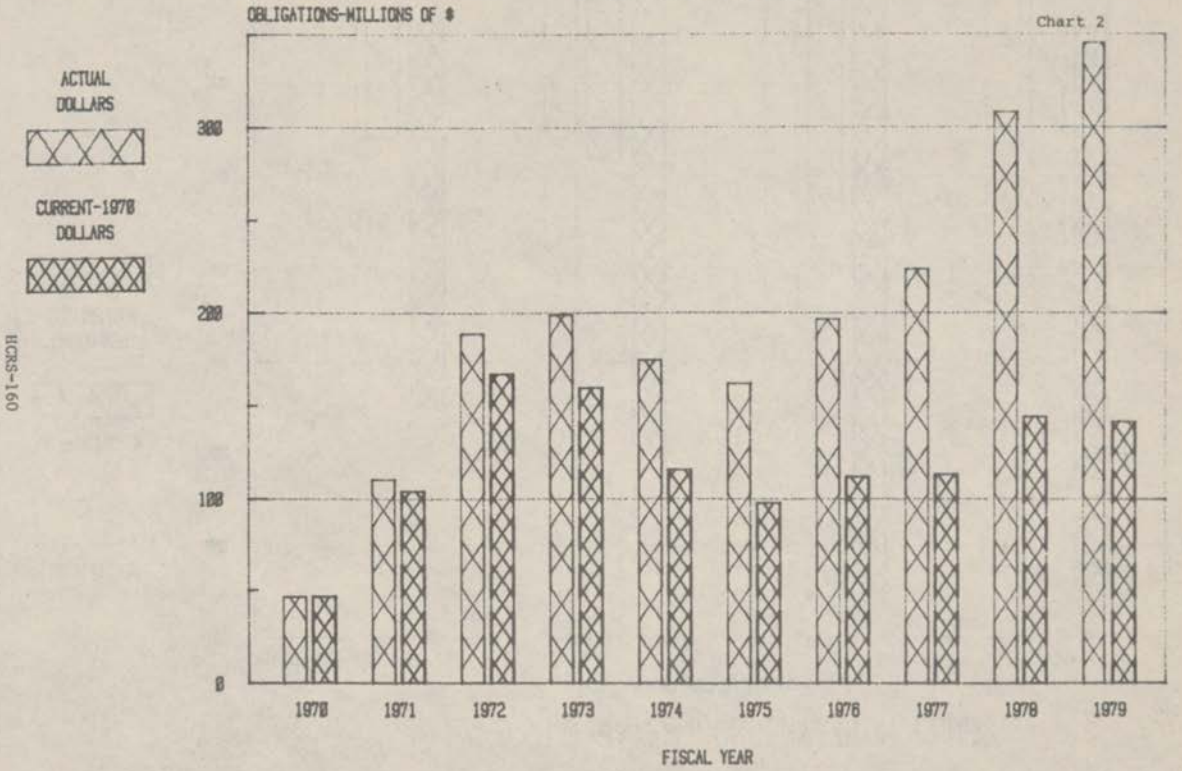
Pennsylvania	Armstrong Co. Bel-Mont Complex	Bel-Mont Complex - Acquisition of a 7 acre recreation complex located in Armstong County.	$275,000
Oklahoma	City of Oklahoma	River Front Acquisition - Acquisition of 163 acres of land located along both sides of the North Carolina River.	$401,400
Pennsylvania	City of Philadelphia	Butler Tract - Acquisition of 82 acres of land for recreational use along the Pennypack Creek in Montgomery County and the City of Philadelphia.	$750,000
S. Carolina	State of South Carolina	Mountain Bridge Acquisition - Acquisition of 10,366 acres of wilderness land in northern Greenville County, located within 30 miles of the Greenville/Sportanburg area.	$1,600,000
Wisconsin	Village of Soldiers Grove	Soldiers Grove Acquisition- Acquisition of 9 acres of floodplain land in Soldier's Grove.	$145,695
		TOTAL	$ 15,264,223

LAND AND WATER CONSERVATION FUND



LAND AND WATER CONSERVATION FUND

INFLATION TABLE - BASE YEAR 1970 1/



HCSCR1-160

1/ The National Farm Land Index and U.S. Department of Commerce's Composite Construction Cost Index (adjusted to the base year of 1970) were applied by year to actual aquisition and development obligations respectively, to arrive at the "current 1970 dollars" equivalent as shown on the chart.

74-939 O—80——43

Justification of Program and Performance

Activity: Federal Programs
Subactivity: Federal Agencies

(Dollar amounts in Thousands)

	1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-).
National Park Service	$ 80,211	80,211	233,673	+153,462
Forest Service	$ 39,416	39,416	46,787	+7,371
Fish and Wildlife Service	$ 21,520	21,520	35,399	+13,879
Bureau of Land Management	$ 1,135	1,135	3,100	+1,965
Pinelands NR	$ --	--	8,000	+8,000
Total Requirements	$ 142,282	142,282	326,959	+184,677
	(FTP) (--)	(--)	(--)	(--)

Authorization: 16 U.S.C. 460l-460l-11, et seq.

Objectives: To acquire land and interest in land to preserve and protect, for public use and enjoyment, the historic, scenic, natural and recreational values of areas within the National Park System, the wilderness, wildlife and recreation resources within the National Forest System, the specifically authorized areas, wilderness, recreation, fish and wildlife resource areas and endangered or threatened species of the Fish and Wildlife Service, and the Congressionally authorized areas of the Bureau of Land Management.

Base Program: The funds requested are for the acquisition of land and water recreation areas of national or regional significance. Such purchases will provide the base for outdoor recreation opportunities within reasonable access of major population concentrations as well as preserve a variety of outstanding resources and certain rare and endangered species. This program will help meet the increasingly heavy visitor demand for Federal recreation areas, to preserve key properties for public recreation use before they are converted to incompatible uses and conserve the nation's natural heritage. Timely acquisition also reduces the impact of price escalation that continues to affect land values.

The four Federal land-managing agencies which use the Land and Water Conservation Fund for acquisition of land and water recreation areas have identified current authorized claims against the fund of about 3.2 million acres at an estimated cost of $2,959.7 million to be funded by the Federal portion of the LWCF. The $2,959.7 million of authorized claims against the Fund (both specific and general authority) are as follows: National Park Service $881.0 million ($649.6 million specific and $231.4 million general authority); Forest Service $1,673 million ($130 million specific and $1,543 million general authority); Fish and Wildlife Service $385.3 million ($95.2 million specific and $290.1 million general authority); and Bureau of Land Management $20.4 million ($17.6 million specific and $2.8 million general authority) for a total of $892.4 million specific and $2,067.3 million general authority. The total funds requested ($326,959,000) will enable the acquisition of 145,958 acres to help reduce the current authorized claims against the Fund. This level permits the acquisition of key tracts at areas where the greatest potential for damage to existing Federal ownership or permanent loss of valuable recreation resources exist.

National Park Service

The request of $233,673,000 includes funds to: continue the land acquisition program at Appalachian National Scenic Trail, Big Cypress National Preserve, Buffalo National River, Chattahoochee River National Recreational Area, the Cuyahoga Valley National Recreational Area, New River Gorge National River, and Santa Monica Mountains National Recreational Area; initiate acquisition of privately owned lands for those areas authorized by the 95th and 96th Congresses for such areas as Rio Grande National Wild and Scenic River, San Antonio Missions National Historical Park and Martin Luther King National Historical Site; acquire lands at areas for which P.L. 95-42 has provided authority to exceed ceilings, including Cuyahoga Valley National Recreation Area and Buffalo National River, and to provide funds for preauthorization cost in areas where authorization is imminent and where substantial savings could be realized; continue the opportunity inholding program; and continue the deficiency line item for the numerous cases that will be coming to trial in FY 1982.

The request includes the need for $22.4 million for costs associated with the acquisition of land and interest in land, such as mapping and survey work, contract appraisal work, title evidence and title insurance fees, office rental costs, supplies, transportation and personnel compensation.

The National Park Service has authorized claims to be funded by the Federal portion of the Land and Water Conservation Fund of about 476,368 acres at an estimated cost of $881.0 million. Funds requested for this program will reduce these authorized claims to about 414,466 acres and $647.3 million.

National Park Service
Land and Water Conservation Fund
Fiscal Year 1982 Program

Deficiencies	5,000,000
Preauthorization	100,000
Recently Authorized Areas	
Allegheny Portage NHP	500,000[2]
Antietam NB	500,000
Appalachian NS Trail	20,000,000
Big Cypress N. Pres.	12,300,000[2]
Big Thicket Pres.	8,000,000[1]
Biscayne NP	5,000,000
Buffalo NR	2,200,000[2]
Cape Cod NS	2,000,000[2]
Channel Island NP	4,000,000
Chattahoochee River NRA	19,900,000
Chickamauga and Chattanooga NMP	304,000
C & O Canal NHP	2,000,000
Congaree Swamp NM	15,000,000[1]
Cumberland Island NS	11,000,000
Cuyahoga Valley NRA	8,000,000[2]
Delaware Water Gap NRA	2,500,000
Ebey's Landing NHR	2,100,000
Fire Island NS	500,000
Fort Sumter NM	383,000
Golden Gate NRA	4,800,000
Harpers Ferry NHP	100,000
Jean Lafitte NHP	4,622,000
John Day Fossil Beds NM	500,000
Lower St. Croix WSR	3,000,000
Manassas NB (Expansion)	2,000,000
Martin Luther King Jr. NHS	500,000
Monocacy NB	2,000,000
New River Gorge NR	8,240,000
Olympic NP	10,700,000
Point Reyes NS	2,839,000
Redwood NP	8,000,000
Rio Grande WSR	500,000
Saint Croix WSR	1,000,000
San Antonio Mission NHP	1,400,000
Santa Monica Mtns. NRA	36,685,000
Sequoia NP	1,200,000
Upper Delaware WSR	600,000
Valley Forge NHS	4,000,000
Virgin Islands NP	4,700,000
Voyageurs NP	7,000,000[1]
War in the Pacific NMP	2,000,000
Subtotal	$227,673

[1] Requires amendatory legislation to increase land acquisition ceiling.

[2] Exceeds authorized ceiling, but within limits authorized by P.L. 95-42 ($1,000,000 or 10% of authorized ceiling whichever greater for areas authorized prior to 95th Congress).

The request of $6,000,000 will be used to continue the inholding program with emphasis being placed on those properties which are threatened with incompatible use. These funds may be utilized at the following areas:

Badlands National Park, SD
Big Bend National Park, TX
Black Canyon of the Gunnison National Monument, CO
Blue Ridge Parkway, NC/VA
Bryce Canyon National Park, UT
Chaco Canyon National Monument, NM
Chiricahua National Monument, AZ
Death Valley National Monument, CA/NV
Dinosaur National Monument, CO/UT
El Morro National Monument, NM
Fort Raleigh National Historic Site, NC
Fredericksburg and Spotsylvania County Battfields Memorial National Military Park, VA
Gettysburg National Military Park, PA
Glacier National Park, MT
Grand Teton National Park, WY
Great Sand Dunes, NM/CO
Great Smoky Mountains National Park, NC/TN
Hot Springs National Park, AR
Joshua Tree National Monument, CA
Katmai National Monument, AK
Kings Canyon National Park, CA
Lassen Volcanic National Park, CA
Manassas National Battlefield Park, VA
Mesa Verde National Park, CO
Montezuma Castle National Monument, AZ
Mount Rainier National Park, WA
Natchez Trace Parkway, MS/TN/AL
Olympic National Park, WA
Organ Pipe Cactus National Monument, AZ
Petersburg National Battlefield, VA
Rocky Mountain National Park, CO
Scotts Bluff National Monument, NE
Sequoia National Park, CA
Theodore Roosevelt National Park, ND
Walnut Canyon National Monument, AZ
Yosemite National Park, CA
Zion National Park, UT

TOTAL $233,673,000

Forest Service

The request for $46,787,000 provides for continued acquisition of key recreation lands in the National Forest System (composites), wilderness, wildlife habitat management areas, endangered species and other areas important for public outdoor recreation purposes. New acquisition starts will be made in the Arapaho National Recreation Area and along the North Fork American River--a designated addition to the National Wild and Scenic Rivers System. The purchase program will continue within Cascade Head Scenic Research Area; Mount Rogers, Whiskeytown-Shasta-Trinity, Spruce Knob-Seneca Rocks, and Sawtooth National Recreation Areas; Chattooga National Wild and Scenic River; Boundary Waters Canoe Area; Appalachian Trail; will be substantially completed at the Eleven Point and Rogue Wild and Scenic River; and will acquire various inholdings within the National Forests having a high propensity to accomodate public outdoor recreation use. Also included are funds for the Feather, Middle Fork Salmon, Clearwater, and Flathead Rivers which qualify for additional funding in excess of legislative authorization under P.L. 95-42.

The request includes an amount to fund administrative salaries and expenses of 200 person years needed to handle the acquisition program. The total needs amount to $6,000,000 and will be used to complete property appraisals, surveys for purchases not yet completed and for new purchases, title work, relocation expenses for displaced property owners, planning new acquisitions, and other incidental expenses.

The Forest Service has authorized claims of about 1.9 million acres at a total estimated cost of $1.7 billion. Of the total funds requested, $24,362,000 will be used for acquisition in areas recently authorized by Acts of Congress which will acquire 13,793 acres. The remaining requested funds of $22,425,000 will be used in the National Forest System for deficiency payments, acquisition of recreation inholdings, endangered species habitat, wildlife habitat management areas, other wilderness areas, and recreation composite areas totaling 29,635 acres.

Forest Service
Land and Water Conservation Fund
Fiscal Year 1982 Program

Recently Authorized Areas

Arapaho NRA	$ 3,000,000
Cascade Head SRA	801,000
* Chattooga WSR	300,000
* Eleven Point WSR	2,500,000
* Feather WSR	250,000 [1]
* Flathead WSR	1,000,000 [1]
Middle Fork Clearwater WSR	500,000 [1]
* Middle Fork Salmon WSR	1,000,000 [1]
* Mount Rogers NRA	980,000
North Fork American WSR	850,000
* Rogue WSR	303,000
* Sawtooth NRA	6,949,000
* Spruce Knob-Seneca Rocks NRA	1,050,000
* Whiskeytown-Shasta-Trinity NRA	200,000
* Appalachian Trail	2,179,000
* Boundary Waters Canoe Area	2,500,000
Subtotal	$24,362,000

Other Areas

Deficiencies & Inholdings	2,000,000
Endangered Species	405,000
Wildlife Habitat Management	1,052,000
* Other Wilderness	4,968,000
Subtotal	$8,425,000

* Eligible for funding from Special Account authorized by P.L. 95-42.

1/ Exceeds authorized ceiling, but within limits authorized by P.L. 95-42. ($1,000,000 or 10% of authorized ceiling, whichever is greater, for areas authorized prior to 95th Congress).

Composites

The request of $14,000,000 will be used to acquire lands within the National Forest System which are primarily of value for outdoor recreation. While it is not possible to predict with complete certainty, due to the strong dependence upon willing sellers and the potential changes in the threat for each composite area, it is the best judgment of the Forest Service at this time that these funds will be utilized at the following areas:

Area	Tracts	Acres	Dollars
Columbia Gorge	4	110	142,000
Diana's Bath	3	990	550,000
Little Muskingum	11	1,560	1,000,000
Mt. Baldy	1	2,292	2,500,000
Red River Gorge	2	50	25,000
North Half	13	2,600	1,200,000
Cedar Creek	10	1,420	1,000,000
Monroe Reservoir	7	430	301,000
Little Muskingum	5	620	372,000
Red River Gorge	2	100	40,000
Allegheny River	8	700	490,000
Lakes	3	700	490,000
Cedar Creek	5	600	390,000
North Half	9	1,740	800,000
Lake Lewis Smith	4	100	240,000
Talladega	4	250	125,000
Little Deschutes	1	678	700,000
Roan Mountain	1	203	1,151,000
Lake Lewis Smith	1	792	1,500,000
Lake Oconee	2	492	984,000
Subtotal	96	16,427	$14,000,000
Total	$46,787,000		

Fish and Wildlife Service

The $35,399,000 requested will be utilized to acquire lands for the protection of specifically authorized areas, and acquisition of vital habitat for endangered wildlife species. A total of about $2.3 million of the requested funding will be utilized for 48 positions to conduct appraisals, negotiations, title examinations, surveys, and other incidental acquisition functions.

All lands proposed for funding under Recently Authorized Areas are within the approved boundaries as authorized. The Tensas National Wildlife Refuge is the only new start; all other specially-legislated refuges are continuing acquisitions where appraisals and negotiations have been in process. The endangered species acquisitions are within approved boundaries of habitat essential for the continued existence or recovery of the species as delineated within the recovery plans.

The Schedule II Program Proposals, included within the Budget Justification, provide the detail of tracts, acres, and type of acquisition proposed for each individual unit. Also included are the benefits to the wildlife resource, status of acquisition, and other particulars for each proposed acquisition.

All land acquisition funding requested within the fiscal year 1982 Program is in accordance with the National Environmental Policy Act of 1979 guidelines and public input has been provided through public meetings and the required State Clearinghouse procedures.

The Fish and Wildlife Service has authorized claims of about 674,989 acres at an estimated cost of $385,262,000 to be funded from the Federal portion of the Land and Water Conservation Fund. The $35,399,000 requested by the Fish and Wildlife Service is expected to acquire 325 tracts and 37,759 acres of these authorized claims.

Fish and Wildlife Service
Land and Water Conservation Fund
Fiscal Year 1982 Program

Recently Authorized Areas

Bogue Chitto NWR, LA/MS	$ 2,000,000
Bon Secour NWR, AL	3,500,000
Great Dismal Swamp NWR, NC/VA	2,100,000
*Minnesota Valley NWR, MN	2,200,000 1/
San Francisco Bay NWR, GA	1,700,000
Tensas NWR, LA	10,000,000
Tinicum NEC, PA	1,500,000
	$23,000,000

* Eligible for funding from Special Account authorized by P.L. 95-42.

1/ Requires specific or amendatory legislation to increase land acquisition ceiling.

Endangered Species (Authorized by Endangered Species Act of 1973, as amended, 16 U.S.C. 668aa-cc)

American Crocodile, FL	$ 2,100,000
Blunt-nosed Leopard Lizard, CA	2,600,000
California Condor, CA	1,199,000
Clear Creek Gambusia, TX	1,500,000
Kirtlands Warbler, MI	1,100,000
Moapa Dace, NV	850,000
Puerto Rican Plain Pigeon, PR	550,000
Watercress Darter, AL	100,000
West Indian Manatee, FL	450,000
Yaqui Topminnow, AZ	850,000
	$ 11,299,000
Contingencies	$ 1,100,000
TOTAL	$ 35,399,000

Bureau of Land Management

The requested $3,100,000 will provide for land acquisition within the Rogue, Upper Missouri and Rio Grande Wild and Scenic Rivers, King Range National Conservation Area, and Pacific Crest Trail.

The Bureau of Land Management will fund 12 positions that will perform activities necessary to complete the planning acquisitions in FY 1982. The scope of work for these employees includes appraisals of interests to be acquired, title search and clearance, and negotiations with landowners.

The Bureau of Land Management plans to acquire approximately 2,869 acres involving 61 tracts located within the boundaries of the management areas.

Fiscal Year 1982 Program

Management Area	
King Range NCA	700,000
*Pacific Crest Trail	130,000 1/
*Rio Grande WSR	270,000 1/
*Rogue River WSR	650,000 1/
*Upper Missouri WSR	1,350,000 1/
Total	$ 3,100,000

*Eligible for funding from Special Account authorized by P.L. 95-42.

1/ Exceeds authorized ceiling, but within limits authorized by P.L. 95-42 (1,000,000 or 10% of authorized ceiling, whichever is greater, for areas authorized prior to 95th Congress).

Federal Program Accomplishments

About 2.8 million acres have been purchased by the four Federal agencies with Land and Water Conservation Fund monies through June 30, 1980, at a cost of approximately 2.3 billion. These accomplishments are summarized by agency in the following table:

Land Purchased Through June 30, 1980

Agency	Number of Tracts	Acres	Cost
National Park Service	91,675	1,495,667	$1,720,943,000
Forest Service	5,464	1,090,891	447,371,000
Fish and Wildlife Service	949	184,191	108,392,000
Bureau of Land Management	249	10,337	12,334,000
TOTAL	98,337	2,781,086	$2,289,040,000

These acquisitions represent high priority lands acquired to meet recognized national outdoor recreation and resource conservation needs. Program emphasis has been directed toward acquisition of areas specifically authorized by Congress. Key lands have been acquired in national forests, national wildlife refuges, the National Park System, and Congressionally authorized areas of the Bureau of Land Management to assure preservation of nationally important scenic and historic sites, and wilderness areas, to preserve habitat for rare or endangered species, and to provide additional outdoor recreation opportunities.

AUTHORIZATION DATA FY 1982

NPS

Management Unit	Authorized Acquisition Ceiling	Amount Appropriated through FY 1981	Remaining Authorization	FY 1982 Request	Amount of Request Requiring Additional Authorization
Deficiencies	N/A	27,040,063	N/A	5,000,000	N/A
Preauthorization	N/A	600,000	N/A	100,000	N/A
Inholdings	N/A	122,821,052	N/A	6,000,000	N/A
Allegheny Portage NHP	3,188,000	2,875,369	312,631	500,000 1/	-
Antietam NB	Sums As Necessary	500,000	Sums As Necessary	500,000	N/A
Appalachian NS Trail	95,000,000	40,300,000	54,700,000	20,000,000	-
Big Cypress NPres	156,700,000	141,171,000 1/	15,529,000	12,300,000	-
Big Thicket NPres	63,812,200	75,917,000 –	-0-	8,000,000 2/	1,618,780
Biscayne NP	36,850,000	26,750,000	10,100,000	5,000,000	-
Buffalo NR	39,948,000	38,948,000	1,000,000	2,200,000 1/	-
Cape Cod NS	33,500,000	33,936,075 1/	-0-	2,000,000 1/	-
Channel Island NP	30,100,000	-0-	30,100,000	4,000,000	-
Chattahoochee River NRA	72,900,000	53,000,000	19,900,000	19,900,000	-
Chickamauga & Chattanooga NMP	304,000	-0-	304,000	304,000	-
C & O Canal NHP	28,400,000	23,266,109	5,133,891	2,000,000	-
Congaree Swamp NM	35,500,000	35,500,000	-0-	15,000,000	15,000,000
Cumberland Island NS	28,500,000	14,565,000	13,935,000	11,000,000	-
Cuyahoga Valley NRA	70,100,000	69,100,000 3/	1,000,000	8,000,000 1/	-
Delaware Water Gap NRA	Sums As Necessary	68,992,500	Sums As Necessary	2,500,000	N/A
Ebey's Landing NHR	4,500,000	-0-	4,500,000	2,100,000	-
Fire Island NS	23,000,000	20,263,959	2,736,041	500,000	-
Fort Sumter NM	Sums As Necessary	-0-	Sums As Necessary	383,000	N/A
Golden Gate NRA	77,110,000	53,191,540	23,918,460	4,800,000	-
Harpers Ferry NHP	1,300,000	2,250,000 1/	-0-	100,000	-
Jean Lafitte NHP	50,000,000	9,389,430	40,610,570	4,622,000	-
John Day Fossil Bed NM	3,900,000	1,096,137	2,803,863	500,000	-
Lower St. Croix WSR	18,750,000	15,450,000	3,300,000	3,000,000	-
Manassas NBP	8,700,000	-0-	8,700,000	2,000,000	-
Martin Luther King, Jr. NHS	3,500,000	-0-	3,500,000	500,000	-

AUTHORIZATION DATA FY 1982

NPS

Management Unit	Authorized Acquisition Ceiling	Amount Appropriated through FY 1981	Remaining Authorization	FY 1982 Request	Amount of Request Requiring Additional Authorization
Monocacy NB	7,025,000	3,407,890	3,617,110	2,000,000	-
New River Gorge NR	20,000,000	1,082,009	18,917,991	8,240,000	-
Olympic NP	23,700,000	13,000,000	10,700,000	10,700,000	-
Point Reyes NS	62,500,000	56,823,950	5,676,050	2,839,000	-
Redwood NP	-0-	335,000,000	N/A	8,000,000	N/A
Rio Grande WSR	1,650,000	-0-	1,650,000	500,000	-
Saint Croix WSR	21,769,000	14,652,863	7,116,137	1,000,000	-
San Antonio Missions NHP	10,000,000	-0-	10,000,000	1,400,000	-
Santa Monica Mountains	155,000,000	51,008,500	103,991,500	36,685,000	-
Sequoia NP (Mineral King)	Sums As Necessary	735,411	Sums As Necessary	1,200,000	N/A
Upper Delaware WSR	Sums As Necessary	200,000	Sums As Necessary	600,000	N/A
Valley Forge NHP	13,895,000	4,976,575	8,918,435	4,000,000	-
Virgin Islands NP	Sums As Necessary	8,750,000	Sums As Necessary	4,700,000	N/A
Voyageurs NP	26,014,000	31,895,900	-0-	7,000,000 4/	4,398,600
War in the Pacific NHP	16,000,000	600,000	15,400,000	2,000,000	-

1/ Overceiling via P.L. 95-42 (10% or $100,000 whichever is greater).

2/ $6,381,220 qualifies for overceiling via P.L. 95-42.

3/ Does not include $117,050 appropriated over prior ceiling ($41,100,000) via P.L. 95-42.

4/ $2,601,400 qualifies for overceiling via P.L. 95-42.

AUTHORIZATION DATA FY 1982

FS

Management Unit	Authorized Acquisition Ceiling	Amount Appropriated through FY 1981	Remaining Authorization	FY 1982 Request	Amount of Request Requiring Additional Authorization
Recently Authorized Areas					
Appalachian NST	1/	3,000,000	1/	2,179,000	-
Arapaho NRA	5,000,000	0	5,000,000	3,000,000	-
BWCA	No Ceiling	3,000,000	N/A	2,500,000	N/A
Cascade Head SRA	No Ceiling	4,036,000	N/A	801,000	N/A
Chattooga WSR	5,200,000	2,000,000	3,200,000	300,000	-
Eleven Point WSR	10,407,000	4,906,500	5,500,500	2,500,000	-
Endangered Species	No Ceiling	330,000	N/A	405,000	N/A
Flathead WSR	6,719,000	6,719,000	0	1,000,000	2/
Middle Fork Clearwater WSR	3,409,800	3,409,800	0	500,000	2/
Middle Fork Feather WSR	3,935,700	3,935,700	0	250,000	2/
Middle Fork Salmon WSR	1,837,000	1,837,000	0	1,000,000	2/
Mt. Rogers NRA	No Ceiling	17,668,000	N/A	980,000	N/A
North Fork American WSR	850,000	0	850,000	850,000	-
Other Wilderness	No Ceiling	518,705	N/A	4,968,000	N/A
Rogue WSR	5,150,850	4,647,900	502,950	303,000	-
Sawtooth NRA	47,802,000	31,988,000	15,814,000	6,949,000	-
Spruce Knob-Seneca Rocks NRA	No Ceiling	9,665,000	N/A	1,050,000	N/A
Whiskeytown-Shasta-Trinity NRA	7,709,297	7,169,000	540,297	200,000	-
Wildlife Habitat Management	No Ceiling	0	N/A	1,052,000	N/A
Composites	No Ceiling	269,870,000	N/A	14,000,000	N/A
Deficiencies	No Ceiling	17,000,000	N/A	2,000,000 3/	N/A
Inholdings	No Ceiling	28,288,000	N/A	3/	N/A

1/ Is within the $95,000,000 ceiling controlled by the Park Service
2/ Is within limits authorized by P.L. 95-42 (10% or $1,000,000 whichever is greater).
3/ Funds included in Deficiencies/Inholding line item to be used for either deficiencies or inholdings.

AUTHORIZATION DATA FY 1982

FWS

Management Unit	Authorized Acquisition Ceiling	Amount Appropriated through FY 1981	Remaining Authorization	FY 1982 Request	Amount of Request Requiring Additional Authorization
Recently Authorized Areas					
Bogue Chitto NWR	13,000,000	6,400,000	6,600,000	2,000,000	-
Bon Secour NWR	23,500,000	5,800,000	17,700,000	3,500,000	-
Great Dismal Swamp NWR	20,500,000	16,550,000	3,950,000	2,100,000	-
Minnesota Valley NWR	8,300,000	8,300,000	0	2,200,000	2,200,000
San Francisco Bay NWR	13,200,000	10,583,000	2,617,000	1,700,000	-
Tensas NWR	10,000,000	0	10,000,000	10,000,000	-
Tinicum NEC	19,500,000	9,600,000	9,900,000	1,500,000	-
Endangered Species					
American Crocodile	N/A	5,115,000	N/A	2,100,000	N/A
Blunt-nosed Leopard Lizard	N/A	4,800,000	N/A	2,600,000	N/A
California Condor	N/A	2,266,000	N/A	1,199,000	N/A
Clear Creek Gambusia	N/A	0	N/A	1,500,000	N/A
Kirtlands Warbler	N/A	2,500,000	N/A	1,100,000	N/A
Moapa Dace	N/A	2,500,000	N/A	850,000	N/A
Puerto Rican Plain Pigeon	N/A	0	N/A	550,000	N/A
Watercress Darter	N/A	0	N/A	100,000	N/A
West Indian Manatee	N/A	0	N/A	450,000	N/A
Yaqui Topminnow	N/A	0	N/A	850,000	N/A
Contingencies	N/A	225,000	N/A	1,100,000	N/A

74-939 O—80——44

AUTHORIZATION DATA FY 1982

BLM

Management Unit	Authorized Acquisition Ceiling	Amount Appropriated through FY 1981	Remaining Authorization	FY 1982 Request	Amount of Request Requiring Additional Authorization
Authorized Areas					
King Range NCA	6,500,000	2,084,650	4,415,350	700,000	-
Rio Grande W&SR	253,000	253,000	-0-	270,000 1/	-
Rogue National W&SR	9,996,150	9,999,350	-3,200 1/	650,000 1/	-
Upper Missouri W&SR	1,800,000	1,200,000	600,000	1,350,000 1/	
Pacific Crest Trail	387,000	387,000	-0-	130,000 1/	-

1/ Exceeds authorized ceiling, but within limits authorized by P.L. 95-42 ($1,000,000 or 10% of authorized ceiling, whichever is greater, for areas authorized prior to 95th Congress).

SCHEDULE II PROGRAM PROPOSAL – FY 82

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Agency National Park Service
Department of the Interior

1 No	2 Identification	3 No. Cases	4 COUNTY	5 6 COST DATA LAND Acres	LAND Cost	7 8 IMPROVEMENTS Type	IMPROVEMENTS Cost	9 Total Costs	10 Per Acre Cost Land Only	11
HCRS-178	Deficiencies	N/A	N/A	N/A	5,000,000			5,000,000	N/A	The availability of funds to pay court awards on condemnation cases, thereby eliminating the lag between the time the court award is rendered and actual payment is made, will result in considerable savings to the Government. This fund will also be used to pay expenses such as appraisal, title, and survey work in connection with the tracts in condemnation.
	Preauthorization	N/A	N/A	N/A	100,000			100,000	N/A	Public Law 95-42, dated June 10, 1977, authorizes the use of the Land and Water Conservation Fund to do preacquisition work prior to the authorization of an area or boundary change when authorization is imminent and where substantial monetary savings could be realized. Funds are requested to do such work when anticipated authorization meets the test of imminency.
	Inholdings (area authorized prior to FY 1960									
	General Opportunity Inholding Program	156	Various	3,180	5,700,000	Seasonal cabins, residences, farm buildings	300,000	6,000,000	1,792	The funds requested will be used to continue the inholding acquisition program with emphasis on the acquisition of unimproved properties and those which are threatened with incompatible use.

BOR 6-177
JAN 1977

Revises BOR 6-136 and BOR 6-137 which are obsolete

SCHEDULE 11 PROGRAM PROPOSAL – FY 82

Page 2 of

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Agency National Park Service
Department of the Interior

1 No	2 Identification	3 No. Cases	4 COUNTY	5 & 6 COST DATA LAND Acres	LAND Cost	7 & 8 IMPROVEMENTS Type	IMPROVEMENTS Cost	9 Total Costs	10 Per Acre Cost Land Only	11
HCRS-179	Arkansas Buffalo N. River	37	Newton Searcy Marion Baxter	2,087	1,810,000	Residences, commercial buildings, recreational homes	390,000	2,200,000	867	Public Law 95-42 provides that statutory ceilings may be exceeded. The amount requested is $1,200,000 overceiling. These funds will permit acquisition of properties threatened with clear-cutting, recreational subdivision and some commercial development.
	California Channel Islands NP	1	Santa Barbara Ventura	6,264	4,000,000			4,000,000	639	P.L. 96-199, March 5, 1980, redesignated Channel Islands National Monument to Channel Islands National Park. The Act also greatly enlarged the boundaries of the Park and authorized the appropriation of $30,100,000 for land acquisition. The funds requested are needed to initiate the land acquisition program on Santa Cruz Island in order to preserve and protect the nationally significant natural, scenic archeological, cultural and scientific values of the park.
	Golden Gate NRA	3	Marin	488	4,620,000	Residences, farm units	180,000	4,800,000	9,467	Public Law 96-199, dated March 5, 1980, further expanded the boundaries of the Park and increased the statutory ceiling for land acquisition by $15,500,000. Funds requested will be used to acquire hardship cases within the revised boundaries to preclude adverse development.
	Point Reyes NS	12	Marin	830	2,075,000	Residences, farm units, commercial buildings	764,000	2,839,000	2,500	Public Law 96-199, dated March 5, 1980, further expanded the boundaries of this seashore and increased the statutory ceiling for land acquisition by $5,000,000. Funds requested will be used to proceed with the land acquisition program within the revised boundaries with emphasis on acquisition to prevent adverse development and any hardship cases that may arise.
	Redwood NP	5	Humbolt Del Norte	1,513	8,000,000			8,000,000	3,305	A portion of the requested funds, $3,000,000 will be used to continue litigation support work such as check cruises and appraisals of the Big 3 timber companies and cruises and appraisals of the severed lands for areas added in the boundary expansion act of March 27, 1978 (92 Stat. 163). The balance of the funds will be used for acquisition of the approximately 1,513 acres required for the relocation of U.S. Highway 101.

BOR 8-117
JAN 1971

Replaces BOR 8-136 and BOR 8-137 which are obsolete

SCHEDULE II PROGRAM PROPOSAL – FY 82

Page 3 of

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Agency National Park Service
Department of the Interior

1 No	2 Identification	3 No. Cases	4 COUNTY	5 COST DATA LAND Acres	6 LAND Cost	7 IMPROVEMENTS Type	8 IMPROVEMENTS Cost	9 Total Costs	10 Per Acre Cost Land Only	11
	Santa Monica Mountains NRA	13	Los Angeles Ventura	3,896	36,685,000			36,685,000	9,416	Funds requested are needed to continue the land acquisition program, essentially in accordance with established priorities, but with the main thrust of protecting and preserving the many diverse resources of the recreation area from threats of residential subdivision, incompatible use and loss of unique coastal and mountain resources.
	Sequoia NP (Mineral King)	10	Tulane	181	690,000	Seasonal resort recreational homesites, timber	510,000	1,200,000	3,812	Public Law 95-625 dated November 10, 1978, expanded the boundaries of the park. Funds requested are needed to proceed with the land acquisition program in order to preclude commercial exploitation of the pristine natural resources of this great park.
	Florida Big Cypress N. Pres.	N/A	Collier Dade Monroe	N/A	12,300,000			12,300,000	N/A	An increase in the statutory ceiling for land acquisition was included in Public Law 95-625, dated November 10, 1978. The requested funds are needed to pay anticipated court awards in the many condemnation cases scheduled for trial in this fiscal year.
	Biscayne NP	4	Dade	46	4,850,000	Recreational homesites Marinas	150,000	5,000,000	105,435	Public Law 96-287, dated June 28, 1980, redesignated Biscayne from a national monument to a national park, expanded the boundary, and provided an additional $8,500,000 for land acquisition. Requested funds will be used to initiate land acquisition on Ragged Keys in order to protect this prime natural area from incompatible uses and to prevent adverse development.
	Georgia Chattahoochee River NHA	12	Forsyth Gwinnett Fulton Cobb	598	19,900,000			19,900,000	33,278	The amount requested will be used to acquire 3 tracts in the river corridor that were withdrawn from the original Fiscal Year 1981 Budget Request. The Service has a 2-year option on one tract, the River Protiqs Inc. This option expires on Oct. 31, 1981. The Service holds a long term offer to sell on the other 2 tracts , which also expires in fiscal year 1982.
	Cumberland Island NS	1	Camden	1,300	11,000,000			11,000,000	8,462	The requested funds will be used to acquire the High Point property from the Trust for Public Lands, which has negotiated an option to buy the tract from the Candler family. This request is for the restoration of funds withdrawn from the original fiscal year 1981 budget request.

HCRS-180

BOR 8-177
JAN 1971

Replaces BOR 8-126 and BOR 8-137 which are obsolete

SCHEDULE II PROGRAM PROPOSAL – FY 82

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Page 4 of 9

Agency National Park Service
Department of the Interior

1 No	2 Identification	3 No. Cases	4 COUNTY	5 COST DATA LAND Acres	6 LAND Cost	7 IMPROVEMENTS Type	8 IMPROVEMENTS Cost	9 Total Costs	10 Per Acre Cost Land Only	11
	Martin Luther King, Jr. NHS	20	Fulton	3.5	225,000	Residences, Commerical	275,000	500,000	64,286	P.L. 96-428, dated September 10, 1980, authorized this site and also authorized the appropriation of $1,500,000 for the acquisition of lands and interests therein. The requested funds are needed to continue the land acquisition program with top priority given to the preservation and protection of the historic site for historic interpretation and to provide for visitor use and parking.
	GUAM War in the Pacific NHP	8	N/A	95.0	1,200,000	Residences, 4-unit apartment	800,000	2,000,000	12,632	P.L. 95-348, dated August 18, 1978, added this park to the National Park System. Due to budgetary restraints, particularly in F.Y. 1981, it has been possible to obtain appropriation of only $600,000 of the $16,000,000 authorized for land acquisition. To date no land has been purchased. The funds requested will be used to acquire first priority tracts, all of which are hardship cases, and to check the threat of further subdivision and commercial development.
	Louisiana Jean Lafitte NHP & Pres.	3	Jefferson Parish, Orleans Parish	576	4,547,000	Residences, recreational homes	75,000	4,622,000	7,894	Requested funds are needed to continue acquisition of lands in the park which are threatened with drainage, subdivision and development, which would disrupt the ecological balance.
	Maryland Antietam NB	12	Washington	514 S/E	500,000			500,000	972	Public Law 95-625 dated November 10, 1978, redesignated Antietam from a national battlefield site to a national battlefield and expanded its boundaries. Only scenic easements may be acquired over the additional land. Requested funds will be used to acquire such easements in order to protect the battlefield from encroachment by obtrusive development.
	C & O Canal NHP	14	Montgomery Allegheny Washington	456	1,800,000	Seasonal and year-round residences	200,000	2,000,000	3,947	Funds will be used to continue the land acquisition program with major emphasis placed on acquisition of land threatened with subdivision and development.
	Monocacy NB	4	Frederick	337	1,943,000	Residences, farm units	57,000	2,000,000	5,766	Requested funds will be used to proceed with the land acquisition program in an expeditious manner in order to stay ahead of inflation and prevent development.
	Massachusetts Cape Cod NS	38	Barnstable	94	1,850,000	Residences, seasonal residences	150,000	2,000,000	5,000	Public Law 95-42 provides that statutory ceilings may be exceeded. The requested amount is over-ceiling. The funds are needed to provide the means to enforce zoning variances in order to prevent adverse development and protect and preserve the fragile ecological resources of the seashore. A sizeable portion of the funds will also be used to pay deficiencies in court awards in condemnation cases to preclude payment of interest.

HCRS-181

TUR 8 177
JAN 1971

Replaces GOR 8 136 and
TUR 8 137 which are obsolete

SCHEDULE II PROGRAM PROPOSAL – FY 82.

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Page 5 of

Agency National Park Service

Department of the Interior

1 No	2 Identification	3 No. Cases	4 COUNTY	5 COST DATA LAND Acres	6 LAND Cost	7 IMPROVEMENTS Type	8 IMPROVEMENTS Cost	9 Total Costs	10 Per Acre Cost Land Only	11
	Minnesota & Wisconsin									
	Lower St. Croix NSR	N/A	Chisago Polk St. Croix Washington	N/A	3,000,000			3,000,000	N/A	The requested funds are needed to pay anticipated court awards in the many condemnation cases scheduled for trial and to pay any additional amounts that result from renegotiation of previously acquired tracts where local zoning had been considered in the determination of just compensation.
	St. Croix NSR	46	Pine Chisago Bayfield Sawyer Washburn Douglas Polk	946	1,000,000			1,000,000	1,057	The funds requested will permit land acquisition to continue in order to avoid recreational development and deter the threat of increasing escalation in land costs. Much of the acquisition program will consist of scenic easement purchases.
	Voyageurs NP	N/A	Koochiching St. Louis	N/A	7,000,000			7,000,000	N/A	Funds are needed to pay court awards on pending condemnation cases, as ordered by the Court, on a timely basis in order to avoid payment of interest and maintain credibility of the National Park Service, as well as the Federal Government. A land acquisition ceiling increase is required.
	New Jersey also Pennsylvania									
	Delaware Water Gap NRA	71	Warren Sussex Pike Monroe Cameron Northampton Somerset	2,110	2,300,000	Seasonal and year-round residences	200,000	2,500,000	1,090	The requested funds are needed to continue the land acquisition program in order to forestall subdivision and development and to acquire hardship cases as they may be identified.
	New York									
	Fire Island NS	2	Suffolk	6	500,000			500,000	83,333	The requested funds are needed to acquire unimproved properties within the fragile dune district to protect the district from adverse development.
	Upper Delaware Scenic & Rec. River (also Pennsylvania)	6	Delaware Orange Sullivan Pike Wayne	120	550,000	Seasonal and year-round residences	50,000	600,000	4,583	Funds are required to provide necessary access to the river for public enjoyment and to prevent adverse development.

HCRS-182

SCHEDULE H PROGRAM PROPOSAL – FY 82

Page 6 of

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Agency National Park Service
Department of the Interior

1 No	2 Identification	3 No Cases	4 COUNTY	5 6 COST DATA LAND Acres	LAND Cost	7 8 IMPROVEMENTS Type	IMPROVEMENTS Cost	9 Total Costs	10 Per Acre Cost Land Only	11
	Ohio									
	Cuyahoga Valley NRA	239	Cuyahoga Summit	3,702	7,600,000	Residences, commercial buildings	400,000	8,000,000	2,053	Public Law 95-42, as amended, provides that statutory ceilings may be exceeded. $5,000,000 of the funds requested are over-ceiling. The funds are needed to protect and preserve lands which possess historic, scenic and recreational values, and also to provide open recreational space vital for the use of the large population in the surrounding urban area. A number of scenic easements will be acquired.
	Oregon									
	John Day Fossil Beds NM	2	Wheeler Grant	558	474,000	Residences, farm unit, ranch building	26,000	500,000	849	Requested funds will be utilized to acquire lands to prevent any adverse development that threatens the natural and historical resources and to avoid increasing land costs.
	Pennsylvania									
	Allegheny Portage RR NHS and Johnstown Flood N. Mem.	10	Mifflin Blair Cambria	169	280,000	Farm units, year-round residences	220,000	500,000	1,657	Funds requested are required to preclude adverse development and preserve and protect the historical resources of the historic site and memorial. In accordance with current planning, these funds will assure completion of the land acquisition program.
	Valley Forge NHP	7	Chester, Montgomery	251	3,600,000	Residences	400,000	4,000,000	14,343	P.L. 96-287, dated June 28, 1980, revised the boundary of the park and increased the statutory ceiling for land acquisition from $8,622,000 to $13,895,000 an increase of $5,273,000. The requested funds will be used to acquire lands threatened by development in order to protect their historical integrity. One tract is a hardship case. Further, it is expected that scenic easements will be acquired on several of the properties.
	South Carolina									
	Congaree Swamp NM	N/A	Richland Calhoun	N/A	15,000,000			15,000,000	N/A	A declaration of taking was filed in 1977 on the 7 tracts comprising the monument to prevent timber cutting. The funds requested are needed to pay expected deficiency in judgment on the condemnation. A land acquisition ceiling increase is required.

HCRS-183

FOR § 77
-IN 1971

Handbook, ROD § 13B, and
Note § 11C which are obsolete

SCHEDULE II PROGRAM PROPOSAL – FY 82

Page 7 of

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Agency National Park Service

Department of the Interior

1 No	2 Identification	3 No. Cases	4 COUNTY	5 & 6 COST DATA LAND Acres	LAND Cost	7 IMPROVEMENTS Type	IMPROVEMENTS Cost	8 Total Costs	9 Per Acre Cost Land Only	10
	Fort Sumter NM	2	Charleston	2.5	367,000	Reinforced concrete building and paved parking lot. (Fleet Landing Site)	16,000	383,000	146,800	Public Law 96-199, dated March 5, 1980, authorizes the acquisition of what is generally known locally as the Fleet Landing Site comprising 2.5 acres, for purposes of a mainland tour boat facility for access to Fort Sumter NM. The funds requested will permit the acquisition of the site at the earliest possible time and the least cost since property in the area continues to escalate at over 15 percent annually.
	TENNESSEE Chickamauga-Chattanooga NMP	1	Hamilton	0.9	152,000	Residence and Commercial Building	152,000	304,000	168,889	P.L. 96-199 dated March 5, 1980 added one tract of land located across the street from the park entrance on Lookout Mountain. This tract is currently being held by the National Park Foundation and the funds requested will be used to purchase the tract from the Foundation. The buildings will be used for a visitor contact and information center and for park office space.
	Texas Big Thicket N. Pres.	120	Harden Jasper Jefferson Liberty Orange Polk Tyler	2,550	7,200,000	Residences, cottages, farm units	800,000	8,000,000	2,823	Funds requested are a part of the land acquisition ceiling needs. These funds are required based on increased market value of pineaw timber and timberland. Since the beginning of the acquisition for the preserve in 1975, the price of timber has increased from an average of $90 per thousand board feet to some $250 per thousand board feet. The value of timberland has increased at the rate of 12 percent per year since 1975. The funds will be used to preclude logging, subdivision, and permanent or seasonal resident construction. An increase in the land acquisition ceiling is pending in Congress.
	Rio Grande NSR	6	Brewster Terrell	1,504	450,000	Year-round and seasonal residences, farm units	50,000	500,000	299	Public Law 95-625, dated November 10, 1978, authorized the addition of this scenic river to the wild and scenic rivers system. It also authorized the appropriation of $1,650,000 for land acquisition. The very austere budget for fiscal year 1981 precluded seeking funds for this river. The funds requested will permit initiation of the land acquisition program and prevent subdivision and development which would adversely impact the natural and scenic resources.
	San Antonio Missions NHP	10	Bexar	24	400,000	Residence, commercial building	1,000,000	1,400,000	16,667	Public Law 95-625 dated November 10, 1978, authorized this park and also authorized the appropriation of $10,000,000 for land acquisition. The funds requested are needed to initiate the land acquisition program to prevent adverse development and to protect historical resources.

HCRS-184

SCHEDULE II PROGRAM PROPOSAL – FY 82

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Agency National Park Service
Department of the Interior

1 No	2 Identification	3 No. Cases	4 COUNTY	5 6 7 8 COST DATA LAND Acres	LAND Cost	IMPROVEMENTS Type	IMPROVEMENTS Cost	9 Total Costs	10 Per Acre Cost Land Only	11
	Virginia									
	Manassas NB	12	Fairfax, Prince William	300	1,530,000	Residences, Farms	470,000	2,000,000	5,100	P.L. 96-442, dated October 17, 1980, included a statutory ceiling increase of nor more than a total of $8,700,000 to complete the land acquisition program in the boundary expansion area. P.L. 96-442 dated October 13, 1980, further states that it is the express intent of Congress that, except for areas within the 1954 boundaries of the park, the Secretary shall acquire property and interests therein under this act within 2 complete fiscal years after the date of the enactment. The funds requested will be used to acquire the land for historic preservation and to protect the resources from the threat of subdivision and commercial use.
	Virgin Islands									
	Virgin Islands NP	7	N/A	254	4,230,000	Residences, apartment buildings, commercial buildings, seawall, storage buildings	470,000	4,700,000	16,654	Funds requested totaling $3,600,000 will be used to acquire the Falewonsky property on Hassel Island. The FY 1981 funding request to acquire this tract was withdrawn in the revised budget. The option expires February 1981. The remaining funds will be used to acquire shoreline property on St. John Island on a willing seller basis.
	Washington									
	Ebey's Landing NH Res.	2	Island	186	2,100,000			2,100,000	11,290	Public Law 95-625, dated November 10, 1978, established this historical reserve, but authorized land acquisition only by donation, purchase with donated funds, or exchange. This public law was amended by Public Law 96-87, dated October 12, 1979, which authorized the use of appropriated funds for land acquisition. The funds requested are required to continue the land acquisition program for the reserve and prevent threatened subdivision and development.
	Olympic NP	35	Clallam Jefferson	1,354	10,000,000	Seasonal dwellings, commercial building	700,000	10,700,000	7,386	Public Law 96-199, dated March 5, 1980, included a statutory ceiling increase of $10,700,000 to complete the land acquisition program in the boundary expansion area authorized by P.L. 94-578, dated October 21, 1976. Funds requested will be used to acquire the timberland owned by three major timber companies, and to acquire small tracts in the Lake Ozette area.

HCRS-185

ROR 8-177
JAN 1971

Replaces ROR 8-136 and ROR 8-137 which are obsolete

SCHEDULE II PROGRAM PROPOSAL – FY 82

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Page 9

Agency National Park Service

Department of the Interior

1 No	2 Identification	3 No. Cases	4 COUNTY	5 & 6 COST DATA LAND Acres	LAND Cost	7 & 8 IMPROVEMENTS Type	IMPROVEMENTS Cost	9 Total Costs	10 Per Acre Cost Land Only	11
	West Virginia Harpers Ferry NHP	3	Jefferson	18	81,000	Residences	19,000	100,000	4,500	Public Law 93-466 dated October 24, 1974 increased the land acquisition ceiling and provided for changes in the boundaries of Harpers Ferry National Historical Park. The requested funds will be used to acquire fee and scenic easement interest required for resource protection in the boundary addition.
	New River Gorge NR	272	Fayette Raleigh Summers	14,429	7,240,000	Residences, seasonal dwellings, farm units, commercial	1,000,000	8,240,000	501	Requested funds are needed to continue the land acquisition program with the main goal of preventing incompatible residential and commercial developments.
	National System of Trails Appalachian NS Trail	101	Various	10,959	20,000,000			20,000,000	1,825	The funds requested will be used to acquire lands and interests in lands to provide for an uninterrupted trail right-of-way and to insure protection of the trail from commercial and residential development.
	GRAND TOTALS	1,307		51,902	223,849,000		9,824,000	233,673,000		

HCRS-186

BOR 8-177
JAN 1971

Revises BOR 8-136 and BOR 8-137 which are obsolete

SCHEDULE II PROGRAM PROPOSAL – FY 82

Page 1 of 8

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Agency Forest Service
Department of Agriculture

1 No.	2 Identification	3 No. Cases	4 COUNTY	5 COST DATA: LAND Acres	6 LAND Cost	7 IMPROVEMENTS Type	8 IMPROVEMENTS Cost	9 Total Costs	10 Per Acre Cost Land Only	11
	NATIONAL RECREATION AREAS									
	Arapaho Colorado	6	Grand	300	$3,000,000			$3,000,000	$10,000	The Congress in 1965 established the first National Recreation Area for which management responsibilities were directed to the Secretary of Agriculture. Since that time, seven additional National Recreation Areas have been designated by the Congress which assigned management responsibilities to the Secretary of Agriculture. In order to carry out the management objectives for the National Recreation Areas, acquisition of lands or interests in lands is needed. The management plans for the Areas are based on the concept of providing increased opportunities for public outdoor recreation use commensurate with preservation of the resources. The proposed acquisitions will provide development area needed for public use facilities along with associated backdrop lands needed for scenic protection. In addition, areas for dispersed recreation use will be provided.
	Sawtooth Idaho	17	Blaine Custer	3,336	6,949,000			6,949,000	2,083	
	Whiskeytown-Shasta-Trinity California	3	Shasta Trinity	200	200,000			200,000	1,000	
	Mt. Rogers Virginia	30	Grayson Carroll Washington	1,000	980,000			980,000	980	
	Spruce Knob-Seneca Rocks W. Virginia	6	Grant Pendleton	1,167	1,050,000			1,050,000	900	
	Subtotal NRA	62		6,003	12,179,000			12,179,000	2,029	
	Cascade Head Scenic Research Area Oregon	13	Lincoln	263	801,000			801,000	$ 3,046	One of the objectives of the law creating the Scenic Research Area is to assure that use of the lands within the area remains substantially the same as it was on June 1, 1974. All landowners are required to notify the Forest Service of any contemplated change in use that would substantially alter the purpose or manner of use as it existed on June 1, 1974. In the event that substantial changes in use occur or are contemplated the land is subject to acquisition through condemnation. In addition, within the estuary and associated wetlands subarea, the Secretary may acquire any land or interest in land without the consent of the owner or owners at any time, after public hearing.

Recommended by _____ Date

Approved by _____ Signature _____ Date

BOR Approval _____ Signature _____ Date

HCRS-187

BOR 8-177
JAN 1971

Replaces BOR 8-136 and BOR 8-137 which are obsolete

SCHEDULE II PROGRAM PROPOSAL – FY 1982

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Agency Forest Service
Department Agriculture

1 No	2 Identification	3 No. Cases	4 COUNTY	5 6 COST DATA LAND Acres	LAND Cost	7 8 IMPROVEMENTS Type	IMPROVEMENTS Cost	9 Total Costs	10 Per Acre Cost Land Only	11
	NATIONAL WILD & SCENIC RIVERS									
	American California	3	Placer	243	$ 850,000			$ 850,000	$3,498	Acquisition is needed to manage areas within the National Wild and Scenic Rivers System consistent with the purposes of the Act of October 2, 1968 (Public Law 90-542) as amended. The proposed purchases include land area needed for recreation site development shown in the management plans for the rivers. Also included are purchase of scenic easements to protect the wild and scenic qualities of the rivers and adjacent lands. Prompt acquisition of interests is needed to prevent private developments that would conflict with the management objectives for the rivers. The request for the Feather, Flathead, Middle Fork Salmon and Clearwater Rivers is in excess of the legislative authorization. However, the rivers qualify for the amounts requested under the provisions of Public Law 95-42.
	Feather California	15	Plumas	240	250,000			250,000	1,042	
	Middle Fork Clearwater Idaho	8	Idaho	685	500,000			500,000	730	
	Eleven Point Missouri	3	Oregon	1,540	2,500,000			2,500,000	1,623	
	Flathead Montana	40	Flathead	400	1,000,000			1,000,000	2,500	
	Rogue Oregon	5	Curry	150	303,000			303,000	2,020	
	Chattooga Georgia S. Carolina N. Carolina	8	Rabun Oconee Jackson	240	300,000			300,000	1,250	
	Middle Fork Salmon Idaho	4	Valley	510	1,000,000			1,000,000	1,961	
	Subtotal Rivers	86		4,008	6,703,000			6,703,000	1,672	

HCRS-188

BOR 8-177
JAN 1977

Replaces BOR 8-136 and BOR 8-137 which are obsolete

SCHEDULE II PROGRAM PROPOSAL – FY 82

Page 3 of 8

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Agency Forest Service

Department of Agriculture

1 No	2 Identification	3 No Cases	4 COUNTY	5 COST DATA LAND Acres	6 LAND Cost	7 IMPROVEMENTS Type	8 IMPROVEMENTS Cost	9 Total Costs	10 Per Acre Cost Land Only	11
	NATIONAL TRAILS SYSTEM									
	Appalachian Trail	27		3,352	$2,179,000			$2,179,000	$ 650	This proposal includes purchase of fee and partial interests in private lands along and within the boundaries of the Appalachian Trail. Additional land along the trail is needed to preserve the outstanding scenic beauty and unique vegetative cover of these mountain crest lands. Public use recreation development sites near the trail and improved access points along the trail will be provided through the proposed acquisitions.
	WILDERNESS									
	Boundary Waters Canoe Area Minnesota	7	Lake Cook St. Louis	167	750,000	Resorts and related improvements	1,750,000	2,500,000	4,491	In 1948 the Congress enacted Public Law 733 establishing the Boundary Waters Canoe Area. The area was established to safeguard and consolidate certain areas of exceptional public value within the Superior National Forest in Minnesota. Subsequently, additional area was added to the BWCA which has necessitated acquisition of private lands within the area. Negotiations are now underway for resort areas and adjoining lands.
	Other Areas	10		7,211	4,968,000			4,968,000	690	The proposed acquisitions are needed to eliminate a portion of the many inholdings within the designated Wilderness System. The Wilderness Act prohibits the use of condemnation in the West to acquire the remaining private lands. In order to acquire the approximately 139,000 acres of inholdings within the Wilderness System, purchases must be made as opportunities arise and as adverse development is threatened as is the case for Beaver Creek Wilderness in Kentucky. It is seldom that opportunity purchases can be anticipated. This request is not for specific properties but for purchase of any inholding within the Wilderness System, and Primitive and RARE II Areas recommended for inclusion in the Wilderness System when they become available.
	Subtotal Wilderness	17		7,378	5,718,000			7,468,000	1,015	

Approved by _____ Date _____ BOR Approval _____ Signature _____

BOB 8-177
JAN 1971

Replaces BOB 8-176 and BOB 8-177 which are obsolete

SCHEDULE II PROGRAM PROPOSAL – FY 1982

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Agency Forest Service

Department Agriculture

1 No	2 Identification	3 No. Cases	4 COUNTY	5 6 7 8 COST DATA				9 Total Costs	10 Per Acre Cost Land Only	11
				LAND		IMPROVEMENTS				
				Acres	Cost	Type	Cost			
	ENDANGERED SPECIES									
	Los Padres N.F. California California Condor	1		320	$325,000			$325,000	$1,016	The primary objective of all California condor management is to stop the decline of the species and maintain the population at a secure level. Continuing losses of habitat and the condor's inherrent low reproductive rate interact to keep the species on the verge of extinction. This parcel contains prime condor habitat including a historic nesting site. Purchase will reduce the threat of human activity in the area and help maintain the population balance.
	Huron N.F. Michigan Kirtland Warbler	3		200	80,000			80,000	400	Acquisition of private land will be within essential habitat management areas or units as identified in the approved recovery plan for the species. The purpose of this acquisition is to maintain, protect and where possible, expand the breeding and food habitat for the Kirtland Warbler. Acquisition will prevent potential adverse impacts to existing critical habitat needs. Opportunities to expand and maintain through resource management techniques of habitat management areas will be enhanced.
	Subtotal Endangered Species	4		520	$405,000			$405,000	779	

Recommended by: _____ Signature _____ Date

Approved by: _____ Signature _____ Date

BOR Approval: _____ Signature _____ Date

HCRS-190

700

BOR 5-177
JAN 1971

Supersedes BOR 5-176 and BOR 5-177 which are obsolete

SCHEDULE II PROGRAM PROPOSAL -- FY 1972

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Agency Forest Service

Department Agriculture

1 No	2 Identification	3 No. Cases	4 COUNTY	5 6 COST DATA LAND Acres	LAND Cost	7 8 IMPROVEMENTS Type	IMPROVEMENTS Cost	9 Total Costs	10 Per Acre Cost Land Only	11
	WILDLIFE HABITAT MANAGEMENT									
	Indiana Hoosier N.F.	3	Perry	800	360,000			$ 360,000	450	Wetlands within the Hoosier are being developed for non-wildlife purposes. Acquisition is needed to preserve this critical habitat for food, cover, and breeding purposes. The joint plan for the National Forest and the State of Indiana identifies a need to preserve this habitat and provide for a higher diversity of waterfowl and shore birds.
	Michigan Hiawatha N.F.	2	Alger	200	50,000			50,000	250	The joint State/National Forest plan identifies a need to maintain large winter use and concentration areas for white tail deer. The proposed purchases will prevent destruction of habitat through a changing land use and preserve a portion of an existing deer yard.
	Ohio Wayne N.F.	3	Gallia	700	350,000			350,000	500	This proposal is for the acquisition of wetland habitat in order to preserve the critical area for food, cover and breeding purposes. Wetlands are being developed for non-wildlife purposes depleting a resource that is highly productive for waterfowl and shore birds. A higher diversity of wildlife species will be maintained in the wetland habitat. This is in accordance with the joint State plan for wildlife habitat on the National Forest in Ohio.
	Pennsylvania Allegheny N.F.	1	Forest	177	88,000			88,000	497	The joint plan approved by the State and Forest Service identifies a need to preserve turkey and deer habitat. This purchase will protect an area from changing land use and preserve needed wildlife habitat.
	Wisconsin Nicolet N.F.	2	Forest	600	204,000			204,000	340	This proposal will provide additional land area needed to maintain winter use and concentration habitat for white tail deer in a major deer yard area. Uniform resource management will be enhanced by preventing conflicting land use practices. The purchases are in accordance with the joint State/National Forest plan for Wisconsin.
	Subtotal Wildlife Habitat Management	11		2,477	$1,052,000			$1,052,000	425	

Recommended by: _____ Signature _____ Date _____ Title

Approved by: _____ Signature _____ Date _____ Title

BOR Approval: _____ Signature _____ Date _____ Title

HCRS-191

701

BOR 8.177
JAN 1971

SCHEDULE II PROGRAM PROPOSAL – FY 82

Page 6 of 8

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Agency Forest Service
Department of Agriculture

1 No	2 Identification	3 No. Cases	4 COUNTY	5 6 7 8 COST DATA				9 Total Costs	10 Per Acre Cost	11
				LAND		IMPROVEMENTS				
				Acres	Cost	Type	Cost		Land Only	
	Deficiencies and Inholdings	10		3,000	$2,000,000			$2,000,000	667	This proposal is to provide for payment of anticipated court awards in condemnation cases and eliminate the lag between the time the award is made and payment is disbursed. It is anticipated that, based on availability of dollars, some of this proposal might be available for acquisition of inholding properties on an opportunity basis. The acreage estimate is based on using the entire amount for land purchases.

Approved by
Signature Date

BOR Approval
Signature Date

HCRS-192

SCHEDULE II PROGRAM PROPOSAL – FY 1982

Page 7 of 8

Agency Forest Service

Department Agriculture

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

2 Identification	3 No. Cases	4 COUNTY	5 6 7 8 COST DATA LAND Acres	LAND Cost	IMPROVEMENTS Type	IMPROVEMENTS Cost	9 Total Costs	10 Per Acre Cost Land Only	11
NATIONAL FOREST RECREATION COMPOSITES									This proposal is for acquisition of areas of high quality recreation lands within National Forest Recreation Composites. The composite areas are all within the boundaries of the existing National Forest System, have separate plans for each area approved by the Heritage Conservation and Recreation Service and identify concerntrated priority land purchaes needed to provide for optimum outdoor recreation use by the public. Acquisition of the lands included in this proposal will provide for concentrated and dispersed public use along streams, rivers, and lakeshores; open for public use fishing waters and hunting lands; assure scenic protection for existing and proposed development areas and improve access routes. Much of the land proposed for purchase will be immediately available for dispersed public use without further investment of dollars for developed facilities.
Alabama									
Bankhead N.F. Lake Lewis Smith	5	Winston	892	$1,740,000			$1,740,000	$1,951	
Talladega N.F. Talladega	4	Clay	250	125,000			125,000	500	
Subtotal Alabama	9		1,142	1,865,000			1,865,000	1,633	
California									
Angeles N.F. Mt. Baldy	1	Los Angeles	2,292	2,500,000			2,500,000	1,091	
Georgia									
Oconee N.F. Lake Oconee	2	Morgan	492	984,000			984,000	2,000	

74-939 O—80——45

BOR 9-177
JAN 1971

SCHEDULE II PROGRAM PROPOSAL – FY 1982

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Agency

Department

1 No	2 Identification	3 No. Cases	4 COUNTY	5 6 7 8 COST DATA				9 Total Costs	10 Per Acre Cost	11
				LAND		IMPROVEMENTS				
				Acres	Cost	Type	Cost		Land Only	
	Indiana									
	Hoosier N.F. Monroe Reservoir	7	Brown	430	301,000			301,000	700	
	Kentucky									
	Daniel Boone N.F. Red River Gorge	4	Knox Menifee Powell	150	65,000			65,000	433	
	Missouri									
	Mark Twain N.F. Cedar Creek	15	Callaway	2,020	1,390,000			1,390,000	694	
	New Hampshire									
	White Mtn. N.F. Diana's Bath	3	Carroll	990	550,000			550,000	556	
	North Carolina									
	Pisgah N.F. Roan Mtn.	1	Mitchell	203	1,151,000			1,151,000	5,670	
	Ohio									
	Wayne N.F. Little Muskingum	16	Monroe	2,180	1,372,000			1,372,000	629	
	Oregon									
	Deschutes N.F. Little Deschutes	1	Deschutes	678	700,000			700,000	1,032	
	Mt. Hood N.F. Columbia Gorge	4	Multnomah	110	142,000			142,000	1,291	
	Subtotal Oregon	5		788	842,000			842,000	1,069	
	Pennsylvania									
	Allegheny N.F. Allegheny River	8	Warren	700	490,000			490,000	700	
	Vermont									
	Green Mtn. N.F. North Half	22	Addison	4,340	2,000,000			2,000,000	461	
	Wisconsin									
	Nicolet N.F. Lakes	3	Ashland	700	490,000			490,000	700	
	Total Composites	96		16,427	14,000,000			14,000,000	853	
	TOTAL FOREST SERVICE	326		43,428	45,037,000		1,750,000	46,787,000	1,037	

Approved by

BOR Approved

Signature

SCHEDULE II PROGRAM PROPOSAL – FY

Page 1 of 11

Agency U.S. Fish and Wildlife Service

Department Of The Interior

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

2 Identification	3 No. Cases	4 COUNTY	5 COST DATA LAND Acres	6 COST DATA LAND Cost	7 IMPROVEMENTS Type	8 IMPROVEMENTS Cost	9 Total Costs	10 Per Acre Cost Land Only	11
RECENTLY AUTHORIZED AREAS									
ALABAMA									
Bon Secour NWR	3	Baldwin & Mobile	600	3,500,000			3,500,000	5,833	The Bon Secour National Wildlife Refuge was established by Public Law 96-267, June 9, 1980. This Act authorizes the acquisition of approximately 10,000 acres along the Alabama Gulf Coast. The proposed area contains one of the last remaining large segments of undeveloped beach/dune and associated habitat in existence between Florida and Mississippi. It is the last major land fall and staging area for thousands of migratory birds (especially passerines) during their trans-Gulf migrations. There are also at least ten Federally listed species whose range is within or adjacent to the refuge. Those species known to be present on the area, either seasonally or year round include American alligator, eastern brown pelican, bald eagle, American peregrine falcon, and the red-cockaded woodpecker. The other five species are sea turtles that may use the offshore waters adjacent to the area but are not now known to use the beaches for nesting. In addition, the State of Alabama lists at least 42 indigenous species of fish, amphibians, reptiles, birds, and mammals that are endangered, threatened or of special concern. The passerine bird usage of the refuge is phenomenal. The area has about 100 resident bird species and supports over 40 nesting species 125 wintering species and 90 spring and fall migrant species. During a peak year well over 2,000,000 individual birds may be present at one time. This undeveloped habitat threatened by incroaching development, is to be preserved to insure the well-being of these species, to serve as a living laboratory for scientists and students and to provide wildlife-oriented recreation for the public. A major property was purchased by The Nature Conservancy to forestall its development prior to legislative establishment. This parcel was purchased with an appropriation in FY 1981. The $3.5 million request is to continue the purchase of additional willing seller properties.
CALIFORNIA									
San Francisco Bay NWR	12	Numerous	4,260	1,700,000			1,700,000	399	Public Law 92-330, June 30, 1972, established this 21,600-acre refuge to protect the wildlife resources of the South San Francisco Bay area, provide wildlife-oriented recreation and preserve a natural area in close proximity to a large urban center. The marshes, mud flats, open water, and salt ponds form an

SCHEDULE II PROGRAM PROPOSAL – FY

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Agency U.S. Fish and Wildlife Service

Department Of The Interior

2 Identification	3 No Cases	4 COUNTY	5 6 COST DATA LAND Acres	LAND Cost	7 8 IMPROVEMENTS Type	IMPROVEMENTS Cost	9 Total Costs	10 Per Acre Cost Land Only	11
CALIFORNIA									
San Francisco Bay NWR (Continued)									ecosystem which supports a rich diversity of fish and wildlife. It is a major nesting and feeding area for waterfowl and shore birds, a hauling ground for the harbor seal and habitat for three endangered species. Completed acquisition and development will provide more than one million visitors annually opportunities for fishing, animal and bird observation, research and environmental education. Public Law 96-290, June 28, 1980, increased the authorization for land acquisition by $4.2 million to be available until September 30, 1983, and authorized the purchase of lands and waters and interest therein subject to the interest of the State of California in lands now or formerly flowed by the tide, including the public trust of the State. This $1.7 million request should nearly complete the land acquisition for this refuge.
LOUISIANA									
Tensas River NWR	1	Madison, Tensas & Franklin	10,000	10,000,000			10,000,000	1,000	Tensas River National Wildlife Refuge was established by Public Law 96-285, June 28, 1980. The Lower Mississippi River Delta was once a vast forested area of which now only remnants of the regional forests remain. The remaining forests constitute a unique ecological, commercial, and recreational resource, providing a combination of forest products, habitat for diversity fish and wildlife, opportunities to the public for scientific research and for recreational activities such as hunting, fishing, hiking, boating, and wildlife observation. The proposed Tensas River NWR contains one of the largest tracts of such forests remaining in the Mississippi River Valley. The project area is within the range of at least seven Federally-listed species, over 70 species of non-game birds and 50 species of animals. The area has long been noted for its wide diversity and the abundance of wildlife including game animals. The Louisiana Wildlife and Fishery Commission formerly managed much of the area as a State Wildlife Management Area and has long recognized its outstanding wildlife resource values. Nearly 90 percent (50,000 acres) of the entire project area is in a single ownership. The remaining 6,000 acres has an estimated 20 additional owners. The key large tract is currently on the open market. The owners have already cleared substantial portions of their holdings in recent years and plan to begin the clearing of this 50,000-acre tract for

SCHEDULE II PROGRAM PROPOSAL – FY

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Agency U.S. Fish and Wildlife Service

Department Of The Interior

2 Identification	3 No Cases	4 COUNTY	5 6 COST DATA LAND Acres	LAND Cost	7 8 IMPROVEMENTS Type	IMPROVEMENTS Cost	9 Total Costs	10 Per Acre Cost Land Only	11
LOUISIANA									
Tensas River NWR (Continued)									conversion to agriculture in the future. The Act authorizes the appropriation to the Department of the Interior of $10 million and $40 million to the Department of the Army for the purchase of this refuge. Under this Act the Department of the Army is required to acquire these lands for the Refuge as altigation acquisitions for the Corps of Engineers water resource projects.
LOUISIANA/MISSISSIPPI									
Bogue Chitto NWR	4	Washington, St. Tammany & Pearl	6,000	2,000,000			2,000,000	333	The Bogue Chitto National Wildlife Refuge was established by Public Law 96-288, June 28, 1980. This request is for the continued acquisition of the 40,000-acre refuge located 30 miles from the New Orleans metropolitan area. Funding for the initial 18,000-acre purchase was appropriated in FY 1981. This river swamp habitat is essentially pristine supporting diverse wildlife populations including 14 species of sport fish, seven species of commercial fish, five species of forest game and approximately 100 species of migratory birds. In addition, the area is used by bald eagles and alligators and the endangered Florida panther. The forested wetlands comprising this refuge are of extremely high recreational value for hunters, fishermen, bird watchers, and other wildlife-oriented recreation users. This request would total $8.6 million of the $13.0 million authorization for this refuge.
MINNESOTA									
Minnesota Valley NWR	15	Hennepin, Scott & Carver	800	2,200,000			2,200,000	2,750	The Minnesota Valley National Wildlife Refuge was established by P.L. 94-466, October 8, 1976. This refuge was established to preserve the natural resources in that segment of the Minnesota River Valley adjacent to the Twin Cities and its suburbs, and to make the resources available to the people for wildlife-oriented public use. These goals will be accomplished through a coordinated Federal, State and local effort. Public use opportunities to be created include hiking, nature study, environmental education, fishing, hunting, wildlife observation, and other wildlife-oriented activities. All these activities would benefit from the planned wildlife management programs. The acquisition and management by Federal, State and local governments will ensure the

SCHEDULE II PROGRAM PROPOSAL – FY

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Agency U.S. Fish and Wildlife Service

Department Of The Interior

2 Identification	3 No Cases	4 COUNTY	5 6 COST DATA LAND Acres	LAND Cost	7 8 IMPROVEMENTS Type	IMPROVEMENTS Cost	9 Total Costs	10 Per Acre Cost Land Only	11
MINNESOTA									
Minnesota Valley NWR (Continued)									preservation and management of this natural area for more than 2,000,000 urbanites in the immediate vicinity of the refuge and recreation area. Land acquisition began with the FY 1978 appropriation. Due to spiraling land values the appropriation authority within P.L. 94-466 is insufficient to complete the project. Legislation increasing the authorization will be necessary for the completion of the refuge.
NORTH CAROLINA/ VIRGINIA									
Great Dismal Swamp NWR	15	Numerous	1,200	2,100,000			2,100,000	1,750	P.L. 93-402 authorized the establishment and acquisition of the Great Dismal Swamp NWR. Approximately 123,000 acres of the swamp are necessary to the continued existence of the Dismal Swamp as an ecological entity. The swamp once covered about 500,000 acres, but drainage and conversion to agricultural use, which still continues, has steadily reduced this unique area. The animals, songbirds and plant communities of the swamp, its historical association with George Washington and the colonial period and its close proximity to urban areas provide needed recreational, environmental and educational benefits. P.L. 93-402 was amended in June 1978 to increase the appropriation authorization and again in June 1980, to extend the authority through FY 1983. A total of $4,950,000 of this authorization is unappropriated. Acquisition under this authority will continue on a willing seller basis as per the Fish and Wildlife Service agreement with the Congressional delegation.
PENNSYLVANIA									
Tinicum NEC	15	Philadelphia & Delaware	219	1,500,000			1,500,000	6,849	P.L. 92-323 authorized acquisition of approximately 1,200 acres for the establishment of the Tinicum National Environmental Center on the last tidal marsh in Pennsylvania. Located within the metropolitan Philadelphia area, an excellent opportunity exists to provide wildlife-oriented recreation and interpretation for large urban population. The Service has acquired by donation, transfer, and purchase approximately 680 acres and plans to complete this refuge with this request.

SCHEDULE II PROGRAM PROPOSAL -- FY

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Agency U.S. Fish and Wildlife Service

Department Of The Interior

2 Identification	3 No Cases	4 COUNTY	5 COST DATA LAND Acres	6 LAND Cost	7 IMPROVEMENTS Type	8 IMPROVEMENTS Cost	9 Total Costs	10 Per Acre Cost Land Only	11
PENNSYLVANIA									
Tinicum NEC									Land Acquisition began with the 1975 appropriations. The appropriation authority within P.L. 92-326 was insufficient and because of increasing land values, was amended periodically to include increased authorizations and additional land. The latest increase in authorization was in July 1980.
TOTAL RECENTLY AUTHORIZED AREAS 65 ENDANGERED SPECIES			23,079	23,000,000			23,000,000	997	
ALABAMA									
Watercress Darter	3	Jefferson	8	100,000			100,000	10,500	This proposal is to acquire an area identified for protection in the Watercress Darter Recovery Plan. The essential habitat includes two of the three known locations where the endangered watercress darter exists. The third location is a State-owned area known as Roebuck Spring. The total known population of the darter is estimated to be less than 500 individuals. The area within this proposal contains a significant number of the total. The acquisition area consists of two separate units; Thomas Springs and Glenn Spring. Thomas Springs consists of two springs that feed into a spring pond created by a low level dam. The once dense growth of aquatic vegetation vital to the darters food chain has been significantly reduced following the introduction of the grass carp. The spring pond totals approximately 1.5 acres and is comprised of two ownerships. Glenn Spring is about one acre and is within one ownership. Glenn Spring is deteriorating due to the increase of mineral and organic nutrients from sewer seepage which reduces the dissolved oxygen and produces an environment which cannot support fish and other water animal life. These two units, in total, will encompass approximately eight acres, which includes an appropriate buffer zone to protect them from pollution and drainage of this small watershed. Acquisition will be accomplished by the use of both fee purchase and easement. In all probability, it will entail the fee purchase of Thomas Springs and an easement which would give the Service management rights to improve and protect Glenn Spring from deterioration.

SCHEDULE II PROGRAM PROPOSAL – FY

Page 6 of 11

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Agency U.S. Fish and Wildlife Service

Department Of The Interior

2 Identification	3 No. Cases	4 COUNTY	5 6 COST DATA LAND Acres	LAND Cost	7 8 IMPROVEMENTS Type	IMPROVEMENTS Cost	9 Total Costs	10 Per Acre Cost Land Only	11
ARIZONA									
Yaqui Topminnow	1	Cochise	2,440	850,000			850,000	348	This proposal is for the acquisition of the San Bernardino Ranch which lies 18 miles east of Douglas, Arizona. Artisan wells and springs on this property support the endangered Yaqui Topminnow and the Yaqui chub, a candidate species recommended for listing as threatened. In addition, three other candidate species, Yaqui shiner, Yaqui sucker, and the Yaqui catfish, were historically found on this ranch and could easily be reintroduced. The aquatic environment of the Yaqui
ARIZONA									
Yaqui Topminnow (Continued)									Topminnow was threatened by increased groundwater pumping and the expansion of agricultural development on the ranch. The landowner was unwilling to consider alternatives other than fee acquisition and placed the property on the market for immediate sale. The Nature Conservancy stepped in and acquired the ranch for potential resale to the Service to protect the species from destruction. If this habitat were to be lost the species would be extirpated from the United States.
CALIFORNIA									
Blunt-nosed Leopard Lizard	7	Tulare	1,700	2,600,000			2,600,000	1,529	The native habitat for the blunt-nosed leopard lizard and the San Joaquin kitfox is the San Joaquin Valley of California. The valley floor is being cleared and leveled for irrigated crop land at a rate of 36,000 acres per year. As of April 1976 only 228,000 acres of this once extensive wild habitat remained within the valley floor. The blunt-nosed leopard lizard's recent decline in its range and numbers is due to the rapid increase in the leveling and cultivating of the arid lands in the Valley. Individual lizard populations are totally lost when an area is cultivated. The blunt-nosed leopard lizard recovery team has identified the priority areas for acquisition, totalling less than 31,000 acres of good lizard habitat. The program objective of preventing the species from becoming extinct and assuring a population status so the species can be delisted more than likely cannot be accomplished without protecting the target habitat in these three areas. A wide distribution of the species' populations and adequate habitat is necessary before delisting can be considered. Acquisition during FY 1981 and 1982 will be focused on the White's Bridge Unit, Firebaugh Unit and Central-

SCHEDULE II PROGRAM PROPOSAL – FY

Page 7 of 11

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Agency U.S. Fish and Wildlife Service
Department Of the Interior

2 Identification	3 No. Cases	4 COUNTY	5 6 COST DATA LAND Acres	LAND Cost	7 8 IMPROVEMENTS Type	IMPROVEMENTS Cost	9 Total Costs	10 Per Acre Cost Land Only	11
CALIFORNIA									
Blunt-nosed Leopard Lizard (Continued)									negotiations on the Horsepasture and Kern Units. The habitat covered by this proposal is immediately threatened and is constantly being lost.
CALIFORNIA									
California Condor	4	Tulare	1,400	1,199,000			1,199,000	856	This request is for the 1,700-acre Blue Ridge Unit proposal which is included within the endangered condors designated critical habitat and is identified for protection in the California Condor Recovery Plan. Acquisition of this roosting habitat is essential for the condor's survival. During the summer months, condors search for food over valleys during the day and roost in the nearby canyons of the Blue Ridge Mountains at night. Usually from one to five birds occupy the area; however, up to eleven have been recorded in the past. In the last three to five years development of summer homes has crept up the ridge, closer to the roost site. Increased human activities such as hiking, camping, and off-road-vehicle traffic would render the Blue Ridge area useless to the condors.
FLORIDA									
American Crocodile	5	Monroe	1,200	2,100,000			2,100,000	1,750	This proposal is the continuation of the acquisition of the 6,700-acre Crocodile Lakes NWR, lying on the northern portion of Key Largo Key. It is a prime feeding and nesting area of the American crocodile. The entire area is within designated critical habitat for the crocodile and contains one-third of all crocodile nests found in Florida during the 1978 nesting season. Other endangered or threatened species that would be of benefit by this proposal are the Schaus swallow tail butterfly, Eastern indigo snake, West Indian manatee and the bald eagle. This area also contains representative segments of Florida's most threatened wildlife ecosystem-West Indian hardwood hammocks, the last remaining tropical hardwood vegetation in the United States. The project area contains about 5,900 acres of mangrove swamp, 500 acres of upland (currently or formerly prime West Indian hardwood hammock) and 300 acres of open water. The major threat to this area is conversion of the upland to housing developments, shopping centers, hotels and other developments. The crocodile has little

SCHEDULE II PROGRAM PROPOSAL – FY

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Agency U.S. Fish and Wildlife Service

Department Of The Interior

2 Identification	3 No. Cases	4 COUNTY	5 6 7 8 COST DATA				9 Total Costs	10 Per Acre Cost Land Only	11
			LAND		IMPROVEMENTS				
			Acres	Cost	Type	Cost			
FLORIDA									
American Crocodile									tolerance for human activities, and only through acquisition can the human disturbance be effectively controled. Wetland areas are less threatened but severe alteration and damage has resulted and probably will continue through dredging, filling and construction activities.
West Indian Manatee	1	Citrus	46	450,000			450,000	9,783	This proposal is to acquire approximately 46 acres at the head waters of the Crystal River in King's Bay near the city of Crystal River, Florida, for the protection of the West Indian manatee. The water environment of King's Bay has been designated as critical habitat for the manatee. The headwaters of the Crystal River is wintering habitat for the manatees. Surveys during the winter of 1977-1978 identified 98 individual manatees using this area. This represents about 10 percent of the total estimated population of the species. Immediate acquisition of this area is imperative. During the period when water temperatures in this area of the coast fall below 20°C manatees concentrate near the springs where the year-round water temperatures remain at 23°C. They cannot survive for any extended period in water temperatures that are less than 18°C, so the springs provide an essential winter refuge. Uncontrolled public use by skin divers have caused many of the manatees which are wintering at the main spring boil to leave these waters. It is not unusual for over 100 divers to be at the spring at one time. This uncontrolled human presence causes the majority of manatees to leave the warmth of the spring waters until evening when human activities subside. Another pressing need to acquire these islands exists in order to prevent planned development of some of these islands. At present there is an outstanding option to a corporation for the purchase and development of part of the property for a yacht club and marina. This development will increase boat traffic in the bay thereby raising the incidence of propeller/manatee strikes. A significant number of manatees are killed or severely injured each year by these strikes. Regulations are currently being developed to control diver harassment of the manatees during the critical winter periods. The bay bottom surrounding the spring,

SCHEDULE II PROGRAM PROPOSAL – FY

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Agency U.S. Fish and Wildlife Service

Department Of The Interior

2 Identification	3 No. Cases	4 COUNTY	5 COST DATA LAND Acres	6 COST DATA LAND Cost	7 IMPROVEMENTS Type	8 IMPROVEMENTS Cost	9 Total Costs	10 Per Acre Cost Land Only	11
West Indian Manatee (Continued)									Including the area which should be designated as a sanctuary, is part of the island property owned in fee title. One of the owners is an outspoken opponent of the proposed sanctuary and the Service would not be allowed to anchor signs establishing in the sanctuary to this bottom. It is a strong possibility that condemnation involving a declaration of taking will be necessary to acquire this parcel.
MICHIGAN									
Kirtlands Warbler	20	Numerous	1,520	1,100,000			1,100,000	724	This proposal is for the continued acquisition of nesting and associated foraging habitat for the Kirkland's warbler. The parcels proposed for acquisition are identified for protection in the Recovery Plan. They are private inholdings within the Ogemaw State Forest. These tracts are actively being subdivided into 10-acre parcels and have wide appeal to non-local buyers in the surrounding cities for seasonal recreation. The endangered Kirtland's warbler requires specific breeding habitat. Nearly all nests are found on jack pine stands five to twenty feet tall (8 to 21 years old) which have resulted from forest fires. In order to proceed with the prescribed burning outlined in the Cooperative Management Agreement (U.S. Fish and Wildlife Service, U.S. Forest Service, and State of Michigan), inholdings within the State Forest must be eliminated. This proposal will continue to accomplish this end. The decline in the population of the warbler from approximately 1,000 birds in 1961 to about 400 birds at present, resulted in the species being placed on the Federal endangered species list. The population has not decreased across its entire nesting range, but collapsed into the center of its range where nesting continues at normal density. This fact coupled with habitat studies done in these areas indicate that suitable nesting habitat is the key to the survival of the Kirkland's warblers.
NEVADA									
Moapa Dace	3	Clark	66	850,000			850,000	2,879	This request is for the continued acquisition of critical habitat for the Moapa dace. It encompasses approximately 66 acres of three adjacent, semi-arid

SCHEDULE II PROGRAM PROPOSAL – FY

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Agency U.S. Fish and Wildlife Service

Department Of The Interior

2 Identification	3 No Cases	4 COUNTY	5 6 COST DATA LAND Acres	LAND Cost	7 8 IMPROVEMENTS Type	IMPROVEMENTS Cost	9 Total Costs	10 Per Acre Cost Land Only	11
NEVADA									
Moapa Dace (Continued)									desert tracts. The fourth tract was acquired in fiscal year 1979. The three tracts proposed for acquisition and within this request are private ownerships, two of which contain warm springs and their associated outflows. The third tract is the outflow waters within the creek bottoms. The endangered Moapa dace is completely dependent on this habitat since this species is found nowhere else in the world. Two attempts have been made to transplant this fish into waters of two other areas; both transplant attempts have failed and acquisition is deemed the only alternative. Factors which have lead to the degradation of the dace's habitat are (1) Introduction of exotic fish species; (2) introduction of harmful chemicals; (3) removal of vegetation from spring pools, channels and stream sides; (4) concrete capping of the spring heads; (5) concrete lining of channels. Future threats of destruction come from the potential increase in the water needed for private residences and recreation. Acquisition will be accomplished through fee purchase and easement. It is anticipated that the requested funding will complete the acquisition of this endangered species refuge.
PUERTO RICO									
Puerto Rican Plain Pigeon	200	Cidra	4,000	550,000			550,000	138	This request is for the initial acquisition of essential habitat identified for protection of the Puerto Rican plain pigeon as identified in its Recovery Plan. The area around Cedra Lake is the only known locality used by this pigeon. For approximately 40 years this bird was thought to be extinct and was rediscovered in 1963. In September 1977, the flock numbered about 75 individuals. Two other Federally-listed species utilize this habitat; the endangered yellow-shouldered black-bird and the threatened Puerto Rican boa. Seven other species of concern to the commonwealth of Puerto Rico also utilize this habitat. Destruction of this plain pigeon habitat could occur due to urbanization, industrial and agricultural development. At the current rate of destruction, it is predicted that all present habitat will be lost by 1990.

SCHEDULE II PROGRAM PROPOSAL – FY

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Agency U.S. Fish and Wildlife Service

Department Of The Interior

2 Identification	3 No Cases	4 COUNTY	5 COST DATA LAND Acres	6 COST DATA LAND Cost	7 IMPROVEMENTS Type	8 IMPROVEMENTS Cost	9 Total Costs	10 Per Acre Cost Land Only	11
PUERTO RICO									
Puerto Rican Plain Pigeon (Continued)									Most of the 4,000-acre area is privately owned by estimated 200 owners. In addition to habitat preservation, protection from illegal hunting and maintaining human disturbance at a low level is also necessary. Acquisition of this 4,000 acres will be by easement only. Service research biologists are of the opinion that if the development of the area can be prevented for 10-15 years and adequate law enforcement maintained to prevent human disturbance and hunting, the birds will probably recover and be present in sufficient numbers to start populations in more protected areas such as State Forests.
TEXAS									
Clear Creek Gambusia	1	Menard	800	1,500,000			1,500,000	1,875	This request is for the purchase of essential habitat as defined in the Clear Creek Gambusia Recovery Plan. The total acquisition for the protection of this species comprises of one ranch property totaling approximately 800 acres. The essential habitat consists of a spring and associated pond at the head waters of Clear Creek. The Clear Creek gambusia is found only in this location and is completely dependent on the pond area for all stages of its life cycle. If the habitat is not protected the species will become extinct through hybridization or through development of the pond for recreational activities, which is eminent. The subject property is currently owned by 30 members of a family (undivided trust). The owners have started that they would divide the interests for purposes of individual sale if the single parcel cannot be sold soon. These individual parcels would be sold as recreational home sites. Currently they prefer to sell the fee simple interest, however the Service is investigating the opportunity and possibility of an easement interest.
TOTAL ENDANGERED SPECIES	245		13,186	11,299,000			11,299,000	857	
CONTINGENCIES	15		1,500	11,000,000			1,100,000	733	
TOTAL PROGRAM	325		37,759	35,399,000			35,399,000	937	

BOR 9-177
JAN 1971

Supersedes BOR 9-176 and BOR 9-177 which are obsolete

SCHEDULE II PROGRAM PROPOSAL – FY 82

FEDERAL OUTDOOR RECREATION LAND ACQUISITION
(LAND AND WATER CONSERVATION FUND)

Agency Bureau of Land Management

Department Interior

1 No	2 Identification	3 No. Cases	4 COUNTY	5 6 COST DATA LAND Acres	LAND Cost	7 8 IMPROVEMENTS Type	IMPROVEMENTS Cost	9 Total Costs	10 Per Acre Cost Land Only	11
	Wild and Scenic Rivers									
	Upper Missouri River	10	Fergus	1,560	1,350.0	---	---	1,350.0	865	Eligible for Burton Act Funding (P.L. 95-42)
	Rogue W & SR	22	Josephine	120	650.0	---	---	650.0	5,416	Eligible for Burton Act Funding (P.L. 95-42)
	Rio Grande River	6	Taos	164	270.0	---	---	270.0	1,646	Eligible for funding from Special Account authorized by P.L. 95-42. Additional appropriations are required to cover increased costs related to inflation and costs associated with a possible condemnation.
	Total, Wild and Scenic Rivers	....	.....	1,844	2,270.0			2,270.0		
	Resource Conservation Areas									
	King Range	8	Humboldt	1,000	700.0	---	---	700.0	700	Authorized ceiling increased by $5,000,000 by P.L. 95-352 (BLM Quadrennial Appropriations Authorization Act).
	Pacific Crest Trail	15	Kern	25	130.0	---	---	130.0	5,200	Eligible for Burton Act Funding (P.L. 95-42) Additional appropriations required to cover increased costs related to escalating costs associated with possible condemnation actions.

Land and Water Conservation Fund

Justification of Adjustments to Base and Built-in Changes
(Dollar amounts in thousands)

Adjustment for 1981 pay increase and related costs	Amount
Total cost in FY 1981 of pay increase/anticipated FY 1981 increase in amount available for Administrative Expenses	413
Assistance to States	(358)
Federal Programs	(55)
Additional amount in 1982 to provide full-year cost of pay increase	5
Assistance to States	(4)
Federal Programs	(1)
Total	418

The anticipated increase in the amount available for Administrative Expenses of $413,000 in 1981 is for the general schedule pay increase effective in October, 1980.

An additional $5,000 is required in 1982 to cover the full-year cost of the 1981 pay increase.

Other increases	
Employees' Compensation Fund	3
Assistance to States	(3)
Rent payments to GSA (SLUC)	339
Assistance to States	(294)
Federal Programs	(45)
Total, Other increases	760

The increase in the repayment to the Employees' Compensation Fund is the result of higher costs in 1980 than in 1979. The 1980 charges will be reimbursed to the Department of Labor Employees' Compensation Fund in 1982 pursuant to P.L. 86-767.

The GSA conducted a Fair Annual Rental (FAR) appraisal for 1982 which resulted in increases over the 1981 rates of $339,000.

Justification of Program and Performance

Activity: Assistance to States
Subactivity: Administrative Expenses

(Dollar amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-).
Grant Administration	$	6,566	7,225	7,162	-63
	(FTP)	(159)	(164)	(164)	(--)
(Common Program Services)	$	(3,760)	(4,281)	(3,775)	(-506)
Total Requirements	$	6,566	7,225	7,162	-63
	(FTP)	(159)	(159)	(159)	(--)

Authorization: The Land and Water Conservation Fund Act of 1965, as amended, 16 USC 460 1-4-11.

Objectives: The administration of the State portion of the Land and Water Conservation Fund will focus on assisting States in the development and maintenance of Statewide Comprehensive Outdoor Recreation Plans (SCORP); the approval of Fund assistance for needed acquisition and development projects in accordance with SCORP plans; and the ongoing administration of approved projects, including financial audits and compliance reviews. These functions will be carried out in accordance with the Land and Water Conservation Fund Act, other applicable Federal statutes, Congressional and executive directives, and administrative policies. The following objectives have been identified for administration of the FY 1982 State assistance program:

- To continue to improve the quality and utility of the Statewide Comprehensive Outdoor Recreation Plans (SCORP) and planning process.

- To assist each State in preparing, updating and implementing its SCORP in accord with recently adopted guidelines. The Service's responsibilities will also include the monitoring of each State's planning program to assure that eligibility is based on an acceptable planning process which includes public participation.

- To obligate and expend Land and Water Conservation Fund assistance in a timely manner for priority planning, acquisition and development projects.

- To continue the process of simplifying grants administration paperwork and to implement an open project selection process in each State.

- To provide assistance to the States regarding compliance with applicable laws, rules and regulations and to conduct reviews of the States' program administration including office and on-site investigations.

- To encourage States, where necessary to establish a systematic statewide inventory of natural resources as an element of their SCORP.

- To carry out routine functions of administering the grants program.

- To decrease the preparation time of various grant financial and project reporting requirements through a more extensive automated data base, accessible by terminals which have report writer capabilities. ADP technology will also be used to improve access to program data necessary for policy coordination and formulation as well as preparation of the SCORPS.

Base Program: Section 6 of the Land and Water Conservation Fund Act, P.L. 94-422, authorizes the Secretary of the Interior to provide financial assistance up to 50 percent of eligible project costs to any State (and through the State to local governments) for the acquisition of lands and waters and the development of public outdoor recreation facilities. The Fund Act also requires a SCORP as a prerequisite for State participation in the Land and Water Conservation Fund program. Program guidance and administration at the Federal level is provided by the Heritage Conservation and Recreation Service. State planning assistance, plan review and determination of eligibility based on an acceptable SCORP process are the responsibility of the Regional Offices. There are seven Regional Offices and an Alaska Area Office. The Washington Office of the Heritage Conservation and Recreation Service is responsible for program policy development and implementation, program coordination and the establishment of program objectives and budgets. Overall program financial control and accounting is maintained in the Washington Office.

State Comprehensive Outdoor Recreation Plans

Revised SCORP requirements were initiated in FY 1979 and FY 1980 to simplify the planning process and make it more responsive to State recreation resource allocation needs. The Service will continue to work with the States to implement these requirements. Each State is required to enter into an agreement with HCRS to prepare a concise, objective-oriented Policy Plan of approximately five years duration. In addition, each State will prepare an Action Program, at least on a biennial basis, which sets forth actions for implementing the SCORP including recommendations for allocating Land and Water Conservation Fund assistance.

It is expected that approximately twenty-five (25) SCORP planning projects involving $3.0 million in assistance will be processed in FY 1982. In addition, the Service will continue to provide planning assistance and guidance to the States to strengthen the SCORPs and assure that a continuous comprehensive planning process is maintained. Two ongoing efforts along these lines are our quarterly "SCORP Digest" and our series of technical assistance guides which provide "how to" expertise in statewide planning. Additional guidance and direction will be provided on natural area elements of the SCORP. The above functions will involve approximately 300 State visits, conferences and meetings. Plans will be coordinated with other Federal programs affecting recreation resource allocations such as those programs of HUD, EPA, Agriculture, and NOAA.

The Service will monitor and review the planning program in each State to assure satisfactory progress and determine whether State program eligibility will be continued.

Grants Administration

The requested $185 million will allow State and local governments to continue programs for meeting outdoor recreation needs. To effectively administer this assistance program, the Service will continue its policy to simplify application and administrative procedures. States will be encouraged and assisted to consolidate individual projects under a single grant application and agreement or to utilize the reduced documentation requirements for single projects. Use of the letter of credit procedures for reimbursement purposes will also be encouraged. By reducing emphasis on paperwork and providing additional program flexibility to the States, the Service can concentrate more on program implementation assistance, compliance and policy development. In FY 1982, 80 percent of the projects submitted by the States will either be elements of a consolidated project or single projects with reduced documentation. Average project processing time at the regional office level will be 15 days.

The Service will also monitor the new requirements, which are fully effective in FY 1982, for all States to have an open project selection process, outreach program and priority rating system which ensures that all eligible participants have equal access to the program on a competitive basis.

This means that projects will be processed at the State level under a more uniform and open project selection process. Each State must have a priority rating system for selecting projects on a competitive basis, placing strong emphasis on the project's conformance with needs identified in the SCORP. Project selection procedures utilized by the State will be developed in a manner that involves public participation. An active outreach program will also be required which encourages participation in the Fund program by all eligible entities within the State particularly those with significant minority populations.

Increased emphasis will continue to be placed on providing project and program assistance to the States prior to project submission. The Service expects to process approximately 1,700 projects and 2,000 project amendments in addition to the administration of 12,000 active projects. Preapproval, progress, final, and postcompletion project inspections will be conducted by the States and the Service in accord with individual State on-site inspection agreements. Service inspections will be primarily on a spot-check basis and involve 1,200 site visits. Approximately 30 State program compliance reviews will be conducted in conjunction with the provision of grants technical assistance to help States strengthen their administration of the Fund program.

The Service will coordinate with other Federal programs which provide supplemental funding in conjunction with L&WCF assistance. Staff will also respond to approximately 4,000 Congressional and public inquiries as well as prepare the Annual Program Report to Congress required by the Fund Act.

In addition to reviewing proposed projects to determine that they conform to the SCORP and program criteria and policy, the Service must also allocate staff services to ensure that proposed projects comply with, and are coordinated with, other related Federal acts and programs such as:

- The Architectural Barriers Act of 1968 (P.L. 90-480);
- The Historic Preservation Act of 1966 (P.L. 89-665), the Archeological and Historic Data Preservation Act (P.L. 93-291) and Executive Order 11593 relative to the protection and enhancement of the cultural environment;

- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646);
- The National Environmental Policy Act of 1970 (P.L. 91-190);
- Title VI of the Civil Rights Act of 1970 (P.L. 88-352);
- Executive Order 11246 relative to equal employment opportunity, and implementing rules and regulations of the Secretary of Labor;
- The Flood Disaster Protection Act of 1973 (P.L. 93-234), and Executive Order 11296 relative to the evaluation of Flood Hazards;
- The Clean Air Act (P.L. 91-604), Federal Water Pollution Control Act (P.L. 92-500), and Executive Order 11288 concerning the prevention, control, and abatement of water pollution;
- OMB Circular A-95 relating to the evaluation, review, and coordination of Federal and federally assisted programs and projects;
- Endangered Species Act of 1973 (P.L. 93-205);
- Joint Funding Simplification Act of 1974 (P.L. 93-510);
- Federal Water Project Recreation Act of 1965, as amended (P.L. 89-72);
- Executive Order 11988 relative to Floodplain Management and Executive Order 11990, relative to protection of wetlands;
- OMB Circular A-102, Evaluation, review, and coordination of Federal assistance programs and projects, and FMC 74-4, Cost principles applicable to grants and contracts; and
- Council on Environmental Quality guidelines for prime and unique farmlands.

All new projects will be reviewed by the Service for their environmental impact based on environmental information submitted by the States. This work will include the improvement of environmental information for approximately 200 projects and the preparation of environmental impact statements where appropriate. The Service will also provide for the review of appraisals associated with approximately 290 donation projects and process 120 conversion requests. Staff will be utilized for the accounting, reporting, and disbursement of funds through reimbursement billings and letters of credit. States will be assisted in their efforts

to maintain satisfactory obligation and expenditure rates. The Governor of each State is also provided with quarterly reports on Land and Water Conservation Fund obligations and expenditures in their States. A financial audit program will be maintained in each State.

An improved automated data management system will continue to be implemented in FY 1982. The system, once fully developed, will allow Regional Offices and eventually States direct access to project administrative data and project financial data contained at a centralized storage center. It is also the goal of this effort to make retrieval and management of information for project administration (progress monitoring, project closeout, amendments, compliance reviews, and audits) and the retrieval and management of general program information/reports more efficient and less demanding on professional and clerical staff time.

The following workload factors are indicated in the Land and Water Conservation Fund grants administration program:

	1980	1981	1982
- Projects approved	2,284	1,725	1,525
- Active projects administered	11,000	12,000	12,000
- On-site inspections conducted	1,200	1,200	1,200
- State Program reviews conducted	26	30	30
- Conversion requests processed	100	110	110
- Projects amendments processed	2,400	2,500	2,000
- Responses to inquiries prepared	4,000	4,000	4,000
- Average project processing time (days)	18	18	15
- Process billings and letters of credit	23,500	3,600	3,700
- Resolve project environmental conflicts	300	300	300
- Audits processed	25	25	30
- Audit correspondence	100	100	100
- ADP Documents and Reports processed	5,500	5,600	6,000
- Donation appraisals reviewed	240	240	240
- SCORP policy plans reviewed	23	31	38
- SCORP planning agreements negotiated	36	55	55
- SCORP action programs reviewed/evaluated	16	55	55
- Environmental Impact Statements prepared	2	3	2
- Briefings and reports prepared	700	700	700

Decrease for 1982:		1982 Base	1982 Est.	Decrease
Administrative Expenses	$	7,225	7,162	(-63)
	(FTP)	(159)	(159)	(--)

The level of effort in this activity has been reduced in a budget year of fiscal restraint and increased fixed costs. The workload for administration of Assistance to States remains relatively constant despite the decrease in funding for FY 1982 because the reduction in total number of projects processed is small.

Object Classification Distribution

The object class breakdown for the $63,000 decrease is as follows:

	1982 Estimate
Printing and reproduction	5,000
Supplies and materials	5,000
Equipment	5,000
Other services	48,000
Total	63,000

Justification of Program and Performance

Activity: Administrative Expenses
Subactivity: Federal Programs

(Dollar amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-).
Federal Programs	$	1,000	1,101	1,244	+143
	(FTP)	(23)	(23)	(26)	(+3)
(Common Program Services)	$	(250)	(285)	(341)	(+56)
Total Requirements	$	1,000	1,101	1,244	+143
	(FTP)	(23)	(23)	(26)	(+3)

Authorization: 16 U.S.C. 4601-4601-11, et. seq.

Objectives: To administer the Federal portion of the Land and Water Conservation Fund by planning, coordinating, evaluating, and budgeting for the authorized acquisition of land and water resources in accordance with the nationwide outdoor recreation planning process and the State Comprehensive Outdoor Recreation Plans (SCORPs). Emphasis is placed on achieving a balance between Federal acquisition and creative alternatives to the acquisition of fee simple interests which meet resource protection objectives identified in these planning processes.

To coordinate development of uniform policies, preparation of acquisition plans, and budgets of the four Federal agencies participating in the Fund to assure that the Federal portion of the Fund will acquire the highest priority lands needed to protect the resources and to provide recreation opportunities.

Base Program: The Federal land acquisition programs under the Fund are coordinated through the Service's eight Regional Offices with policy, budget, and liaison staff in Washington. The primary focus is to:

- Evaluate authorized areas in terms of priority acquisition funding within the annual fiscal resources. Areas are compared on a selected basis to ascertain that the highest priority acquisitions are recommended for funding. As the Service is not in competition for land acquisition funds, it is in a unique position to make unbiased recommendations concerning the areas submitted for consideration.

- Review land acquisition plans and programs. Within current authorized areas each agency carries out its acquisition program in accord with specific and general Congressional directives. Detailed plans for lands to be acquired in fee and lands to be protected through other methods are being prepared for management units with active acquisition programs. These plans will be reviewed for consistency with recently adopted policies for acquisition and protection techniques.

- Review legislative proposals including impacts on the Federal portion of the LWCF. In addition to the new area proposals developed as part of the Land Policy Group planning process, legislation authorizing new natural, cultural, or recreation areas or major expansions in existing areas is reviewed for consistency with the nationwide outdoor recreation plan and other established national goals and objectives.

- Prepare recommendations for Departmental positions with appropriate language which would allow or encourage use of creative protection tools by Federal agencies independently or in cooperation with State and local governments.

- Provide staff support for the Land and Water Conservation Fund Policy Group (LPG), composed of the executives of the Federal land acquisition agencies receiving LWCF monies. The LPG recommends to the Assistant Secretary for Fish and Wildlife and Parks policies, procedures, protection strategies, funding levels and allocations of funds among the member agencies for the most effective use of monies available for Federal purposes under the LWCF Act.

- Provide leadership in education, training and research on alternatives for resource protection. Concerns expressed by Congress, GAO, and others have emphasized the need to fully explore alternatives to fee simple purchase of private lands. Efforts initiated last year will continue to determine how innovative protection and management tools can be used by Federal agencies to stretch available LWCF monies as far as possible.

- Assist the Federal agencies in land acquisition planning. For example, the Forest Service selects areas within the National Forests which contain significant recreation resources and develops recreation composite plans. These plans, after joint field review and approval by the HCRS and the Forest Service, qualify for funding as National Forest Recreation Composites. Similar planning assistance will be provided to the other agencies using the Federal portion of the LWCF.

- Develop a consolidated Five-Year Acquisition Plan and annual LWCF fiscal year program. This plan identifies authorized areas to be acquired within a five year period. In addition, with the

cooperation of the four agencies, the Service prepares the annual Land and Water Conservation Fund fiscal year budget and manages the program in terms of obligations and impact on expenditures.

- Coordinate with State and Federal agencies the development of State Comprehensive Outdoor Recreation Plans (SCORPs). The Federal agencies provide recreation opportunities to Regional, State, and local as well as National/International consumers. To provide the most accurate and comprehensive SCORP possible, the Federal area supply and demand data are made available to the States through Service's cooperative efforts. Also, needs and priorities of the SCORPs are considered in the planning and managing of Federal areas in the State.

- Review Environmental Statements and Reports. Statements and reports concerning areas funded with the Federal portion of the LWCF and other statements concerning land acquisition and recreation management by the Federal agencies using LWCF are reviewed and comments are provided.

- Process reprogramming actions. Reprogrammings up to $100,000 are submitted to the Service for approval; those over $100,000 are evaluated by the Service and submitted to Congressional Committees.

- Review Federal Land Management agency program proposals such as Resources Planning Act Assessment and alternative program directives to evaluate implications for national recreation policy and encourage improved recreation and protection efficiency and increase effectiveness of LWCF use.

- Maintain and refine the ADP System to support the planning, programming, and review functions of HCRS in its role as administrator of the Federal portion of the LWCF.

- Independently review land acquisition plans and programs. Within current authorized areas each agency carries out its acquisition program in accord with specific and general Congressional directives. Detailed plans for lands to be acquired in fee and lands to be protected through other methods are being prepared for management units with active acquisition programs. These plans will be reviewed for consistency with recently adopted policies for acquisition and protection techniques.

Program Initiatives And Workload Factors:

- Five hundred areas are to be evaluated in FY 1982 for funding. The Service must have adequate field knowledge of all these areas to make proper recommendations and to coordinate this information with goals and objectives set forth in the Nationwide Plan and with land acquisition plans identified in the SCORPs.

- Review 200-250 legislative proposals.
- Prepare 125-150 recommendations for Departmental positions.
- Provide staff support for 16 LPG meetings, including preparation for and coordination of agenda, briefing materials, budget analysis and policy directives.
- Implement the program for education, training and research on alternatives for resource protection. Detailed analysis of experiences in selected projects will help document relative costs and benefits of various protection tools. Practical obstacles to more widespread use of cost-effective tools will be identified and necessary training, research, and educational efforts will be continued to assist Federal planners, managers, negotiators, administrators, and other key people responsible for protecting the resources.
- Coordinate planning with FWS as their endangered species and addition to refuges programs develop. The Service will review about 270 agency acquisition plans in the budget year.
- Review 75 Environmental Statements and Reports.
- Review 50 reprogramming proposals.
- Increase support of LPG initiatives to analyze proposed land acquisition areas to determine their recreation viability as potential additions to the Federal system.
- Enhance capability for ADP system to provide better and more up-to-date information on land acquisition.

Object Classification Distribution

The object class breakdown for the $143,000 increase is as follows:

	1982 Estimate
Personnel compensation and benefits	$ 87,000
Common Program Services*	56,000
Total	$ 143,000

*The increase for Common Program Services is detailed in that section of the justification.

Increase for 1982		1982 Base	1982 Est.	Increase
Administrative Expenses	$	1,101	1,244	+143
	(FTP)	(23)	(26)	(+3)

This increase will provide funds and staff for the development of management and acquisition plans for the Pinelands National Reserve and will provide support to the LWCF Policy Group for its effort in documenting how Federal agencies can use creative protection strategies with State and local governments. It will also provide funds for increased costs in Common Program Services.

Summary of Requirements by Object Class
(dollar amounts in thousands)

Appropriation: Land and Water Conservation Fund

HERITAGE CONSERVATION AND RECREATION SERVICE	1982 base			1982 Estimate			Inc.(+) or Dec.(-)		
	Pos.	Avg. No.	Amount	Pos.	Avg. No.	Amount	Pos.	Avg. No.	Amount
Object class									
11 Personnel compensation:									
11.1 Full-time permanent positions.....	182	167	4,580	185	170	4,659	+3	+3	+79
11.3 Position other than full-time permanent.....	18	18	280	18	18	280	---	---	---
11.5 Other personnel compensation.....	---	---	7	---	---	7	---	---	---
11.9 Total personnel compensation.....	200	185	4,867	203	188	4,946	+3	+3	+79
Other objects:									
12.1 Personnel benefits.....			584			592			+8
13.0 Benefits for former personnel.....			4			4			---
21.0 Travel and transportation of persons...			196			196			---
22.0 Transportation of things.....			27			27			---
23.1 Standard level user charges.....			927			927			---
23.2 Communications, utilities and other rent.....			313			313			---
24.0 Printing and reproduction.....			135			130			-5
25.0 Other services.....			1,140			1,148			+8
26.0 Supplies and materials.....			70			65			-5
31.0 Equipment.....			47			42			-5
41.0 Grants, subsidies, and contributions...			233,380			197,635			-35,745
42.0 Insurance claims and indemnities.....			16			16			---
Total requirements.....			241,706			206,041			-35,665

Summary of Requirements by Object Class
(dollar amounts in thousands)

Appropriation: Land and Water Conservation Fund

Allocation Accounts	1982 base			1982 Estimate			Inc.(+) or Dec.(-)		
	Pos.	Avg. No.	Amount	Pos.	Avg. No.	Amount	Pos.	Avg. No.	Amount
Object class									
11 Personnel compensation:									
11.1 Full-time permanent positions	540		14,185	538		14,908	-2		+723
11.3 Position other than full-time permanent			1,995			2,035			+40
11.5 Other personnel compensation	---	2	69	---	2	81	---	+7	+12
11.9 Total personnel compensation		679	16,249		687	17,024		+17	+775
Other objects:									
12.1 Personnel benefits			1,496			1,820			+324
13.0 Benefits for former peronnel			5			5			---
21.0 Travel and transportation of persons			1,107			1,272			+165
22.0 Transportation ot things			174			888			+714
23.1 Standard level user charges			796			865			+69
23.2 Communications, utilities and other rent			227			229			+2
24.0 Printing and reproduction			145			167			+22
25.0 Other services			13,266			13,924			+658
26.0 Supplies and materials			429			514			+85
31.0 Equipment			337			360			+23
32.0 Lands and structures			106,817			280,062			+173,245
33.0 Investments and loans			4			4			---
42.0 Insurance claims and indemnities			1,230			1,825			+595
Total requirements, allocation accounts			142,282			318,959			+176,677
Grand totals, Land and Water Conservation Fund			383,988			525,000			+141,012

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE

LAND AND WATER CONSERVATION FUND

For expenses necessary to carry out the provisions of the Land and Water Conservation Fund Act of 1965, as amended (16 U.S.C. 4601-4-11), including [$7,708,000] $8,406,000, for administrative expenses of the Heritage Conservation and Recreation Service during the current fiscal year, and acquisition of land or waters, or interest therein, in accordance with the statutory authority applicable to the State or Federal agency concerned, to be derived from the Land and Water Conservation Fund, established by section 2 of said Act as amended, to remain available until expended, [$378,593,000] $520,365,000, of which (1) [$228,745,000] $185,000,000 shall be available for payments to the States in accordance with section 6(c) of said Act; (2) [$1,135,000] $3,100,000 shall be available to the Bureau of Land Management; (3) [$39,416,000] $46,787,000 shall be available to the Forest Service; (4) [$21,520,000] $35,399,000 shall be available to the United States Fish and Wildlife Service; [and] (5) [$80,211,000] $233,673,000 shall be available to the National Park Service; and (6) $8,000,000 shall be available for land acquisition at Pinelands National Reserve: Provided, That not to exceed [$6,000,000] $12,000,000 of the amount provided for State assistance may be available as a contingency reserve to be administered by the Secretary to meet unforeseen needs of the States: Provided further, That section 9 of said Act as amended (16 U.S.C. 4601-10a), which provides contract authority, is hereby repealed and subsequent sections are renumbered accordingly.

[Notwithstanding the provisions of Public Law 90-401, revenues from recreation fee collections by Federal agencies shall hereafter be paid into the Land and Water Conservation Fund, to be available for appropriation for any or all purposes authorized by the Land and Water Conservation Fund Act of 1965, as amended, without regard to the source of such revenues.]

[Notwithstanding any other provision of law, the Secretary is authorized and shall seek to acquire the lands described in section 505(a) of the Act of November 10, 1978 (92 Stat. 3467) by first acquiring Federal surplus lands of equivalent value from the General Services Administration and then exchanging such surplus lands for the lands described in section 505(a) of that Act with the land owners. Exchanges shall be on the basis of equal value, and any party to the exchange may pay or accept cash in order to equalize the value of the property exchanged.] (Public Law 96-514, making appropriations for the Department of the Interior and related agencies, 1981.)

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
LAND AND WATER CONSERVATION FUND

Amounts Available for Appropriation (in thousands of dollars)

Identification code 14-5005-0-2-303	19 80 actual	19 81 estimate	19 82 estimate
Regular account: Unappropriated balance, start of year	115,354	506,160	1,027,567
Collections (offsetting receipts):			
Land and Water Conservation Fund Act:			
Recreation fees	---	28,500	29,000
Surplus property sales	63,336	104,454	87,553
Motorboat fuels tax	29,857	11,000	29,000
Outer Continental Shelf Lands Act	806,769	756,046	754,447
Unobligated balance returned to unappropriated collections	38	---	---
Total available for appropriation	1,015,354	1,406,160	1,927,567
Appropriation	-509,194	-378,593	-520,365
Unappropriated balance, end of year	506,160	1,027,567	1,407,202
Special account (Public Law 95-42, sec. 1):			
Unappropriated balance, start of year	142,621	142,621	142,621
Total available for appropriation	142,621	142,621	142,621
Appropriation	---	---	---
Unappropriated balance, end of year	142,621	142,621	142,621
(Memo cost: 21.5)	HCRS-223 (Memo cost: 4)	(Memo cost: 5)	(Memo cost: 4.8)

GPO : 1971 O - 442-317

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
LAND AND WATER CONSERVATION FUND

Program and Financing (in thousands of dollars)

Identification code 14-5005-0-2-303	1980 actual	1981 estimate	1982 estimate
Program by activities:			
1. Assistance to States.....	318,636	310,900	293,000
2. Federal programs.....	271,681	269,069	326,959
3. Administrative expenses.....	6,572	7,979	8,406
Total program costs 1/.....	596,889	587,948	628,365
Change in selected resources (undelivered orders).....	-89,889	+153	-103,365
10.00 Total obligations.....	507,000	588,101	525,000
Financing:			
21.40 Unobligated balance available, start of year: Appropriation	-218,257	-219,888	-10,380
24.40 Unobligated balance available, end of year: Appropriation	219,888	10,380	5,745
Unobligated balance lapsing:			
25.00 Appropriation.....	163	—	—
25.00 Contract authority.....	30,000	30,000	—
39.00 Budget authority.....	538,794	408,593	520,365
Budget authority:			
Current:			
40.00 Appropriation (special fund)...	509,194	378,593	520,365
41.00 Transferred to other accounts..	-400	—	—
43.00 Appropriation (adjusted).....	508,794	378,593	520,365
Permanent:			
69.10 Contract authority (permanent) (substantive law) (16 U.S.C 4601-10a).....	30,000	30,000	—
Relation of obligations to outlays:			
71.00 Obligations incurred, net.....	525,101	570,000	525,000
Obligated balance, start of year:			
72.40 Appropriation.....	819,029	748,889	800,889
72.49 Contract authority.....	20,000	20,000	20,000
Obligated balance, end of year:			
74.40 Appropriation.....	-748,889	-800,889	-769,689
74.49 Contract authority.....	-20,000	-20,000	-20,000
90.00 Outlays.....	595,242	518,000	556,200

1/ Includes capital investment as follows: 1980, $199,393 thousand; 1981, $224,441 thousand; 1982, $280,469 thousand.

HCRS-224

(Mono cost: 21.5) (Mono cost: 5) (Mono cost: 5) (Mono cost: 4.9)

GPO : 1971 O - 443-317

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
LAND AND WATER CONSERVATION FUND

Status of Unfunded Contract Authority (in thousands of dollars)

Identification code 14-5005-0-2-303	19 80 actual	19 81 estimate	19 82 estimate
Unfunded balance, start of year.....	20,000	20,000	20,000
Contract authority.....	30,000	30,000	---
Unfunded balance lapsing.....	-30,000	-30,000	---
Unfunded balance, end of year.....	20,000	20,000	20,000
	HCRS-225		
(Mono cast: 21.5)	(Mono cast: 5)	(Mono cast: 5)	(Mono cast: 4.9)

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
LAND AND WATER CONSERVATION FUND

Object Classification (in thousands of dollars)

Identification code 14-5005-0-2-303	19 80 actual	19 81 estimate	19 82 estimate
HERITAGE CONSERVATION AND RECREATION SERVICE			
Personnel compensation:			
11.1 Permanent positions.....	4,254	4,630	4,659
11.3 Positions other than full-time permanent.....	245	249	280
11.5 Other personnel compensation..	10	7	7
11.9 Total personnel compensation	4,509	4,886	4,946
12.1 Personnel benefits: Civilian...	454	587	592
13.0 Benefits for former personnel...	4	4	4
21.0 Travel and transportation of persons.....	205	203	196
22.0 Transportation of things.....	27	27	27
23.1 Standard level user charges.....	372	887	927
23.2 Communications, utilities and other rent.....	313	313	313
24.0 Printing and reproduction.....	67	135	130
25.0 Other services.....	995	1,053	1,148
26.0 Supplies and materials.....	74	70	65
31.0 Equipment.....	94	47	42
32.0 Lands and structures.....	-375	—	—
41.0 Grants, subsidies, and contributions.....	271,798	320,354	197,635
42.0 Insurance claims.....	13	13	16
Subtotal, direct obligations	278,550	328,579	206,041
ALLOCATION ACCOUNTS			
Personnel compensation:			
11.1 Permanent positions.....	13,018	14,185	14,908
11.3 Positions other than full-time permanent.....	2,512	1,995	2,035
11.5 Other personnel compensation..	93	69	81
11.9 Total personnel compensation	15,623	16,249	17,024
12.1 Personnel benefits: Civilian...	1,636	1,496	1,820
13.0 Benefits for former personnel...	12	5	5
21.0 Travel and transportation of persons.....	911	1,107	1,272
22.0 Transportation of things.....	200	174	888
23.1 Standard level user charges.....	627	796	865
23.2 Communications, utilities and other rent.....	366	227	229
	HCRS-226		
(Mono cast: 21.5)	(Mono cast: 5)	(Mono cast: 5)	(Mono cast: 4.5)

GPO : 1971 O - 443-317

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE P. 2
LAND AND WATER CONSERVATION FUND

Object Classification (in thousands of dollars)

Identification code 14-5005-0-2-303	19 80 actual	19 81 estimate	19 82 estimate
24.0 Printing and reproduction	174	145	167
25.0 Other services	9,013	13,266	13,924
26.0 Supplies and materials	-821	429	514
31.0 Equipment	460	337	360
32.0 Lands and structures	199,184	224,057	280,062
33.0 Investments of loans	9	4	4
42.0 Insurance claims and indemnities	1,055	1,230	1,825
44.0 Refunds	1	---	---
99.0 Subtotal, obligations, allocation accounts	228,450	259,522	318,959
99.9 Total obligations	507,000	588,101	525,000
Obligations are distributed as follows:			
Heritage Conservation and Recreation Service	278,550	328,579	206,041
National Park Service:			
Not suballocted	126,902	132,583	222,673
Suballocted to:			
Corps of Engineers--Civil	2,122	5,112	8,000
Department of Justice	3,200	4,000	3,000
Fish and Wildlife Service	22,867	41,634	35,399
Bureau of Land Management	3,026	1,299	3,100
Department of Agriculture:			
Forest Service	70,333	74,894	46,787

GPO : 1971 O - 449-327

HCRS-227

(Mono cost: 31.8) (Mono cost: 0) (Mono cost: 0) (Mono cost: 4.8)

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
LAND AND WATER CONSERVATION FUND

Object Classification (in thousands of dollars)

Identification code 14-5005-0-2-303		19 80 actual	19 81 estimate	19 82 estimate
ALLOCATION TO NATIONAL PARK SERVICE, NOT SUBALLOCATED				
	Personnel compensation:			
11.1	Full-time permanent positions	6,569	7,417	7,690
11.3	Positions other than full-time permanent	1,368	1,021	925
11.5	Other personnel compensation	37	3	3
11.9	Total personnel compensation	7,974	8,441	8,618
12.1	Personnel benefits: Civilian	831	997	1,286
13.1	Benefits for former personnel	3	1	1
21.0	Travel and transportation of persons	384	648	791
22.0	Transportation of things	71	98	808
23.1	Standard level user charges	558	739	810
24.0	Printing and reproduction	96	62	65
25.0	Other services	-16	5,500	6,400
26.0	Supplies and materials	247	250	280
31.0	Equipment	81	110	125
32.0	Lands and structures	115,557	114,537	201,689
42.0	Insurance claims and indemnities	1,116	1,200	1,800
99.0	Total obligations	126,902	132,583	222,673

HCRS-228

(Memo cost: 21.0) (Memo cost: 0) (Memo cost: 0) (Memo cost: 4.0)

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
LAND AND WATER CONSERVATION FUND

Object Classification (in thousands of dollars)

Identification code 14-5005-0-2-303	19 80 actual	19 81 estimate	19 82 estimate
SUBALLOCATION TO CORPS OF ENGINEERS			
Personnel compensation:			
11.1 Full-time permanent positions.....	125	169	191
11.3 Positions other than full-time permanent.....	18	—	—
11.5 Other personnel compensation..	1	2	2
11.9 Total personnel compensation.....	144	171	193
12.1 Personnel benefits: Civilian...	16	27	22
21.0 Travel and transportation of persons.....	22	20	25
22.0 Transportation of things.....	1	—	1
23.1 Standard level user charges.....	8	25	30
24.0 Printing and reproduction.....	1	2	4
25.0 Other services.....	318	450	550
26.0 Supplies and materials.....	6	35	57
31.0 Equipment.....	3	—	—
32.0 Lands and structures.....	1,603	4,382	7,118
42.0 Insurance claims and indemnities.....	—	—	—
99.0 Total obligations.....	2,122	5,112	8,000
SUBALLOCATION TO DEPARTMENT OF JUSTICE			
25.0 Other Services.....	3,200	4,000	3,000
99.0 Total obligations.....	3,200	4,000	3,000
TOTAL ALLOCATION TO NATIONAL PARK SERVACE	132,224	141,695	233,673
	HCRS-229		
(Mono cost: 21.3)	(Mono cost: 5)	(Mono cost: 5)	(Mono cost: 4.9)

GPO : 1971 O - 448-317

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
LAND AND WATER CONSERVATION FUND

Object Classification (in thousands of dollars)

Identification code 14-5005-0-2-303	1980 actual	1981 estimate	1982 estimate
ALLOCATION TO FISH AND WILDLIFE SERVICE			
Personnel compensation:			
11.1 Full-time permanent positions.....	1,597	1,742	1,900
11.3 Positions other than full-time permanent.....	268	292	319
11.5 Other personnel compensation..	10	12	13
11.9 Total personnel compensation.....	1,875	2,046	2,232
12.1 Personnel benefits: Civilian...	204	222	242
21.0 Travel and transportation of persons.....	224	291	291
22.0 Transportation of things.....	9	12	12
23.2 Communications, utilities and other rent.....	59	70	85
24.0 Printing and reproduction.....	66	75	90
25.0 Other services.....	1,367	1,400	1,800
26.0 Supplies and materials.....	89	100	120
31.0 Equipment.....	70	70	100
32.0 Lands and structures.....	18,904	37,348	30,427
99.0 Total obligations.....	22,867	41,634	35,399
(Mone cast: 21.5)	(Mone cast: 5)	(Mone cast: 5)	(Mone cast: 4.9)

HCRS-230

GPO : 1971 O - 445-217

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
LAND AND WATER CONSERVATION FUND

Object Classification (in thousands of dollars)

Identification code 14-5005-0-2-303	1980 actual	1981 estimate	1982 estimate
ALLOCATION TO BUREAU OF LAND MANAGEMENT			
Personnel compensation:			
11.1 Full-time permanent positions.....	410	184	427
11.3 Positions other than full-time permanent.....	84	66	91
11.5 Other personnel compensation...	10	4	11
11.9 Total personnel compensation.....	504	254	529
12.1 Personnel benefits: Civilian....	47	23	50
21.0 Travel and transportation of persons.....	60	35	65
22.0 Transportation of things.....	18	12	22
23.2 Communications, utilities and other rent.....	10	5	14
25.0 Other services.....	503	50	520
26.0 Supplies and materials.....	22	2	22
32.0 Lands and structures.....	1,862	918	1,878
99.0 Total obligations	3,026	1,299	3,100
(Mono cost: 21.5)	(Mono cost: 5)	(Mono cost: 5)	(Mono cost: 4.9)

HCRS-231

GPO : 1971 O - 442-217

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
LAND AND WATER CONSERVATION FUND

Object Classification (in thousands of dollars)

Identification code 14-5005-0-2-303		19 80 actual	19 81 estimate	19 82 estimate
ALLOCATION TO FOREST SERVICE				
	Personnel compensation:			
11.1	Full-time permanent positions	4,317	4,673	4,700
11.3	Positions other than full-time permanent	774	616	700
11.5	Other personnel compensation	35	48	52
11.9	Total personnel compensation	5,126	5,337	5,452
12.1	Personnel benefits: Civilian	538	227	220
13.0	Benefits for former personnel	9	4	4
21.0	Travel and transportation of persons	221	113	100
22.0	Transportation of things	101	52	45
23.1	Standard level user charges	61	32	25
23.2	Communications, utilities and other rent	297	152	130
24.0	Printing and reproduction	11	6	8
25.0	Other services	3,641	1,866	1,654
26.0	Supplies and materials	-1,185	42	35
31.0	Equipment	306	157	135
32.0	Lands and structures	61,258	66,872	38,950
33.0	Investments and loans	9	4	4
42.0	Insurance claims and indemnities	-61	30	25
44.0	Refunds	1	---	---
	Total obligations	70,333	74,894	46,787
		(Memo cost: 21.8)	HCRS-232 (Memo cost: 8)	(Memo cost: 8) (Memo cost: 4.8)

GPO : 1971 O - 442-317

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
LAND AND WATER CONSERVATION FUND

PERSONNEL SUMMARY

Identification code 14-5005-0-2-303	19 80 actual	19 81 estimate	19 82 estimate
HERITAGE CONSERVATION AND RECREATION SERVICE			
Total number of full-time permanent positions	188	182	185
Total compensable workyears:			
Full-time equivalent employment	180	185	188
Full-time equivalent of overtime and holiday hours	1	----	----
Average ES salary	$49,596	$50,010	$50,061
Average GS grade	10.15	10.15	10.15
Average GS salary	$24,183	$26,366	$26,366
ALLOCATION ACCOUNTS			
Total number of full-time permanent positions	539	540	538
Total compensable workyears:			
Full-time equivalent employment	726	677	685
Full-time equivalent of overtime and holiday hours	2	2	2
Average GS grade	8.94	9.00	9.00
Average GS salary	$19,737	$21,091	$21,196

GPO : 1971 O - 442-327

HCRS-233

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
LAND AND WATER CONSERVATION FUND

PERSONNEL SUMMARY

Identification code 14-5005-0-2-303	19 80 actual	19 81 estimate	19 82 estimate
ALLOCATION TO: NATIONAL PARK SERVICE, NOT SUBALLOCATED			
Total number of full-time permanent positions.....	324	324	324
Total compensable work-years: Full-time equivalent employment	372	348	356
Average GS grade.....	8.86	8.86	8.86
Average GS salary.....	$19,535	$20,615	$20,615
SUBALLOCATED TO CORPS OF ENGINEERS			
Total number of full-time permanent positions.....	13	13	11
Total compensable work-years: Full-time equivalent employment	13	13	11
Average GS grade.....	9.10	9.10	9.20
Average GS salary.....	$17,035	$18,585	$19,205
FISH AND WILDLIFE SERVICE			
Total number of full-time permanent positions.....	45	45	45
Total compensable work-years: Full-time equivalent employment	54	54	54
Average GS grade.....	9.42	10.17	10.17
Average GS salary.....	$21,955	$23,952	$23,952
BUREAU OF LAND MANAGEMENT			
Total number of full-time permanent positions.....	12	10	10
Total compensable work-years: Full-time equivalent employment	26	14	14
Average GS grade.....	9.63	9.63	9.63
Average GS salary.....	$22,066	$23,830	$23,830

GPO : 1971 O - 443-321

(Mono cost: 21.8) (Mono cost: 0) (Mono cost: 0) (Mono cost: 4.8)

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
LAND AND WATER CONSERVATION FUND

P. 2

PERSONNEL SUMMARY

Identification code 14-5005-0-2-303	19 80 actual	19 81 estimate	19 82 estimate
ALLOCATION TO FOREST SERVICE			
Total number of full-time permanent positions.....	145	148	148
Total compensable work-years:			
Full-time equivalent employment.....	261	248	250
Full-time equivalent of overtime and holiday hours.	2	2	2
Average GS grade.....	8.90	8.90	8.90
Average GS salary.....	$19,550	$21,300	$21,600

HCRS-235

(Memo cost: 21.5) (Memo cost: 6) (Memo cost: 6) (Memo cost: 4.6)

GPO : 1971 O - 445-257

Appropriation Summary Statement

Appropriation: Historic Preservation Fund

This appropriation finances 50% programmtic matching grants to the States and Territories, certified local governments, and the National Trust for Historic Preservation for historic preservation planning, projects and activities; 70% Federal - 30% nonfederal matching grants for survey and inventory of historic properties; and direct grants-in-aid for special legislated purposes such as assistance to threatened National Historic Landmarks, preservation of ethnic and minority resources, and demonstration of innovative preservation methods and techniques. Pursuant to P.L. 94-422, the Historic Preservation Fund is financed from revenues generated under the Outer Continental Shelf Lands Act.

Grants-in-Aid to States

HPR grants to the States are administered by the State Historic Preservation Officer (SHPO), who is appointed by the Governor. The SHPOs direct inventories of historic propeties, nominate them to the National Register, and assist in the protective planning porcess required of Federal agencies by law. They also coordinate and assist efforts of local governments and private parties to identify, record and preserve historic resources, oversee the planning and execution of grant-assisted acquisition and development projects within the State, assist private citizens in preparing and submitting applications for loan guarantees and tax advantages offered by Federal law for rehabilitation of historic resources, and perform other programmatic services in pursuance of Federal law that, without the Federal-State relationship, would have to be accomplished by Federal agencies alone. In providing these services, State Historic Preservation Officers draw upon work of local government employees and citizen volunteers in addition to State staffs.

Goals for the Historic Preservation Fund program are developed by HCRS with the advice and recommendations of the States. The objectives to meet these goals are modified from year to year to reflect changing priorities and national needs.

As a general rule, grant funds are used as "seed money," with the Federal contribution amounting to far less than the allowable 50 percent. However, the National Historic Preservation Act Amendments of 1980 allow grants to be matched on a program rather than project basis at an aggregate 50% rate. In addition, the amendments direct that grants for historic property survey and inventory be matched at a 70% Federal share.

Grants-in Aid to the National Trust

The National Trust for Historic Preservation advances national historic preservation goals and policies in the private sector. It provides services and assistance including small grants to communities. National Trust activities are coordinated with the Heritage Conservation and Recreation Service, the Advisory Council on Historic Preservation, and State Historic

Preservation Officers to assure that they complement the overall national historic preservation program. In addition the National Trust owns and operates historic properties of national significance or interest that might otherwise be the responsibility of the Federal Government.

Summary of proposed improvements:

The FY 1982 apportionment process will continue to improve the quality of State preservation program service delivery and will increase Historic Preservation Fund program effectiveness by allocating grant funds to States in accordance with their demonstrated performance in meeting national preservation goals. Some of these goals will emphasize survey of nonfederal lands projected for intensive development, building nonfederal capacity to do preservation work, protection of nationally significant properties, and participation of local preservation organizations in the State programs.

States meeting certain standards of demonstrated cability ar authorized to conduct their grant-assisted develoment projects without detailed review of project plans and specifications by the Service. Thirty-two States had been awarded this added authority in fiscal year 1980, and 37 by fiscal year 1981. This allows the Service to concentrate on providing additional technical information useful to States in conducting approved projects and to determine and improve the overall quality of a State's preservation program.

The use of two annual apportionments, begun in fiscal year 1979, will be continued. Under this system, the first apporionment is based on appropriated Historic Preservation Fund monies apportioned to the States on the basis of performance and quality of the annual work program. The second is derived by subtracting any carryover funds uncommitted by each State at the end of fiscal year. The second apportionment helps to insure that States make prompt, productive use of funds.

Standards, guidelines and information needed by States and the National Trust in managing their grants programs have been improved by dissemination of a complete Grants Management Manual in fiscal year 1980. Based on the manual, further administrative streamlining will be implemented wherever possible. In addition to the administrative changes to improve the grant program, three policy thrust will be continued to improve the performance of the Fund. They are designed to maximize its principal sucesses.

1. National Historic Landmarks are properties of national as opposed to State or local significance. These properties are sometimes threatened and may be acquired by the National Park Service as national Historic Sites. To save these nationally significant properties without having to acquire them, the Federal government encourages States to give priority for HPF assistance to National Historic Landmarks.

2. Through the annual grant application, States are encouraged to emphasize surveys of non-Federal lands most likely to be impacted by changes and development. The Resource Protection Planning Process is a significantly improved statewide comprehensive planning method now being implemented by States. It is designed to reduce the potential for conflicts that may arise between construction projects and the goal of to preserving historic and cultural resources.

3. The primary strength and success of the Fund has been that it has caused the establishment of State historic preservation programs. However, much of the focus of preservation now also occurs at the local level. This is a logical out come of the growing emphasis on historic districts and consistent with the increasing role tax incentives and of private lending institutions in commercial rehabilitation and neighborhood revitalization. As a consequence, the National Historic Preservation Act Amendments of 1980 directs that a system be establish for the certification of local governments to receive grant funds directly. Therefore, States are encouraged to work with localities to build effective preservation programs.

The total appropriation requested for 1982 is $32,500,000. The funding level for the National Trust for Historic Preservation is $4,700,000. Funds in the amount of $1,840,000 are requested for Service cost for management of the Fund.

HERITAGE CONSERVATION AND RECREATION SERVICE

Summary of Requirements
(Dollar amounts in thousands)

Appropriation: Historic Preservation Fund

Summary of adjustments to base and built-in changes:	Perm Pos.	Amount	Perm. Pos.	Amount
Appropriation enacted to date, 1981			30	32,500
Adjustments to base and built-in changes:				
Adjustment for 1981 pay increases and related costs		+88		
Annualization of 1981 pay increase		+1		
Subtotal, adjustments for 1981 pay increase			30	+89 32,589
Other increases:				
Employees Compensation Fund		+2		
GSA space cost increases		+71		
Subtotal, adjustments to base and built-in changes			30	+162 32,662
1982 base				

Comparison by activities:	1980 Actual Perm. Pos.	1980 Actual Amount	1981 Appropriation Perm. Pos.	1981 Appropriation Amount	FY 1982 Base Perm. Pos.	FY 1982 Base Amount	FY 1982 Estimate Perm. Pos.	FY 1982 Estimate Amount	Inc. (+) or Dec. (-) Over 1982 Base Perm. Pos.	Inc. (+) or Dec. (-) Over 1982 Base Amount
Grants-in-Aid	--	53,222	--	30,960	--	30,960	--	30,498	--	-462
Administrative Expenses	31	1,570	30	1,540	30	1,702	30	2,002	--	+300
Common Program Services	(1)	(667)	(1)	(700)	(8)	(871)	(7)	(871)	(-1)	(--)
Total Requirements	31	54,792	30	32,500	30	32,662	30	32,500	--	-162

Historic Preservation Fund

Justification of Adjustments to Base and Built-in Changes
(Dollar amounts in thousands)

Adustment for 1981 pay increase and related costs	Amount
Total cost in FY 1981 of pay increase	88
Additional amount in 1982 to provide full-year cost of pay increase	1
Total	89

The anticipated increase in 1981 of $88,000 is for the general schedule pay increase effective in October, 1980.

An additional $1,000 is required in 1982 to cover the full-year cost of the 1981 pay increase.

Other increases

Employees' Compensation Fund	2
Rent payments to GS (SLUC)	71
Total, Other increases	162

The increase in the repayment to the Employees' Compensation Fund is the result of higher costs in 1980 than in 1979. The 1980 charges will be reimbursed to the Department of Labor Employees' Compensation Fund in 1982 pursuant to P.L. 86-767.

The GSA conducted a Fair Annual Rental (FAR) appraisal for 1982 which resulted in increases over the 1981 rates of $71,000.

Justification of Program and Performance

Activity: Historic Preservation Fund
Subactivity: Grants-In-Aid

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Grants-in-Aid	$	26,360	26,360	25,898	-462
	(FTP)	(--)	(--)	(--)	(--)
Grants-in-Aid to National Trust	$	4,600	4,600	4,600	--
	(FTP)	(--)	(--)	(--)	(--)
Total Requirements	$	30,960	30,960	30,498	-462
	(FTP)	(--)	(--)	(--)	(--)

Grants-in-Aid to States

Authorization: National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470.

Objectives: To provide matching grants for historic preservation activities to States, and through States to local institutions, organizations, and individuals:

- To identify and record archeological and historical properties with special emphasis on non-federal lands projected for intensive development (e.g. surface mining, energy resource exploration, urban redevelopment areas) as well as areas that may contain potential National Historic Landmarks.

- To make consideration of preservation issues part of the normal decisionmaking process for development agencies.

- To enhance local government capability to identify, evaluate, and protect historic properties.

- To advocate the competitiveness of building reuse with new construction.

- To assist preservation of historic resources important to ethnic and minority groups.

74-939 O—80——48

- To improve State and local program accountability through monitoring, oversight, and technical training and assistance from HCRS, particularly through the 8 Regional Offices.

- To support State review functions for federally-assisted or licensed projects affecting properties in, or eligible for, the National Register.

- To provide matching funds for the National Trust for Historic Preservation to facilitate public participation in cultural preservation.

- To provide direct grants to eligible recipients for the encouragement of innovative preservation ideas or opportunities, protect National Historic Landmarks, train and develop skilled labor in historic preservation, and to assist persons and small businesses to remain in historic districts.

Base Program: HPF grants-in-aid are the major means by which the Federal Government promotes preservation of the Nation's historic and cultural heritage and aids the public and private sectors in integrating their activities with historic preservation.

The National Historic Preservation Act of 1966, as amended, and Federal governmentwide administrative procedures require the 57 States and Territories and the National Trust for Historic Preservation to prepare and submit annual historic preservation grant applications. In FY 1982, the applications, in measurable terms, will: 1) outline the State activities; 2) provide performance data on the State activities; and 3) account for all HPF monies allocated to the State. Modifications made possible by the National Historic Preservation Act Amendments of 1980 will result in a greatly simplified grant application process. Paperwork requirements have been reduced by about 60 percent.

The State programs continue to stress coordinated activities for identification, evaluation, and protection of historic properties, while retaining an emphasis on urban redevelopment, survey of areas projected for development, and increased public participation in establishing annual State program priorities.

By the end of FY 1981, States will be expected to have fully implemented an open project selection process which involves: 1) use of a priority system for selecting projects; 2) public participation in the development of its project selection procedures; 3) an outreach program to develop maximum public awareness of HPF program benefits and requirements; and 4) affirmative action programs. Most of these elements are presently in place.

State Historic Preservation Officers receive approximately $200 million of preliminary project applications each year. These projects are frequently the catalyst for significant private investment. In addition, other Federal programs affecting the historic environment are being used to benefit older, including historic, structures. For example, the 1981 estimated tax expenditure of $50 million is expected to stimulate a private investment of $400 million in historic structures for that year. Also included are programs of the Economic Development Administration and Department of Housing and Urban Development. The increase in these programs has stimulated further need for the planning, technical assistance, and "seed" project role played by the HPF. Although preservation objectives are sometimes met through Federal community and economic development programs, preservation has not yet been firmly established as an integral component of these programs. In fact, these programs often harm historic resources rather than enhance them. The Section 106 caseload of the Advisory Council on Historic Preservation illustrates this well. For example, community development agencies appear to view historic preservation considerations as peripheral to the program. It is difficult to assess accurately the extent to which other Federal funds have been used for historic preservation because estimates of other agency expenditures for preservation are not well reported. Also, these estimates often include environmental review, administration, and mitigation activities. No reliable estimate exists of actual preservation work accomplished by other Federal programs.

Table 1 details the appropriations history of the Fund through FY 1981.

The Secretary of the Interior's combined fiscal year 1979-1980 Historic Preservation Discretionary Reserve Fund Grants

In Fiscal Year 1980, $2 million from the Secretary of the Interior's combined FY 1979 and FY 1980 Discretionary Reserve Fund was awarded to grant-in-aid projects which preserve historic resources associated with minorities, native Americans, and ethnic populations. Following competitive selection, 26 grants-in-aid were awarded to 22 States. The projects were selected from 65 applications totalling approximately $16 million in funding requests. Table 2 lists Discretionary Fund Grant Awards.

Workload Factors:	FY 1980	Estimated FY 1981	Estimated FY 1982
° Cumulative number of properties documented for National Register nomination	240,000	265,000	290,000
° Annual number of nominations to the National Register	5,016	2,400	5,225
° Number of acquisition or development projects	1,000	350	750
° Number of A-95 reviews of potential adverse impacts	119,277	131,205	144,325
° Number of section 106 consultations	25,186	27,705	30,475
° Number of environmental impact statements reviewed	1,267	1,394	1,533
° Annual number of properties added to State inventory with a minimum level of documentation (locational data)	171,057	81,000	81,000
° Annual number of properties added to State inventory at National Register level of documentation	79,000	25,000	25,000
° Cumulative number of States undertaking the resource protection planning process	12	22	42
° Annual number of determinations of eligibility resulting from Federal agency consultations with SHPO's	2,223	2,445	2,690

Grants-in-Aid to the National Trust

Authorization: National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470.

Base Program: The National Trust for Historic Preservation, the private nonprofit corporation chartered by Congress to facilitate public participation in the preservation of historic sites, buildings and objects, is the only national non-federal entity empowered to accept donations of sites, buildings, and objects significant in American history and culture and to administer them for public benefit. Certain activities of the National Trust supported by HPF matching grants are complementary to the HPF program, such as the matching Endangered Properties Fund, initiated with $1 million from the Secretary's Discretionary Reserve Fund.

In FY 1981, the National Trust is conducting the following activities:

- Direct assistance to local and State governments and to private organizations. This help is provided: a) through counsel with staff experts in preservation law, architecture and architectural history, city planning, museum management, maritime preservation, and archeology; b) through matching grants to help local organizations hire consultants; c) through low interest loans made to help citywide preservation and neighborhood improvement organizations establish revolving funds; d) through matching grants to enhance energy conservation in historic structures.

- Education. The National Trust provides for the teaching of the skills, practices, philosophy and accomplishments of historic preservation through a) conferences and workshops; b) grants to colleges and universities to help develop courses and curricula in the field; c) on-the-job training in restoration crafts; d) tours; and e) publications, which include case studies of successful historic preservation projects, the economic benefits of preserving old buildings, and other topics of interest to preservation constituencies.

- Saving unique properties. In cases where acquisition is the most appropriate preservation method, the National Trust accepts through domations significant historic properties. It also administers, through management agreements, other important properties. In addition, the Trust's Endangered Properties Fund, financed by the Historic Preservation Fund and matched in part by a foundation grant, protects threatened historic properties through a $2 million revolving fund by acquisition, limited development, and resale. The following are endangered properties to which these funds have been committed as of September 1, 1980:

VEBLEN HOME AND FARM (MINNESOTA)	$ 18,500

KEITH-ALBEE FACADE (WASHINGTON, DC)	36,893
GENERAL PEMBERTON HEADQUARTERS (MISSISSIPPI)	1,000
FRANCIS NEWLANDS HOUSE (NEVADA)	475,000
TELLURIDE HISTORIC DISTRICT (COLORADO)	80,940
CAKOHIA MOUNDS (ILLINOIS)	235,000
THE MOUNT (MASSACHUSETTS)	290,000
U.S.S. WILLIAMS (PENNSYLVANIA TO BE MOVED TO WASHINGTON, DC)	225,000
MARTIN LUTHER KING HISTORIC DISTRICT (GEORGIA)	15,000
TOTAL	$ 1,377,333

Program objectives and policy guidelines are established by a volunteer Board of Trustees with assistance from advisors who represent every State and Territory. National Trust grant funds are allocated according to priorities established in the annual work program submission to the Service.

Decrease for 1982:		1982 Base	1982 Est.	Decrease
Grants-in-Aid	$	30,960	30,498	-462
	(FTP)	(--)	(--)	(--)

$300,000 of this decrease, which is offset by an increase in administrative expenses, is necessary to provide an adequate basic level of support for accountable grants management while maintaining the Fund total at the 1981 appropriation level. The remainder of the decrease ($162,000) is to provide for annualization of the 1981 pay cost increase and for increased fixed costs for Employee Compensation Fund and SLUC charges.

TABLE 1: HISTORIC PRESERVATION FUND - FISCAL YEARS 1967-1981

Fiscal Year	Grants to the States	Discretionary Fund	HPF Admin. Expenses	National Trust	Total Approp.
1967	0	0	0	0	0
1968	0	0	0	300,000	300,000
1969	82,500	0	0	17,500	100,000
1970	669,000	0	0	300,000	969,000
1971	4,509,394	186,861	241,722	1,042,023	5,980,000
1972	3,995,827	568,000	374,150	1,042,023	5,980,000
1973	5,383,134	370,754	437,737	1,313,375	7,505,000
1974	8,703,863	655,737	395,400	1,750,000	11,505,000
1975	17,595,645 *	0	935,500	2,700,000	20,000,000
1976	15,259,483 **	0	1,031,900	2,544,492	20,000,000
1977	13,923,600	0	1,031,900	2,544,492	17,500,000
1978	36,716,000	2,005,000	1,479,000	4,800,000	45,000,000
1979	47,121,000	6,000,000 ***	1,479,000	5,400,000	60,000,000
1980	47,022,000 †	1,000,000	1,778,000	5,200,000	55,000,000†
1981	26,260,000	1,000,000	1,540,000	4,700,000	32,500,000

* Includes $1,231,145 determined for reapportionment
** Includes reduction of $1,164,125 for improper reobligation in 1973.
*** Includes $5,000,000 for Maritime Grants.
† Includes $10,000,000 deferred until FY 1981.

TABLE 2: SECRETARY OF THE INTERIOR'S COMBINED FISCAL YEAR 1979-80 HISTORIC PRESERVATION DISCRETIONARY FUND GRANT AWARDS

State	Project Name	Grant Award
Massachusetts	"Roxbury Preservation Survey,"	$ 28,340
New York	"New York City Urban Cultural Resources Program (Phase II)," New York City	191,564
New York	"Houses on Hunterfly Rd. District: 1700-1708 (even numbers) Bergen St.," Brooklyn	98,000
Pennsylvania	"Manchester Rehabilitation Project," Pittsburgh	75,000
Rhode Island	"Trinity Square Historic District: Trinity United Methodist Church," Providence	149,750
Alabama	"Hickory Ground," Wetumpka	165,000
Georgia	"Training and Planning Grant for the Laney-Walker District," Augusta	16,700
Georgia	"Martin Luther King, Jr. National Historic Landmark District," Atlanta	32,500
Mississippi	"Carnegie Auditorium," Holly Springs	87,625
North Carolina	"Estey Hall (Shaw University)," Raleigh	100,000
South Carolina	"Community Development Through Historic Preservation," Richland County School District One, Columbia	22,000
Kentucky	"Elks Athletic Club (Now Y.W.C.A. Rehabilitation Project," Louisville	179,571

State	Project Name	Grant Award ($)
Minnesota	"Saint Anthony Falls Historic District Hydro-Electric Generating Plant," Minneapolis	98,000
Ohio	"Washington Park Conservation Program," Cincinnati	35,000
Texas	"Camino de las Misiones, El Paso County," El Paso	45,000
Colorado	"Curtis Park Face Block Project," Denver	100,000
Iowa	"Buxton, Iowa: A Black Utopian Community," Buxton	90,000
Missouri	"Santa Fe Neighborhood Survey and Planning Project," Kansas City	100,500
Montana	"Fire House No. 2, Billings"	30,000
Nebraska	"The North Omaha Preservation Project," Omaha	35,000
North Dakota	"Northern Pacific Railway Depot," Fargo	30,000
Arizona	"Barrio Historico National Register Historic District Documentation and Rehabilitation Project," Tucson	51,000
California	"Locke Historic District, Sacramento County"	139,921
Alaska	"North Slope Borough: Beaufort Sea Historic Sites and Cultural Resource Survey," Barrow	44,887
Alaska	"Alaska Native Brotherhood Camp No. 4, Wrangell & Stikine Native Organization: Chief Shakes Historic Site-House Posts & Totems," Wrangell	7,025
Oregon	"Chinese Consolidated Benevolent Association," Portland	46,917
Total Secretary of the Interior's Historic Preservation Discretionary Fund Grants-in-Aid		2,000,000

Justification of Program and Performance

Activity: Historic Preservation Fund
Subactivity: Administrative Expenses

(Dollar Amounts in Thousands)

	1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Administrative Expenses $	1,540	1,702	2,002	+300
(FTP)	(30)	(30)	(30)	(--)
(Common Program Services) $	(700)	(797)	(856)	(+59)
Total Requirements $	1,540	1,702	2,002	+300
(FTP)	(30)	(30)	(30)	(--)

Authorization: National Historic Preservation Act, as amended, 16 U.S.C. 470.

Objectives: The following administrative objectives have been identified for the FY 1982 Historic Preservation Fund program:

- To continue simplification of grant administration requirements by:
  - emphasizing performance rather than paperwork;
  - requiring only essential information in reports and applications; and
  - giving maximum managerial responsibilities to States while maintaining appropriate Federal managerial control.
- To improve State and local program accountability through monitoring, oversight, and technical training and assistance from HCRS, particularly through the 8 Regional Offices.
- To provide technical assistance to the 57 States and Territories through workshops and guidelines with onsite evaluations for at least 10 States; the Pacific territories will receive special assistance to build management capacity.
- To provide technical assistance in support of the Resource Protection Planning Process (RPP) in States. Implementation of

this process was underway in 12 States as of August 1980. The RP3 was developed by HCRS to provide a consistent, logical framework for collecting, organizing, and using historic resources information to make reliable, timely decisions about what should be saved and how. Use of the system:

- focuses planning on the use of resource information in addition to its acquisition;
- increases public participation in decisions about resource identification, evaluation, and protection;
- significantly reduces the potential for administrative conflicts about the preservation of individual historic properties, thereby reducing delays and attendant management and construction costs;
- provides the administrative basis for confidence in State-level resource decisions.

- To streamline grant application, amendment, and payment processing time by using ADP systems that provide for data entry on terminals at the regional level.
- To monitor State program operations by:
  - continuing the biennial audit cycle;
  - increasing the number of onsite program evaluations to assess performance and technical support needs;
  - providing architectural and archeological project technical assistance through onsite inspections of work in progress for compliance with the Secretary's Standards for Historic Preservation Projects.
- To implement procedures whereby local governments may establish certified preservation programs.
- To supplement and coordinate Servicewide outreach to grant-awarding Federal agencies such as HUD, FHWA, EDA, and EPA, in order to ensure that historic resources are considered during the planning phase of federally-assisted projects rather than during the construction phase.

Base Program: The Heritage Conservation and Recreation Service administers the Historic Preservation Fund grants program implemented by the States, Territories, and the National Trust for Historic Preservation. This involves the following administrative workload factors and output measures:

Output/Workload Measures	1980	Estimated 1981	Estimated 1982
Assessment of work programs.....	58	58	58
Assessment and processing of:			
project applications.....	1,000	350	350
amendments.....	1,500	500	450
payment actions.....	7,000	8,400	8,000
Assessment of semiannual program progress reports.....	116	58	58
Assessment of project completion reports.....	700	1,000	500
Resolution of financial audits..	27	27	27
Performance of program evaluations.....	3	10	10
Inspection of development projects.....	500	200	200
Technical Assistance Visits to States Implementing RP3.....	11	18	25

In accordance with the National Historic Preservation Act, matching funds will be awarded to further the purposes of The National Trust for Historic Preservation. As part of its oversight responsibilities, HCRS began re-examining its relationship with the National Trust. At the same time, the National Trust has begun to develop tighter administrative controls over its operations. With the cooperation of its new President, The National Trust and HCRS have begun exploring means to achieve mutual objectives and more complementary program operations. These initiatives will result in specific joint technical assistance, training and information exchange efforts in FY 1982.

These activities will be carried out in the context of several new steps being implemented to improve program administration and oversight at the Federal level and HPF implementation at the State level. The most important of these initiatives, which are summarized below, have, among other results, directly and significantly affected the rates of HPF obligations and expenditures.

Regionalization of HPF Program Operations.

- Transferred significant numbers of staff and positions to the 8 HCRS Regional Offices beginning in late FY 1980. This is intended to enhance the delivery of services to State and local governments and

local preservation organizations, as well as to improve HCRS accountability, oversight, and attention to elimination of fraud and abuse.

HPF Grant Program Management.

- Provided training on the Grants Management Manual which incorporates applicable laws and regulations governing the grant program and defines HPF program policies and procedures in terms of these requirements. The manual was fully implemented during FY 1980. It allows States to fully understand program requirements and thus be delegated greater administrative responsibiity. In turn, this will provide the basis for further reductions in application paperwork and Federal project review time.

- Refined further the use of State funding applications as a management tool (discussed under the Grants-in-Aid activity). This allows HCRS to tie national priorities directly to the State application process.

- Implemented a program performance reporting system in which States compare planned activities with actual accomplishments over the reporting period. This has allowed both HCRS and the States to track grant supported work to completion. The system also provides a major tool for targeting HCRS technical assistance, an important means to use limited staff most effectively.

- Continued and included more States in the "expanded participation" option within the HPF grant-in-aid program. This has shortened the HCRS technical review of project work by permitting qualified States to review proposed work for conformance with the Standards. Time for review of architectural plans and specifications was reduced to an average of 2 days.

- The total average acquisition and development project application review time was decreased to 10-15 working days from a previous average of 42 working days during FY 80. This has been accomplished by:

  - publishing final program regulations (36 CFR 1207), the Secretary of the Interior's Standards for Historic Preservation Projects;

  - delegating primary review responsibility to qualified State programs through "expanded participation";

  - implementing the simplified project application "checklist;"

  - implementing an overall review system to identify reasons for delays in reviewing project applications.

- Continued to refine HCRS evaluation of annual State grant applications to reduce Survey and Planning program approval time from 30 working days to 25 working days during FY 80 and FY 81.

- Continued to require, as part of HPF apportionment conditions, that States obligate funds within the year of appropriation. Funds not obligated are reapportioned to States which have obligated all their funds.

- Implemented guidelines requiring an open project selection process in each State.

- Implemented Departmental guidelines and requirements for compliance with Title VI of The Civil Rights Act of 1964.

Improved State performance in obligation and expenditure rates.

- Continued the carryover adjustment procedure, which directly stimulates State obligation and outlay rates. The amount of funds not obligated by a State during the year of apportionment is deducted from the following year's apportionment. The effectiveness of this mechanism is reflected by the declining percentage of unobligated funds between FY 1977-1980.

- Implemented the supplemental apportionment mechanism beginning in FY 1979. Funds derived from the carry-over adjustment, lapsed projects, and unexpended funds applied to nonconstruction programs with two years "use or lose" provisions are awarded through a supplemental Secretarial apportionment to more programmatically productive States.

- These two initiatives have improved the program's expenditure rates:

($ amounts in millions)

FY	Expenditure rate
1977	$ 1.2/ mo.
1978	1.8/ mo.
1979	2.7/ mo.
1980	4.5/ mo.
1981	3.8/ mo. (est)

Fund control.

- Continued two year financial audit cycle through audit contracts administered by the Department's Office of Inspector General.

- Implemented a procedure requiring States to accomplish restitution of disallowed costs within six months.

- Continued the letter of credit system for advances. Coupled with this system, the Service instituted strict controls on advanced funds and has reallocated outstanding advances. The requirements have helped increase expenditure rates by making funds available for disbursement within 3-4 days.

- Continued a "tentative approval" procedure. States may, upon written notification from HCRS, begin acquisition or development project work at their own risk before a complete project application is approved. This leads to faster project completion and faster outlays.

In addition, program administration continues to place high emphasis on decentralizing the process of administration so that policy direction, conflict resolution, and technical assistance are given at the Federal level, while decision making and execution occur at the State and local level--with increasing local involvement--so that the expense of administrative and project delays is avoided and maximum public participation is achieved.

Increase for 1982:		1982 Base	1982 Est.	Increase
Administrative Expenses	$	1,702	2,002	+300
	(FTP)	(30)	(30)	(--)

This increase, which is offset by a decrease in HPF grants, is necessary to cover increasing fixed costs for staff involved in monitoring State program performance, to conduct onsite inspections of the close of 3,300 currently active construction projects for conformance in the Secretary's standards, to provide technical support for State programs, and to cover required program management functions such as audit resolution, recovery of disallowed costs, and controls to limit waste, fraud, and error. Increased technical support to and performance evaluation of State programs will allow HCRS to responsibly delegate more program accountability to the States, so that paperwork and funding delays can be reduced further.

In addition, $100,000 of the increase will be applied towards the implementation of the Resource Protection Planning Process (RP3) in 10 States with major surface mining or other active land use change. The likely major increase in surface mining and the massive threats this poses for preservation of historic and archeological sites requires use of the RP3 to significantly reduce the potential for conflict about priorities for preservation and data recovery. The RP3 will lead to important reduction in delays to energy resource development.

Object Class Distribution

The object class breakdown for the $300,000 increase is as follows:

	1982 Estimate
Positions other than permanent	$ 80,000
Travel and transportation of persons	20,000
Printing and reproduction	16,000
Other services	125,000
Common Program Services*	59,000
Total	$ 300,000

* Increases for Common Program Services are detailed in that section of the budget.

74-989 O—80——49

Summary of Requirements by Object Class
(dollar amounts in thousands)

Appropriation: Historic Preservation Fund

Object class	1982 Base Pos.	1982 Base Avg. No.	1982 Base Amount	1982 Estimate Pos.	1982 Estimate Avg. No.	1982 Estimate Amount	Inc. (+) or Dec. (-) Pos.	Inc. (+) or Dec. (-) Avg. No.	Inc. (+) or Dec. (-) Amount
11 Personnel compensation:									
11.1 Full-time permanent positions	30	28	768	30	28	768	---	---	---
11.3 Position other than full-time permanent	21	21	327	21	21	400	---	---	+73
11.5 Other personnel compensation	---	---	6	---	---	6	---	---	---
11.9 Total personnel compensation	51	49	1,101	51	49	1,174	---	---	+73
Other objects:									
12.1 Personnel benefits			116			123			+7
13.0 Benefits for former personnel			1			1			---
21.0 Travel and transporation of persons			102			122			+20
22.0 Transportation of things			9			9			---
23.1 Standard level user charges			86			86			---
23.2 Communications, utilities and other rent			105			105			---
24.0 Printing and reproduction			18			34			+16
25.0 Other services			97			281			+184
26.0 Supplies and materials			42			42			---
31.0 Equipment			20			20			---
41.0 Grants, subsidies, and contributions			30,960			30,498			-462
42.0 Insurance claims and indemnities			5			5			---
Total requirements			32,662			32,500			-162

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE

HISTORIC PRESERVATION FUND

For expenses necessary in carrying out the provisions of the Historic Preservation Act of 1966 (80 Stat. 915), as amended (16 U.S.C. 470), $32,500,000, to be derived from the Historic Preservation Fund, established by section 108 of that Act, as amended, to remain available for obligation until September 30, [1982] 1983: Provided, That not to exceed fifteen percent of the funds in this appropriation may be used for grants for renovation of State and local government buildings still in use for governmental purposes: Provided further, That not to exceed $1,000,000 may be available as a discretionary reserve to be administered by the Secretary for special or innovative preservation programs. (Public Law 96-514, making appropriations for the Department of the Interior and related agencies, 1981.)

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
HISTORIC PRESERVATION FUND

Amounts Available for Appropriation (in thousands of dollars)

Identification code	19 80 actual	19 81 estimate	19 82 estimate
Unappropriated balance, start of year	119,400	214,000	331,900
Collections and offsetting receipts:			
Land and Water Conservation Fund Act:			
Outer Continental Shelf Lands Act	150,000	150,000	150,000
Total available for appropriation	269,400	364,400	481,900
Appropriation	-55,000	-32,500	-32,500
Unappropriated balance, end of year	214,400	331,900	449,400

HCRS-259

(Memo cost: 21.5) (Memo cost: 1) (Memo cost: 1) (Memo cost: 4.8)

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
HISTORIC PRESERVATION FUND

Program and Financing (in thousands of dollars)

Identification code		1980 actual	1981 estimate	1982 estimate
	Program by activities:			
	1. Grants-in-aid.....	43,849	47,300	36,500
	2. Administrative expenses....	1,789	1,650	1,929
	Total program costs.....	45,638	48,950	38,429
	Change in selected resources (undelivered orders).....	2,219	-5,904	-5,929
10.00	Total obligations.....	47,857	43,046	32,500
	Financing:			
21.40	Unobligated balance available, start of year.....	-4,263	-10,546	—
24.40	Unobligated balance available, end of year.....	10,546	—	—
25.00	Unobligated balance lapsing...	652	—	—
39.00	Budget authority.....	54,792	32,500	32,500
	Budget authority:			
40.00	Appropriation (special fund)..	55,000	32,500	32,500
41.00	Transferred to other accounts	-208	—	—
43.00	Appropration (adjusted)...	54,792	32,500	32,500
	Relation of obligations to outlays:			
71.00	Obligations incurred, net.....	47,857	43,046	32,500
72.40	Obligated balance, start of year	60,481	59,232	53,278
74.40	Obligated balance, end of year	-59,232	-53,278	-47,378
90.00	Outlays.....	41$105	49,000	38,400

HCRS-260

(Mono cast: 21.5) (Mono cast: 5) (Mono cast: 5)

GPO : 1971 O - 443-327

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
HISTORIC PRESERVATION FUND

Object Classification (in thousands of dollars)

Identification code 14-5140-0-2-303		19 80 actual	19 81 estimate	19 82 estimate
	Personnel compensation:			
11.1	Full-time permanent positions.	675	767	768
11.3	Positions other than full-time permanent.....	314	327	400
11.5	Other personnel compensation..	7	6	6
11.9	Total personnel compensation	996	1,100	1,174
12.1	Personnel benefits: Civilian...	94	116	123
13.0	Benefits for former personnel...	1	1	1
21.0	Travel and transportation of persons.....	80	104	122
22.0	Transportation of things.....	6	9	9
23.1	Standard level user charges.....	90	78	86
23.2	Communications, utilities and other rent.....	131	105	105
24.0	Printing and reproduction.....	100	18	34
25.0	Other services.....	239	54	281
26.0	Supplies and materials.....	17	42	42
31.0	Equipment.....	50	20	20
41.0	Grants, subsidies, and contributions.....	46,050	41,396	30,498
42.0	Insurance claims indemnities....	3	3	5
99.9	Total obligations.....	47,857	43,046	32,500

(Memo grant: 21.8) (Memo cost: 8) (Memo cost: 8) (Memo cost: 4.8)

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
HISTORIC PRESERVATION FUND

PERSONNEL SUMMARY

Identification code	19 80 actual	19 81 estimate	19 82 estimate
Total number of full-time permanent positions	31	30	30
Total compensable workyears:			
Full-time equivalent employment	48	49	49
Full-time equivalent of overtime and holiday hours	0	0	0
Average ES grade	$49,596	$50,010	$50,061
Average GS grade	10.15	10.15	10.15
Average GS salary	$24,183	$26,366	$26,366

HERITAGE CONSERVATION AND RECREATION SERVICE

Summary of Requirements
(Dollar amounts in thousands)

Appropriation: Donations

Summary of adjustments to base and built-in changes:	Perm Pos.	Amount	Perm. Pos.	Amount
Appropriation enacted to date, 1981.....			--	264
Adjustments to base and built-in changes:				
Adjustment for 1981 pay increases and related costs..				
Annualization of 1981 pay increase.....				
Subtotal, adjustments for 1981 pay increase.....			--	264
Other increases:				
Employees Compensation Fund.....		--		
GSA space cost increases.....		--		
Subtotal, adjustments to base and built-in changes				
1982 base.....			--	264

Comparison by activities:	1980 Actual Perm. Pos.	1980 Actual Amount	1981 Appropriation Perm. Pos.	1981 Appropriation Amount	FY 1982 Base Perm. Pos.	FY 1982 Base Amount	FY 1982 Estimate Perm. Pos.	FY 1982 Estimate Amount	Inc. (+) or Dec. (-) Over 1982 Base Perm. Pos.	Inc. (+) or Dec. (-) Over 1982 Base Amount
Cultural Programs	--	--	--	264	--	264	--	264	--	--
Total	--	--	--	264	--	264	--	264	--	--

Justification of Program and Performance

Activity: Donations
Subactivity:

(Dollar amounts in Thousands)

	1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-).
Donations				
$	264	264	264	--
FTE	--	--	--	--
(FTP)	(--)	(--)	(--)	(--)
Total Requirements				
$	264	264	264	--
FTE	--	--	--	--
(FTP)	(--)	(--)	(--)	(--)

Identification, Documentation, and Demonstration Projects

Authorization: Historic Sites Act of 1935 (P.L. 74-292)

Objectives:

- Identify, inventory, and document the nation's built and industrial environment (the design and construction of architectural, industrial or historical structures, cityscapes, landscapes, and decorative arts) with architectural measured drawings, photographs, written reports and other archival records.
- Make the documentation available to the public through the Library of Congress.
- Demonstrate the feasibility and benefits--to both the local economy and the quality of life--including preservation and recreation in community planning efforts.

Base Program: The Historic American Buildings Survey (HABS) and the Historic American Engineering Record (HAER), components of the National Architectural and Engineering Record (NAER), perform the documentation functions of the Federal preservation program. They identify and record with architectural measured drawings, archival photographs, written reports, and other archival data, sites and structures of historical,

architectural, engineering, or industrial significance. They also conduct demonstration projects that encourage the preservation and reuse of the nation's historic architectural and industrial resources. HABS and HAER projects are conducted on the basis of agreements between the Department of the Interior, the American Institute of Architects, the American Society of Civil Engineers, and the Library of Congress. The Library houses the documentary records producted by NAER and makes them available to the public for research and reproduction. The professional groups serve the programs in an advisory capacity.

HABS and HAER operate through summer field teams made up of students, supervised by university faculty members or members of the NAER staff. The recording teams are conducted at the request of and funded by other federal, State, or local agencies and/or the private sector. This public and private support is encouraged by NAER because it is a means of maximizing the use of Federal dollars, soliciting a firm commitment to preservation from cooperators, and generating broad public participation in team efforts. Contributions from local communities of funds and services in kind, such as team housing, office accomodations, transportation, and utilities, have increased by 100% over the last four years, and usually account for 75% of the funds spent on summer teams' efforts. Comparative charts illustrating the percentage of HCRS to non-HCRS funds involved in FY 79 inventory, recording, and demonstration projects are covered in the Salaries and Expenses Appropriation, Activity: Cultural Programs, Subactivities: National Architectural and Engineering Record: Historic American Buildings Survev and Historic American Engineering Record.

Summary of Requirements by Object Class
(dollar amounts in thousands)

Appropriation: Donations

Object class		1982 Base			1982 Estimate			Inc. (+) or Dec. (-)		
		Pos.	Avg. No.	Amount	Pos.	Avg. No.	Amount	Pos.	Avg. No.	Amount
11	Personnel compensation:									
11.3	Position other than full-time permanent	15	15	226	15	15	226	---	---	---
11.9	Total personnel compensation	15	15	226	15	15	226	---	---	---
	Other objects:									
12.1	Personnel benefits			14			14			---
21.0	Travel and transportation of persons			16			16			---
23.2	Communications, utilities and other rent			2			2			---
25.0	Other services			2			2			---
26.0	Supplies and materials			4			4			---
	Total requirements			264			264			---

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
DONATIONS

Program and Financing (in thousands of dollars)

Identification code 14-8058-0-7-303	19 80 actual	19 81 estimate	19 82 estimate
Program by activities:			
Donations (total program costs funded)	599	264	264
Change in selected resources (undelivered orders)	-10	---	---
10.00 Total obligations	589	264	264
Financing:			
13.00 Offsetting collections from: Trust funds	-627	---	---
21.40 Unobligated balance available, start of year	-66	-105	-105
24.40 Unobligated balance available, end of year	105	105	105
60.00 Budget authority (appropriation)	---	264	264
Relation of obligations to outlays:			
71.00 Obligations incurred, net	-38	264	264
72.40 Obligated balance, start of year	124	37	37
74.40 Obligated balance, end of year	-37	-37	-37
90.00 Outlays	48	264	264
(Memo cost: 31.5)		(Memo cost: 1)	(Memo cost: 4.9)

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
DONATIONS

Object Classification (in thousands of dollars)

Identification code 14-8058-0-7-303	1980 actual	1981 estimate	1982 estimate
11.1 Full-time permanent positions...	65	—	—
11.3 Personnel compensation: Positions other than full-time permanent.....	255	226	226
11.5 Other personnel compensation....	8	—	—
11.9 Total personnel compensation....	328	226	226
12.1 Personnel benefits: Civilian...	23	14	14
21.0 Travel and transportation of persons.....	16	16	16
22.0 Transportation of things.....	3	—	—
23.2 Communications, utilities, and other rent.....	3	2	2
24.0 Printing and reproduction.....	3	—	—
25.0 Other services.....	208	2	2
26.0 Supplies and materials.....	4	4	4
31.0 Equipment.....	1	—	—
99.9 Total obligations.....	589	264	264
(Mono cast: 21.5)	(Mono cast: 5)	(Mono cast: 5)	(Mono cast: 4.9)

HCRS-268

GPO : 1971 O - 448-317

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
DONATIONS

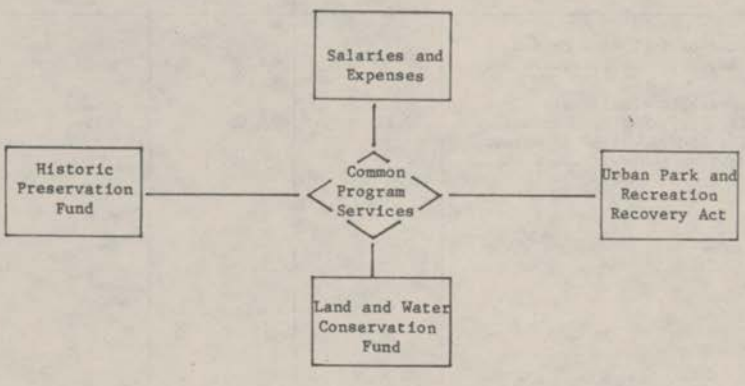
PERSONNEL SUMMARY

Identification code	19 80 actual	19 81 estimate	19 82 estimate
Total number of full-time permanent positions.....	0	0	0
Total compensable workyears:			
Full-time equivalent employment...	21	15	15
Full-time equivalent of overtime.. and holiday hours.....	0	0	0
	HCRS-269		
(Mono cast: 21.5)	(Mono cast: 5)	(Mono cast: 5)	(Mono cast: 4.9)

GPO : 1971 O - 442-217

Summary

Common Program Services are executive, program, administrative and support services that derive their resources from more than one appropriation.



Common Program Services is a redistribution account that provides an accountable process for expending resources for those functions applicable to the entire Service. Charges are prorated to programs on the basis of apportionment formulas that take into consideration the funding and staffing levels of each program within each appropriation and the anticipated usage of the common program service by each program. Redistribution charges are made monthly to ensure a smooth annual expenditure rate and an equitable balance between source appropriations.

The Common Program Service account facilitates the allocation and management of an individual program's resources. What results is one well documented account for what is common to all programs and a number of accounts that represent pure programmatic resources to use in the analysis of programmatic opportunities and shortfalls. Common Program Services also provides a buffer against sudden and unexpected costs that could cause damage to a program's activities. Examples are a cross-country PCS move, an EEO complaint, a shift in office space assignment. When such expenses are incurred, Common Program Services provides the funds so that programmatic activities are not impacted.

The Common Program Service accounts are subjected to continuous oversight by the HCRS Executive Staff. The estimates contained in this section of the budget are constantly adjusted in an attempt to maintain an equitable balance between what is unique to an individual program and what is common to all programs.

Activity: Common Program Services

(Dollar amounts in Thousands)

	1981 Currently Available		1982 Base		1982 Estimate		Inc. (+) or Dec.(-)	
	Perm. Pos.	Amount	Perm. Pos.	Amount	Perm. Pos.	Amount	Perm. Pos.	Amount
Common Program Services prorated to:								
Salaries and Expenses								
Recreation Programs	42	1,446	42	1,621	41	1,849	-1	+228
Natural Programs	30	1,010	28	1,139	27	1,185	-1	+46
Cultural Programs	27	1,682	28	1,951	28	2,334	--	+383
Administrative Programs	4	165	5	187	5	220	--	+33
Reimbursables	--	0	--	0	--	550	--	550
Total Requirements	103	4,303	103	4,898	101	6,138	-2	+1,240
Urban Park and Recreation Grants	3	724	3	824	1	300	-2	-524
Land and Water Conservation Fund								
Assistance to States	67	3,760	67	4,281	62	3,775	-5	-506
Federal Programs	1	250	1	285	1	341	--	+56
Total Requirements	68	4,010	68	4,566	63	4,116	-5	-460
Historic Preservation Fund	9	700	9	797	7	856	-2	+59
Total Common Program Services	183	9,737	183	11,085	172	11,410	-11	+325
Executive Direction	40	1,652	40	1,714	39	1,728	-1	+14
Program Direction	53	1,878	53	1,936	45	1,545	-8	-391
Administration	90	6,207	90	7,435	88	8,137	-2	+702
Total Requirements	183	9,737	183	11,085	172	11,410	-11	+325

Justification of Adjustments to Base and Built-in Changes
(dollar amounts in thousands)

Adjustments for 1981 pay increase and related cost	Amount
Amount in FY 1982 to provide full-year cost of pay increase for general schedule pay	387
Other Increases	
Employees' Compensation Fund	10
Rent Payments to GSA (SLUC)	951
Total, Other Increases	961

The increase in the repayment ot the Employee's Compensation Fund is the result of higher costs in 1980 than in 1979. The 1980 charges will be reimbursed to the Department of Labor Employees' Compensation Fund in 1982 persuant to P.L. 86-769.

The GSA SLUC rate charge for the Washington headquarters, seven regional offices and the Alaska Area office is projected to increase $1,047,000 in FY 1982 from a 1981 Available of $1,200,000 to a 1982 Estimated of $2,307,000 for the office space currently occupied by the Service. While this increase will be funded through an increased Common Program Services - Related Support Services assessment to each program line item, reductions are first being taken in Common Program Services and a goal of a $96,000.00 reduction in office space costs has been set. A breakdown of the office space costs is:

Location	1982 Estimated
Seattle, Washington	$83,028.61
San Francisco, California	359,975.00
Denver, Colorado	234,727.59
Ann Arbor, Michigan	110,213.73
Atlanta, Georgia	184,133.55
Philadelphia, Penn.	195,010.50
Albuquerque, New Mexico	81,131.91
Anchorage, Alaska	99,369.43
Total Regional Offices	$1,347,590.32
Washington (Pension Building)	959,663.32
Total HCRS	$2,307,253.64
Less cost savings from effort to consolidate offices and release space back to GSA	-96,000.00
Total projected HCRS Office Space Costs	$2,211,253.64

Justification of Program and Performance

Activity: Common Program Services
Subactivity: Executive Direction

(Dollar Amounts in Thousands)

		1981 Currently Available	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Executive Direction	$	1,652	1,714	1,728	+14
	(FTP)	(40)	(40)	(39)	(-1)
Total Requirements	$	1,652	1,714	1,728	+14
	(FTP)	(40)	(40)	(39)	(-1)

Executive Direction

Authorization: 16 U.S.C. 460L-460L-3, 461-467, 470; Land and Water Conservation Fund Act, as amended, 16 U.S.C. 460; Title X of the National Parks and Recreation Act of 1978, P.L. 95-625; Historic Preservation Act of 1966 as amended, 16 U.S.C. 470; and Title X of Public Law 95-625.

Objectives: Provide executive policy, program guidance, and management coordination to effectively and efficiently carry out Congressionally mandated programs; to foster preservation of the Nation's historic, cultural and natural heritage; to help provide outdoor recreation resources, to help rehabilitate urban park and recreation facilities and to encourage the States and private sector to become partners with the Service in historic preservation, outdoor and urban recreation.

Base Program: This subactivity includes: the directorate level positions of the Director, Deputy Director, and the Directors of the eight Regional Offices and their immediate support staffs. The Offices of Equal Employment Opportunity, Public Affairs and Legislative and Congressional Affairs report to the Deputy Director and provide program support services for the Directorate. Funds for these offices are included under this authority.

Those in Directorate level positions are responsible for planning, developing and managing all operational programs and adjusting these programs to meet Congressionally mandated objectives. These personnel represent the Service in contacts with the Congress, Departmental officials, other Federal Agencies, State and local agencies, non-government organizations and the public.

Organizationally, the major components of the subactivity are:

(Dollar amounts in Thousands)

		FY 1981 Available	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Office of the Director and Deputy Director	$	251	261	261	--
	(FTP)	(7)	(7)	(7)	(--)
Offices of the Regional Directors and Alaska Area Manager	$	684	711	790	+79
	(FTP)	(16)	(16)	(16)	(--)
Washington Staff Offices	$	717	742	677	-65
	(FTP)	(17)	(17)	(16)	(-1)
Totals	$	1,652	1,714	1,728	+14
	(FTP)	(40)	(40)	(39)	(-1)

Office of the Director and Deputy Director. This office includes five professional positions and two secretarial positions. The Director makes final decisions on program objectives, management organizational structure, budget proposals, legislative proposals, and interviews and selects personnel for directorate level positions. He/she exercises line supervision over the Deputy Director, Associate Directors, Regional Directors, the Alaska Area Director and Chiefs of Washington staff offices. The Deputy Director shares overall line management responsibility and is the "Executive Officer" for day-to-day operations of the Service.

Offices of the Regional Directors and Alaska Area Director. The eight Regional Offices and Alaska Area Office each have one professional and one secretarial position. They are responsible for accomplishing the objectives and implementing the policies promulgated by the Director. These officials participate in the process of planning national direction for Service programs and are responsible for developing comprehensive annual work programs for their regions and achieving the desired results through wise use of funds and personnel resources. These officials are nearest to the operational action and are in the best position to determine how resources will be used to obtain the expected program results. They have wide latitude in determining the managerial techniques that will work best to get the job done.

Washington Staff Offices.

The Office of Equal Employment Opportunity has two professional and one secretarial positions. The office is authorized by the Equal Opportunity Act of 1972, Public Law 92-251; the Fair Labor Standards Amendments of 1974, Public Law 93-259; and Executive Order 11473. The office is responsible for development of the Service's Affirmative Action Plan which is necessary to allow for a continuing management operation assuring equality of opportunity in all employment matters with special emphasis on the utilization of women and minority groups. By pursuing the action items in the plan, the Service establishes the basic framework for a positive program ensuring equal employment opportunity without regard to race, color, religion, sex, National origin, age or handicap.

The EEO Office established full-time operation in February, 1979. Most goals were met and exceeded by comfortable margins. We anticipate to meet our hiring goals for FY 80-81 in spite of recent hiring constraints and taking into account newly established EEOC and OPM guidelines. Budget year major activity will be in the areas of complaint processing, program evaluation, special emphasis projects and field support of regional offices. (3 FTP and $122,000).

The Office of Public Affairs has seven professional and two secretarial positions. The office provides the vital link in meeting the Service's responsibility to keep the public accurately and adequately aware of its programs and activities, and to encourage public participation. In doing so, the office provides program support materials and public outreach information for each of the recreational, cultural and natural programmatic and grant management areas. (8 FTP and $371,000).

	FY 1980	FY 1981	FY 1982
Public, Professional and Media Inquiries	32,000	45,000	45,000
By Telephone	20,000	25,000	35,000
In Writing	12,000	20,000	20,000
Press Releases	575	485	570
General	30	30	30
Land & Water Conservation Fund Grants	200	200	200
Urban Park and Recreation Recovery Grants	100	50	100
Cultural - Historic Preservation	75	50	50
Natural - Landmarks	20	25	50
Awards, Ceremonies	50	50	50
Urban Waterfronts	15	20	30
Cooperative Agreements	10	10	10
Trails	25	50	50
Publications			
Writing, editing, layout, design, clearance and printing liaison of new publications	193	225	225
Distribution of Publications to answer media, professional, and general public requests	100,000	150,000	150,000

93-259; and Executive Order 11473. The office is responsible for development of the Service's Affirmative Action Plan which is necessary to allow for a continuing management operation assuring equality of opportunity in all employment matters with special emphasis on the utilization of women and minority groups. By pursuing the action items in the plan, the Service establishes the basic framework for a positive program ensuring equal employment opportunity without regard to race, color, religion, sex, National origin, age or handicap.

The EEO Office established full-time operation in February, 1979. Most goals were met and exceeded by comfortable margins. We anticipate to meet our hiring goals for FY 80-81 in spite of recent hiring constraints and taking into account newly established EEOC and OPM guidelines. Budget year major activity will be in the areas of complaint processing, program evaluation, special emphasis projects and field support of regional offices. (3 FTP and $122,000).

The Office of Public Affairs has seven professional and two secretarial positions. The office provides the vital link in meeting the Service's responsibility to keep the public accurately and adequately aware of its programs and activities, and to encourage public participation. In doing so, the office provides program support materials and public outreach information for each of the recreational, cultural and natural programmatic and grant management areas. (8 FTP and $371,000).

	FY 1980	FY 1981	FY 1982
Public, Professional and Media Inquiries	32,000	45,000	45,000
By Telephone	20,000	25,000	35,000
In Writing	12,000	20,000	20,000
Press Releases	575	485	570
General	30	30	30
Land & Water Conservation Fund Grants	200	200	200
Urban Park and Recreation Recovery Grants	100	50	100
Cultural - Historic Preservation	75	50	50
Natural - Landmarks	20	25	50
Awards, Ceremonies	50	50	50
Urban Waterfronts	15	20	30
Cooperative Agreements	10	10	10
Trails	25	50	50
Publications			
Writing, editing, layout, design, clearance and printing liaison of new publications	193	225	225
Distribution of Publications to answer media, professional, and general public requests	100,000	150,000	150,000
Media support, briefings and other assistance for public appearances by the Secretary, White House, Director, Assistant Secretary, Under Secretary of Interior	72	96	100

	FY 1980	FY 1981	FY 1982
Media support, briefings and other assistance for public appearances by the Secretary, White House, Director, Assistant Secretary, Under Secretary of Interior	72	96	100
Audio-Visual, Radio, Television,			
Radio actualities, feeds, and news reports (major grants, program changes, new studies/reports/plans)	400	500	700
Slide show - editing	6	8	8
Television - three 30-second spots on subjects such as Barrier Islands in 1979	3	3	
Speeches and Major Magazine Articles	20	20	30
HCRS Newsletter - 12 issues per year	24,000	24,000	50,000

The Office of Legislation and Congressional Affairs has four professionals and one secretarial position. The office is responsible for the legislative program for the Service for the second session of the 97th Congress. This will involve the preparation of some twenty-five draft bills and accompanying materials. The office also reviews and prepares reports on some four-hundred legislative proposals initiated by other Federal agencies and Members of Congress affecting the public recreation, cultural and natural resources in the nation. The office provides program areas support in preparing testimony and data for Congressional hearings on bills affecting the Service's programs. Most importantly, the office provides the vital program-to-Congress link in responding to Congressional requests for information about Service programs, including preparation of briefing materials, arranging and scheduling meetings between Congressional Staffs and the correct program managers, and providing status reports on the Land and Water Conservation Fund, Urban Park and Recreation Recovery Fund and Historic Preservation Fund grant applications. (4 FTP and $150,000).

	FY 1980	FY 1981	FY 1982
Legislative proposals prepared	30	30	25
Legislative proposals reviewed (other agencies)	70	75	70
Reports prepared on bills introduced in Congress	325	300	300
Legislative inquiries anwered (status of bills, etc.)	800	800	750
Congressional delegation notifications of grant awards (L&WCF, HPF, UPARR)	12,000	12,000	14,000
Answer Congressional inquiries about operation of the Service programs	3,200	3,200	3,000

	FY 1980	FY 1981	FY 1982
Arrange Congressional meetings and briefings	90	80	100
Congressional Staff visits	800	700	700

Special Assistance for Audits, and Related Programs. This function coordinates Departmental audits and General Accounting Office audits to ensure that timely action is taken to resolve all audit recommendations. (1 FTP and $34,000).

	FY 1980	FY 1981	FY 1982
GAO Audits	4	4	4
Office of the Inspector General audits			
Urban Park and Recreation Fund	0	25	25
Land and Water Conservation Fund	30	30	30
Historic Preservation Fund	35	35	35

Increase for 1982:	1982 Base	1982 Estimate	Increase
$	1,714	1,728	+14
(FTP)	(40)	(39)	(-1)

Offices of the Regional Directors and Alaska Area Manager (Increase $79,000). A general increase across the eight offices due to two factors. First, an adjustment of $67,500 to bring the office budgets into line with actual costs as recorded during FY81, and second, to provide a general increase across all offices of $11,500 to compensate for price increases in goods and services used by the offices.

Washington Staff Offices (Decrease of 1 FTP and $65,000). A general reduction in an attempt to counter the impact of the decrease in total authorized employment and increases in the cost of goods and services on the bureau's programs.

Justification of Program and Performance

Activity: Common Program Services
Subactivity: Program Direction

(Dollar Amounts in Thousands)

		1981 Currently Available	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Recreation Programs	$	604	624	543	-81
	(FTP)	(18)	(18)	(16)	(-2)
Natural Programs	$	570	589	459	-130
	(FTP)	(16)	(16)	(13)	(-3)
Cultural Programs	$	704	723	543	-180
	(FTP)	(19)	(19)	(16)	(-3)
Total Requirements	$	1,878	1,936	1,545	-391
	(FTP)	(53)	(53)	(45)	(-8)

Recreation Programs

Authorization: 16 U.S.C. 460L-460L-3, 461-467, 470; Land and Water Conservation Fund Act, as amended, 16 U.S.C. 460; Title X of the National Parks and Recreation Act of 1978, P.L. 95-625; and Title X of Public Law 95-625.

Objectives: Provide executive policy, program guidance, and management coordination to effectively and efficiently carry out Congressionally mandated recreation and recreation grant programs; to help provide outdoor recreation resources, to help rehabilitate urban park and recreation facilities and to encourage the States and private sector to become partners with the Service in outdoor and urban recreation.

Base Program: This subactivity includes: the directorate level positions of the Associate Director for Recreation and Assistant Regional Directors for Recreation of the eight Regional Offices and their immediate support staffs.

Those in the Directorate for Recreation are responsible for planning, developing and managing all operational recreation and recreation grant programs and adjusting these programs to meet Congressionally mandated objectives. These personnel represent the Service in contacts with the Congress, Departmental officials, other Federal Agencies, State and local agencies, non-government organizations and the public. Organizationally, the major components of the subactivity are:

(Dollar amounts in Thousands)

		FY 1981 Available	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Office of the Associate Director for Recreation and Natural Programs	$	108	111	84	-27
	(FTP)	(3)	(3)	(2)	(-1)
Offices of the Assistant Regional Directors for Recreation	$	496	513	459	-54
	(FTP)	(15)	(15)	(14)	(-1)
Totals	$	604	624	543	-81
	(FTP)	(18)	(18)	(16)	(-2)

Office of the Associate Director. This office includes one professional position and one secretarial position. The Associate Director makes decisions on program objectives, management organizational structure, budget proposals, legislative proposals, and he/she interviews and selects personnel for division-level positions. The Associate Director exercises line supervision over the Washington programmatic divisions for recreation and natural programs and provides policy recommendations to the Director and Deputy Director on national recreation and natural resources policy and land acquisition by the four land managing agencies. This Associate Director works closely with the personnel in the four Federal land managing agencies.

Offices of the Assistant Regional Directors for Recreation. The eight Regional Offices each have one professional and secretarial support staff. They are responsible for accomplishing the objectives and implementing the recreation policies promulgated by the Director through the Regional Director. These officials participate in the process of planning national direction for Service programs and are responsible for developing annual work programs for recreation within their region and achieving the desired results through wise use of funds and personnel resources. These officials are nearest to the operational action and are in the best position to determine how resources will be used to obtain the expected program results. They have considerable latitude in determining the managerial techniques that will work best to get the job done.

Decrease for 1982:	1982 Base	1982 Estimate	Decrease
$	624	543	-81
(FTP)	(18)	(16)	(-2)

A general reduction in an attempt to counter the impact of the decrease in total authorized employment and increases in the cost of goods and services on the bureau's programs.

Natural Programs

Authorization: 16 U.S.C. 460L-460L-3, 461-467, 470; Land and Water Conservation Fund Act, as amended, 16 U.S.C. 460; and Title X of Public Law 95-625.

Objectives: Provide executive policy, program guidance, and management coordination to effectively and efficiently carry out Congressionally mandated natural programs and effective management of the Federal land aquisition and use process; to foster preservation of the Nation's natural heritage by encouraging States to become partners with the Service in planning for State natural heritage preservation.

Base Program: This subactivity includes: the directorate level positions of the Associate Director for Natural Programs and Assistant Regional Directors of the eight Regional Offices and their immediate support staffs.

Those in directorate-level positions are responsible for planning, developing and managing all operational natural programs, Federal Land and Water Conservation Fund Land Acquisition funds and programs related to land use and adjusting these programs to meet Congressionally mandated objectives. These personnel represent the Service in contacts with the Congress, Departmental officials, other Federal Agencies, State and local agencies, non-government organizations and the public. Organizationally, the major components of the subactivity are:

(Dollar amounts in Thousands)

		FY 1981 Available	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Office of the Associate Director for Natural Programs	$	89	92	--	-92
	(FTP)	(2)	(2)	(-)	(-2)
Offices of the Assistant Regional Directors for Natural Programs	$	481	497	459	-38
	(FTP)	(14)	(14)	(13)	(-1)
Totals	$	570	589	459	-130
	(FTP)	(16)	(16)	(13)	(-3)

Office of the Associate Director. This office is being discontinued as a general reduction in an attempt to counter the impact of a decrease in total authorized employment and increases in the costs of goods and services on the Service's programs.

Offices of the Assistant Regional Directors for Natural Programs. The eight Regional Offices each have one professional and secretarial support staff. They are responsible for accomplishing the objectives and implementing the natural policies promulagated by the Director through the Regional Directors. These These officials participate in the process of planning national direction for Service programs and are responsible for developing annual work programs for natural and land related programs within their region and achieving the desired results through wise use of funds and personnel resources. These officials are nearest to the operational action and are in the best position to determine how resources will be used to obtain the expected program results. They have considerable latitude in determining the managerial techniques that will work best to get the job done.

Derease for 1982:	1982 Base	1982 Estimate	Decrease
$	589	459	-130
(FTP)	(16)	(15)	(-1)

A general reduction in an attempt to counter the impact of the decrease in total authorized employment and increases in the cost of goods and services on the bureau's programs.

Cultural Programs

Authorization: 16 U.S.C. 460L-460L-3, 461-467, 470; Historic Preservation Act of 1966 as amended, 16 U.S.C. 470; and Title X of Public Law 95-625.

Objectives: Provide executive policy, program guidance, and management coordination to effectively and efficiently carry out Congressionally mandated historic preservation and related cultural and grant programs; to foster preservation of the Nation's historic and cultural heritage; and to encourage the States and private sector to become partners with the Service in historic preservation.

Base Program: This subactivity includes: the directorate level positions of the Associate Director for Cultural Programs and Assistant Regional Directors for Cultural Programs for the eight Regional Offices and their immediate support staffs.

Those in directorate-level positions are responsible for planning, developing and managing all operational historic preservation and related cultural and grant programs and adjusting these programs to meet Congressionally mandated objectives. These personnel represent the Service in contacts with the Congress, Departmental officials, other Federal Agencies, State and local agencies, non-government organizations and the public. Organizationally, the major components of the subactivity are:

(Dollar amounts in Thousands)

		FY 1981 Available	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Office of the Associate Director for Cultural Programs	$	223	226	84	-142
	(FTP)	(4)	(4)	(2)	(-2)
Offices of the Assistant Regional Directors for Cultural Programs	$	481	497	459	-38
	(FTP)	(15)	(15)	(14)	(-1)
Totals	$	704	723	543	-180
	(FTP)	(19)	(19)	(16)	(-3)

Office of the Associate Director for Cultural Programs. This office includes one professional position and one secretarial position. The Associate Director makes decisions on program objectives, management organizational structure, budget proposals, legislative proposals, and he/she interviews and selects personnel for division level positions. The Associate Director exercises line supervision over the Washington programmatic divisions for cultural programs and provides historic preservation and cultural program recommendations to the Director and Deputy Director.

Offices of the Assistant Regional Directors for Cultural Programs. The eight Regional Offices each have one professional and secretarial support staff. They are responsible for accomplishing the objectives and implementing the cultural policies promulgated by the Director and Deputy Director. These officials participate in the process of planning national direction for Service programs and are responsible for developing annual work programs for cultural programs within their region and achieving the desired results through wise use of funds and personnel resources. These officials are nearest to the operational action and are in the best position to determine how resources will be used to obtain the expected program results. They have considerable latitude in determining the managerial techniques that will work best to get the job done.

Decrease for 1982:	1982 Base	1982 Estimate	Decrease
$	723	543	-180
(FTP)	(19)	(16)	(-3)

A general reduction in an attempt to counter the impact of the decrease in total authorized employment and increases in the cost of goods and services on the bureau's programs.

Justification of Program and Performance

Activity: Common Program Services
Subactivity: Administration

(Dollar Amounts in Thousands)

		1981 Currently Available	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Administrative Services	$	3,072	3,339	3,491	+152
	(FTP)	(90)	(90)	(88)	(-2)
Related Support Services	$	3,135	4,096	4,646	+550
	(FTP)	(0)	(0)	(0)	(--)
Total Requirements	$	6,207	7,435	8,137	+702
	(FTP)	(90)	(90)	(88)	(-2)

Administrative Services

Authorization: 16 U.S.C. 460L-460L-3, 461-467, 470; Land and Water Conservation Fund Act, as amended, 16 U.S.C. 460; Title X of the National Parks and Recreation Act of 1978, P.L. 95-625; Historic Preservation Act of 1966 as amended, 16 U.S.C. 470; and Title X of Public Law 95-625.

Objectives: To provide the full array of administrative support needed to enable the Service to effectively carry out its program responsibilites; to ensure that the Service's business is conducted in compliance with the broad framework of laws, regulations, and policies governing its action; to improve the overall effectiveness of Service management, and its subsequent evaluation, by coordinating the development and implementation of standardized manual and automated administrative practices as well as programmatic operating procedures; and to provide the Service's managers with improved techniques for evaluating their resource allocations (personnel, equipment, and facilities) in terms of workload forecasting, performance measurement and achievements realized.

Base Program: This subac ivity includes: the directorate-level position of the Associate Director for Ac inistration, Administrative Officers of the seven Regional Offices and the laska Area Office, and their immediate support staffs. The functions of ersonnel Management, Contract Services, Management Services, Budget, Account g, Data Processing, Program Analysis, Technical Publications and the Word rocessing Center report to the Associate Director. These offices provide administrative support services for the program and grant managers of the Service.

The Associate Director is responsible for planning, developing and managing all operational administrative programs and adjusting these programs to meet Congressionally mandated objectives. He/she represents the Service in contacts with the Congress, Departmental officials, other Federal Agencies, State and local agencies, non-government organizations and the public. Organizationally, the major components of the subactivity are:

For Fiscal Year 1982:

(Dollar amounts in Thousands)

		1982 Base	1982 Estimate	Change
Office of the Associate Director for Administration	$	96	80	-16
	(FTP)	(2)	(2)	(--)
Offices of the Regional Administrative Officers	$	571	685	+114
	(FTP)	(20)	(16)	(-4)
Personnel Management	$	478	477	-1
	(FTP)	(16)	(16)	(--)
Contract Services	$	115	108	-7
	(FTP)	(3)	(3)	(--)
Management Services	$	250	209	-41
	(FTP)	(9)	(8)	(-1)
Budget	$	113	140	+27
	(FTP)	(3)	(4)	(+1)
Accounting	$	440	620	+180
	(FTP)	(17)	(18)	(+1)
Data Processing	$	635	605	-20
	(FTP)	(9)	(10)	(+1)
Program Analysis	$	242	164	-78
	(FTP)	(4)	(4)	(--)
Word Processing Center	$	126	123	-3
	(FTP)	(2)	(2)	(--)
Technical Publications	$	273	280	+7
	(FTP)	(5)	(5)	(--)
Totals	$	3,339	3,491	+152
	(FTP)	(90)	(88)	(-2)

Office of the Associate Director. This office includes one professional position and one secretarial position. The Associate Director makes decisions on administrative program objectives, management organizational structure, budget proposals, legislative proposals, and he/she interviews and selects personnel for division level positions. He/she exercises line supervision over the Washington administrative divisions and provides administrative policy guidance to the Regional Administrative Officers through the Director and Regional Director.

Offices of the Regional Administrative Officers. The eight Regional Offices each have one professional and immediate support staff. The Administrative Officers are responsible for accomplishing the objectives and implementing the policies promulgated by the Associate Director for Administration through the proper chain of command. They provide a full range of administrative and management services to the regional or area office. Major short-term objectives during the budget year will be to provide administrative assistance to supervisors, managers and staff for employee appraisal; merit pay; equal employment opportunity; Resource Allocation and Management (RAM) system; contracting; classification; personnel actions; space management; facilities management; administrative printing; and liaison with the public. Each Administrative Office is staffed with a generalist to eliminate the need for specialists in each of the administrative areas. The Administrative Officers participate in the process of planning national direction for Service administrative programs. They are responsible for developing annual administrative work programs for the region and for achieving the desired results through effective use of funds and personnel resources. These officers are nearest to the operational action and are in the best position to determine how resources will be used to assure a well structured and efficiently run Region. They have considerable latitude in determining the managerial techniques that will work best to get the job done.

The Personnel Management function is responsible for providing and maintaining a comprehensive servicewide personnel management program designed to support the accomplishment of Service programs consistent with applicable laws and regulations promulgated by the Congress, Office of Personnel Management, Office of Management and Budget, and the Department of Interior. The function provides overall personnel planning, coordination, direction, and administration for the personnel management program. Major accomplishments during FY 81 included implementation of the Civil Service Reform Act, development of a new employee appraisal system, accomplishment of Regional personnel management evaluations, implementation of a major reorganization which included the regionalization of the historic preservation activity, assumption of delegated examining authorities, and the implementation of a Servicewide Position Control System. The major budget year activities will include the implementation of the employee appraisal system, review of Regional Office organizational structures, providing technical assistance to the Regional Offices, and the accomplishment of on-going personnel activities.

The Contract Services function provides servicewide guidance for all procurement related activites; provides acquisition support for all Washington offices; provides contracting support for regional and area offices; and provides procurement support to the Interagency Archeological Services on high cost and complex projects. The function provides overall acquisition planning, coordination, direction, and administration for the national programs of the Service. Functions performed include oversight of all procurement related

activities in the Service. This includes setting realistic goals for such socio-economic contracting programs as: small and disadvantaged business, labor surplus area set-asides, and women-owned businesses. In addition, the function provides input to the Department of Interior Procurement Data System and provides procurement analysis and acquistion strategy perspective with emphasis on assistance to progam managers. Major accomplishments during FY 81 included meeting all socio-economic goals, development of operating procedures designed to facilitate the efficient handling of the procurement activity, and processed contracts in support of the Service's program missions. Major budget year activities will include providing technical guidance to all program managers to ensure that contracting activities fully support program accomplishments and are consistent with all appropriate laws and regulations, including the monitoring of existing contracts and awarding new contracts; providing assistance to staff personnel involved with the Interagency Archeological Service's activity; and assistance in the accomplishment of all socio-economic procurement activities; the implementation of the new contracting warrant system.

The Management Services function plans and directs a comprehensive Servicewide program for general administrative management functions. The function provides coordinated managerial direction for activities concerned with office space, property, safety, and communications services. It is responsible for all elements of the paperwork management program which include directives, forms, reports, correspondence, records maintenance and disposition, mail and related services. The function provides servicewide administrative program management to ensure compliance with Department of Interior, General Services Administration, Office of Management and Budget and other regulations. Policies, procedures and guidelines are established and prescribed through the Service's directives program. Major accomplishments during FY 81 included the implementation of a new records management and disposition program, development of a new directives system, and the issuance of several operating procedures designed to increase the effectiveness of on-going activities. Major budget year initiatives will include the implementation of a personal property data system to ensure accountability for government-owned property, realignment of space to reflect the regionalization of the historic preservation activity and the accomplishment of on-going program support activities.

The Budget function includes all phases of budget formulation and execution. This includes preparation of planning allowance materials for the Department of Interior, zero based budget materials for transmission to the Office of Management and Budget, budget appendix materials for inclusion in the President's fiscal year budget document to the Congress and Congressional Justification materials. The budget function provides services to program managers in the preparation of a variety of special materials in response to requests from the Department of Interior, Office of Management and Budget, the General Accounting Office, the Treasury Department and the Congress. Major budget year activities will be the completion of computer models for budget formulation that provide budget information as a result of program initiative forecasting and experienced escalations of fixed costs.

The Accounting function provides all funds management for the Salaries and Expenses, Land and Water Conservation Fund, Urban Park and Recreation Recovery Fund and Historic Preservation Fund appropriations. Fund control is performed to prevent overobligation at a fund level. Services include: (a) regular financial

reports to the Treasury Department and the Office of Management and Budget; (b) financial status reports to Service management and program managers; (c) processing large volumes of accounting transactions for the grant programs administered by HCRS including: L&WCF grants to States (FY 1982 estimates: obligations $162,635,000; outlays $313,600,000), UPARR grants to cities and other units of local government (FY 1982 estimates: obligations $120,600,000; outlays $54,000,000) and HPF grants to States (FY 1982 estimaes: obligations $30,871,000; outlays $39,300,000); (d) processing payroll payments to employees for personnel services rendered and maintenance of leave balances; and (e) performing general accounting procedures in a responsive and legal manner. The major budget year initiatives will be continued development and testing of a fully integrated fund, cost and grant accounting system that the General Accounting Office can approve. The system is planned to take advantage of the state-of-the art in minicomputers and micro processors coupled with large existing departmental background processors and will result in a more responsive, accurate and accountable system of financial management.

The Data Processing function consists of planning, designing, developing and implementing the HCRS Advanced Information System [AIS]. AIS is a state-of-the-art computer based information system serving the Washington headquarters, seven regional offices and the Alaska Area Office. AIS is changing the way the Service conducts its business through the use of systems and automation so that the Service does not rely on peoples' memories for what should be done, how it should be done, when it should be done, what is being done or what was done in the past. The primary goal is to make the Service's most important asset, its information, available in a cost-effective manner to a wide group of people in a responsive enough time frame for the information to be useful in decisionmaking while permitting the streamlining of internal processes to reduce costs and improve control. AIS services are primarily online, interactive computer facilities for collecting, editing, maintaining and reporting data important to the basic functioning of the Service and forms an information resource base to feed the control and planning functions. The data processing function assists program and administrative managers in the development and maintenance of accounting and inventory systems for all phases of recreation, natural and cultural programs, projects and grants using Salaries and Expenses, the Land and Water Conservation Fund, the Urban Park and Recreation Recovery Fund and the Historic Preservation Fund. For the National Register of Historic Places, AIS provides ADP services for nominations, determinations of eligibility, preservation tax act applications, grants and rehabilitation certification. The National Register is now being automated to provide both online and deferred inquiring in support of management, environmental impact statement review, and early coordination of governmental activities concerning cultural sites and general reserch functions. During Fiscal Year 1980 the functional analysis for the National Register of Historic Places was completed and many of the new management procedures to streamline the nomination process were implemented. In Fiscal Year 1981 the Service will be completing the ADP design and will commence implementation of the automated National Register and associated functions. Similar prototype projects will be completed in support of Service management processes; fund, grant and cost accounting; grant management for each of the three grant funds; and Federal Lands Planning. In Fiscal Year 1982 Phase II of AIS will commence. As funding is authorized, Phase II will lead to complete automation of the Regional Offices with online communication links available to State and local governments.

The Program Analysis function focuses continued attention to the elimination of waste and abuse in the way resources are used and program services delivered through programmatic, adminstrative and management improvements integrated with available ADP and office automation capabilities. The objectives of such focus are (1) to decrease admintistrative paper requirements; (2) to increase productivity while accomplishing dollar and personnel savings; (3) to improve the quality and accuracy of the program information base; and (5) to integrate policy planning, control and the day-to-day operating functions to assure that all three are carried out in a legal and ethical manner. These objectives are carried out under the umbrella of the strategic plan for the Service's information systems, the Advanced Information System [AIS], and through special studies to research, upon request, any functional area of the Service. Program Analysis is also responsible for coordinating and responding to the varied and frequent administrative and executive reporting requirements from outside the agency which require an agency-wide perspective and access to a large information base. In the budget year this office will carry out these responsibilities and objectives through:

- o analysis of work plans vs. performance to identify and reward managers who demonstrate cost-effective use of personnel and dollars;

- o analysis in at least four program areas to identify wasteful management practices including inefficient use of travel funds, contracts or personnel and develop a managment plan to correct identified deficiencies and inefficiencies; and

- o work with four of the eight Regional/Area Offices toward more effective management and administration through faster and more accurate communications to increase productivity and through extending the shared information base to achieve increased consistency and more timely managment review processes.

The Word Processing Center functions as a central unit in order to take advantage of the efficiencies and power ofmodern word processing equipment while providing cost avoidance savings to program, management and administrative offices within Washington. During the budget year the first steps will be taken to expand this service to include all the regional offices with communication capability in order to greatly improve the exchange of written correspondence and further reduce the clerical personnel required within the agency in partial compensation for personnel reductions that have been experienced.

The Technical Publications function provides graphic, editorial, photographic and publishing production assistance for the estimated 250 publications to be included in the Service's Fiscal Year 1982 Publishing Plan. Work submitted is reviewed for conformance to established quidelines and standards and to ensure consistency and quality control. All publication jobs are monitored and workshops are conducted to educate the Service programs in publications matters. The function additionally serves to respond to inquiries concerning publications and distributes a portion of the printed materials. The publishing program of the Service develops directly from the research, evaluation, studies, and recommendations made by the programs within the agency, each of which is guided by its own legislation. The publication function's goal is to present the results of the Service's efforts to the general public, Federal agencies, and State and local governments through visually pleasing, readable, consistent and cost-effective publications and other communication devices.

Related Support Services

Authorization: 16 U.S.C. 460L-460L-3, 461-467, 470; Land and Water Conservation Fund Act, as amended, 16 U.S.C. 460; Title X of the National Parks and Recreation Act of 1978, P.L. 95-625; Historic Preservation Act of 1966 as amended, 16 U.S.C. 470; and Title X of Public Law 95-625.

Objectives: To provide an efficient and accurate accounting mechanism for handling payment of those services applicable to the entire Service, which cannot be easily assigned directly to a program area or function and to assess the programs and functions equitably, based on their annual usage of these services or determined "fair share" of the costs.

Base Program: This is a redistribution account to handle payments for the items listed in the following cost estimate table:

(Dollar amounts in thousands)

RAM Work Element	Related Support Service Item	FY 1982 Base	1982 Estimate	+ or - Change
LT	Local Telephone Service	80	202	+122
FT	FTS	213	309	+96
SP	Office Space Costs - GSA	2,211	2,211	--
PS	USPS Postage	210	315	+105
AM	Space Alterations and Moves - GSA	40	44	+4
PN	PCS Moves -normal	225	260	+35
WC	Departmental Working Fund	115	102	-13
HS	Health Services - HEW	14	37	+23
EC	Employee Compensation Payments Department of Labor	55	55	--
PR	Payroll Services - Bureau of Mines	30	50	+20
AP	Administrative Printing	20	46	+26
GS	General Supplies	52	55	+3
ER	Equipment Rental	125	94	-31
FM	Equipment Maintenance	18	7	-11
FI	Federal Information Locator Assessment	0	3	+3
xx	Federal Information Center	26	0	-26
AW	Awards Overhead Costs	0	9	+9
EC	EEO Complaint Processing Costs	0	40	+40
TC	Telecommunications	0	60	+60
DT	Details and Training	60	60	--
GD	Guard Service - Pension Building	27	37	+10
DI - DR	Regional Offices Distributive Expenses	575	650	+75
	Total	4,096	4,646	+550

Increase for 1982:	1982 Base	1982 Estimate	Increase
$	3,339	3,491	+152
(FTP)	(90)	(88)	(-2)

Office of the Associate Director for Administration is decreased $16,000 due to a general reduction in an attempt to counter the impact of the decrease in total authorized employment and increases in the cost of goods and services on the bureau's programs.

Offices of the Regional Administrative Officers are increased $114,000 due to price increases in goods and services used by these eight offices and due to an appraisal of resource requirements of the regional administrative offices based on FY 81 cost accounting data.

Office of Personnel and Management (personnel, contracts and management services) is decreased a net $49,000 and 1 FTP due to a general reduction in an attempt to counter the impact of the decrease in total authorized employment and increases in the cost of goods and services on the bureau's programs.

Office of Budget and Finance (budget and accounting) is increased in personnel to provide improved budget formulation during this period of rapidly changing baselines and to develop a GAO approved accounting system. The Accounting position is required to operate the newly developed Resource Allocation and Management system [RAM]. RAM is tne first subsystem of a three-subsystem GAO approved accounting system. RAM provides, for the first time, detailed cost accounting data at a programmatic level of detail by cost centers. RAM enables program managers to effectively manage their resources and ensures accurate execution of the budget as approved by the Congress. The funds increase of $207,000 is due to an appraisal of resource requirements of the two branches based on FY 81 cost accounting data, projections due to the increase in positions and $100,000 dedicated towards FY 1982 development of the GAO approved accounting system.

Office of Systems Management (data processing, program analysis and word processing) is decreased $98,000 while the number of positions is increased by one. This is possible through a decline in the use of contractors for the development of information systems, a transfer of the telecommunications costs from the Administration line item to Related Support Services ($60,000), and acquisition of government owned word processing equipment as a result of accrued purchase credits from rental. The increase in positions is due to the increased maintenance responsibility for information systems and data security/privacy requirements.

Technical Publications increase of $7,000 due to an increase in the price for goods and services used by the office.

Increase for 1982:	1982 Base	1982 Estimate	Increase
$	4,096	4,646	+550
(FTP)	(0)	(0)	(--)

Local Telephone Service increased due to rate increases, additional phone company charges due to lack of Federal Office Center support for Regional Offices and a shift to central billing for all phone service.

FTS increases due to rate increases by GSA.

USPS increases due to rate increases by the Postal Service.

Space Alterations and Moves increases due to rate increases in labor charges.

PCS Moves increases due to rate increases for real estate costs, travel costs and transportation costs for household goods.

Departmental Working Capital Fund reductions due to renegotiated rates.

Health Services increases due to rate increases by HEW.

Payroll Service increases due to a department directed shift in payroll services from Bureau of Mines to Water and Power Resource Service.

Administrative Printing increases due to rate increases in departmental and GPO rates.

General Supplies increase of $3,000 is an actual decrease in goods purchased due to a greater than $3,000 increase in GSA prices.

Equipment Rental decrease due to transfer of some existing equipment from rental to owned where rental credits made it more cost-effective to purchase. Additional decrease due to deferral of new equipment acquisition.

Equipment Maintenance decrease due to decrease in equipment inventory.

Federal Information Locator Assessment increase for the OMB information system.

Federal Information Center decrease due to termination of assessment.

Awards Overhead Cost increase due to a new account that will consolidate award processing and reduce total costs.

EEO Complaint Processing Costs a new account that allows for the processing of 4 complaints at $10,000 each (based on estimated cost data). This fund will be used to transfer funds to a program that has an EEO complaint so that that program does not suffer a program reduction due to an unexpected loss of funds.

Telecommunications a new account transferred from data processing under the Administration line item to permit greater control over a well-defined area of cost. As a result of this control in FY 81, service was shifted from the phone company to a commercial value-added network at a 40% savings in annual costs as projected into FY 1982.

Guard Service increase due to an increase in contract service rates.

Regional Office Distributive Expenses increase in the eight regional offices due to increases in the price of goods and services at the regional level as a result of public service function rate increases, contract cost increases, and GSA price increases.

FY 1982
Consulting Services
Heritage Conservation and Recreation Service

(dollars in thousands)

Appropriation: Salaries and Expenses

Subactivity/Program	Amount	Description of Need
MAINTENANCE OF THE NATIONAL REGISTER		
Identification and Designation of National Historic Landmarks	$94	The 1980 amendments to the National Historic Preservation Act direct that boundaries be established for National Historic Landmark (NHL) districts for which no boundaries currently exist. The funds will be used to obtain, through contract or purchase order, the services of historians, architectural historians, and archeologists who will perform research and site visits necessary to assist in defining boundaries for these NHL districts.
TECHNICAL PRESERVATION SERVICES		
Preparation of Technical Preservation Information	$7.5	Funding is required for approximately 7 small contracts (ranging in value from $100 to $1000) for services such as: technical critiques of draft publications; professional consultations from architects, engineers, or scientists; and small research and writing projects. These contracts are necessary to prepare mandated state-of-the-art technical preservation publications and must utilize the services and expertise of outside experts to accomplish program objectives in a timely, cost effective, and professional manner.

Appropriation: Salaries and Expenses

Subactivity/Program	Amount	Description of Need
TECHNICAL PRESERVATION SERVICES		
Certification of Commercial Rehabilitation	$5	Funding is required for about 10 small contracts (ranging from $100 to $300) for services such as: technical comments on draft publications; professional consultations from architects, engineers, lawyers, or economists; and to undertake small research or writing projects. These contracts are necessary to expand staff capabilities in the topic areas of building rehabilitation, economics, and legal issues of preservation. These tasks cannot be accomplished within current staff capabilities.

Appropriation: Urban Park and Recreation Fund

Subactivity/Program		
ADMINISTRATIVE EXPENSES	$10	This funding is needed to contract for the services of an outside adviser experienced in various aspects of local planning. This consultant would assist in evaluation of current planning programs in HCRS Washington and regional offices and in preparation of reports and recommendations to agency management for improvement of assistance to local governments in recreation planning programs in HCRS Washington and regional offices and in preparation of reports and recommendations to agency management for improvement of assistance to local governments in recreation planning programs required by the UPARR Act and regulations.

Appropriation: Historic Preservation Fund

Subactivity/Program	Amount	Description of Need
ADMINISTRATIVE EXPENSES	$10	Funding is required to cover the annual operating cost of the National Historic Preservation Advisory Committee The purpose of this committee and its subcommittees is to advise the Secretary, through the Director of HCRS, on policies and procedures developed for and administered by the historic preservation programs. The entire committee meets at least once a year and additional committee or subcommittee meetings are scheduled at the request of committee or subcommittee chairpersons or the Federal Representative.

Appropriation: Land and Water Conservation Fund

Subactivity/Program		
ADMINISTRATIVE EXPENSES		
Assistance to States	$30	Funding is requirequied to obtain consulting services for assistance in the development of factors and methods to better measure funding demand. Refinement of program funding backlog measurements and long range funding demand indicators are essential to future program planning.
	$15	Funding is required for consulting services to assist in the preparation of written and audio-visual training materials to train State and regional personnel on program requirements and procedures. As States assume more responsibility for program administration there is a need for standard training materials that can be used by regional staff in their grants technical assistance function.

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE

ADMINISTRATIVE PROVISION

None of the funds appropriated to the Heritage Conservation and Recreation Service may be used to process any grant or contract documents which do not include the text of 18 U.S.C. 1913: Provided, That none of the funds appropriated to the Heritage Conservation and Recreation Service may be used to add industrial facilities to the list of National Historic Landmarks without the consent of the owner. (Public Law 96-514, making appropriations for the Department of the Interior and related agencies, 1981.)

STANDARD FORM 306
July 1968, Bureau of the Budget
Circular No. A-11, Revised.
306-103

DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE
CONSOLIDATED SCHEDULE OF PERMANENT
POSITIONS PAID FROM FUNDS AVAILABLE TO
THE HERITAGE CONSERVATION AND RECREATION SERVICE
DETAIL OF PERMANENT POSITIONS

	1980 actual	1981 estimate	1982 estimate
ES-6	1	1	1
ES-5	-	1	1
ES-4	2	3	3
ES-3	4	5	6
ES-2	2	2	1
ES-1	2	-	-
Subtotal	11	12	12
GS-16	1	-	-
GS/GM-15	25	25	25
GS/GM-14	45	45	45
GS/GM-13	85	85	85
GS-12	109	95	95
GS-11	106	99	99
GS-9	54	49	49
GS-8	8	8	8
GS-7	60	55	55
GS-6	43	42	42
GS-5	48	46	46
GS-4	12	12	12
GS-3	7	7	7
GS-2	2	2	2
Subtotal	605	570	570
Total permafent positions	616	582	582
Unfilled positions, end of year	-53	-47	-47
Total permanent employment, end of year	563	535	535
(Mono cast: 16.8)	(Mono cast: 4.9)	(Mono cast: 4.9)	(Mono cast: 4

HCRS-298

GPO : 1969 O - 353-453

DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

FISCAL YEAR 1982 BUDGET JUSTIFICATIONS

Table of Contents

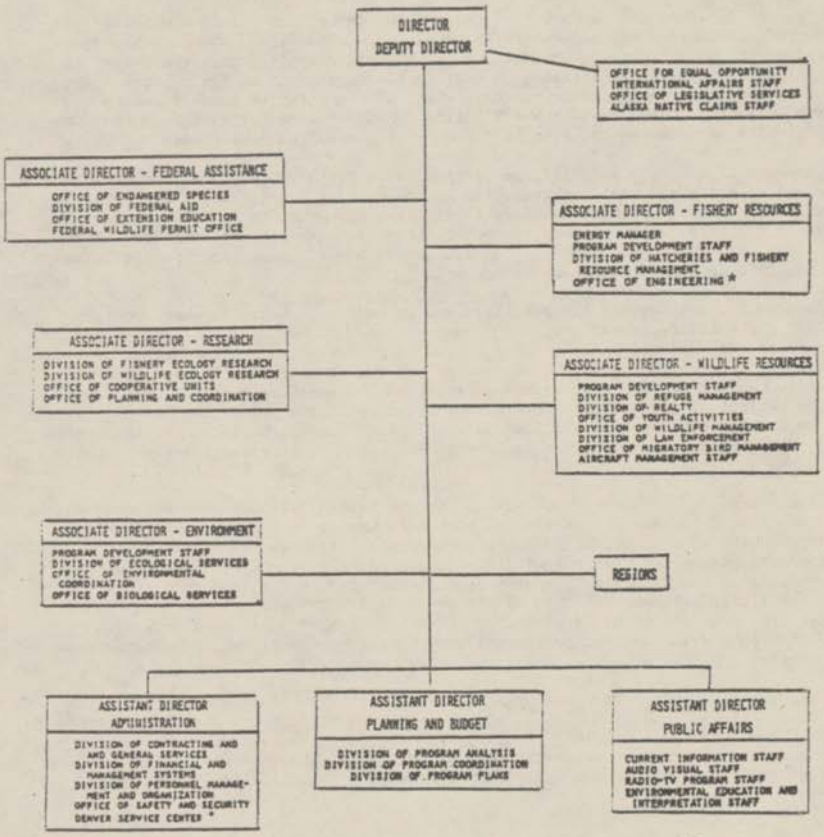
Item	Page Number
Organization chart	FWS-1
General statement	2
Appropriation: Resource Management	
Appropriation language statement	6
Appropriation summary statement	7
Summary of requirements	10
Justification of adjustments to base and built-in changes	12
Justification of program and performance by activity:	
Habitat Preservation:	
Environmental contaminant evaluation	13
Land and water resources development planning	24
Biological services	36
Cooperative research units	61
Wildlife Resources:	
Migratory bird program	65
Mammals and non-migratory birds	106
Animal damage control	124
Interpretation and recreation	128
Fishery Resources:	
Fishery research	135
Fishery assistance	142
Fish hatcheries	154
Fishery law enforcement	163
Endangered Species	165
Administration:	
Executive direction	176
Common program services (non-add)	180
Summary of requirements by object class	188
Detailed schedules	189
Appropriation: Construction and Anadromous Fish	
Appropriation language statement	194
Justification of changes	195
Summary of requirements	196
Justification of program and performance by activity:	
Construction and Rehabilitation:	
National wildlife refuges	197
Research facilities	226
Anadromous Fish	262
Detailed schedules	272

	Page Number
Appropriation: Migratory Bird Conservation Account	
Appropriation language statement	FWS-275
Appropriation summary statement	276
Summary of requirements	277
Justification of program and performance	278
Summary of requirement by object class	283
Detailed schedules	284
Appropriation: Development and Operation of Recreation Facilities	
Appropriation summary statement	287
Detailed schedules	288
Appropriation: National Wildlife Refuge Fund	
Appropriation summary statement	292
Justification of program and performance	293
Detailed schedules	296
Miscellaneous Permanent Appropriations	
Federal Aid in Fish Restoration and Management	300
Federal Aid in Wildlife Restoration	306
Proceeds from Sales	311
Detailed schedules	313
Contributed Funds	317
Detailed schedules	319
Administrative Provisions	322
Detail of Permanent Positions	326
Field Station Listing	PAGE 1

Exhibit 2

ORGANIZATION

U.S. FISH AND WILDLIFE SERVICE



* DETACHED OFFICES LOCATED IN DENVER, COLORADO

Exhibit 3

General Statement

The year 1871 marked the beginning of Federal involvement in fish and wildlife conservation with the establishment of the Bureau of Fisheries, which early on was placed in the Department of Commerce. A second predecessor agency--the Bureau of Biological Survey--was established in 1885 in the Department of Agriculture. The two bureaus were transferred to the Department of the Interior in 1939 and then consolidated into the U.S. Fish and Wildlife Service. Laws pertaining to the Fish and Wildlife Service are codified in Title 16 of the United States Code.

The mission of the Fish and Wildlife Service is to conserve, protect, and enhance fish and wildlife and their habitats for the continuing benefit of people. The Service is concerned with the welfare of all fish and wildlife and the preservation of their habitats, with principal responsibility and authority for migratory birds, threatened and endangered species, certain marine mammals, international resources, and wildlife on lands under Service control.

Traditionally, the Service has been involved in such core activities as research on fish and wildlife, development and management of the National Wildlife Refuge System and the National Fish Hatchery System, migratory bird management, endangered species protection, law enforcement, and animal damage control. As the field of wildlife management has grown more sophisticated and expanded into an appreciation of the ecological factors that determine fish and wildlife production, as manifested by the passage of a host of new Federal authorities during the decade of the seventies, the mission of the Service has responded beyond the core activities to reflect these new mandates.

A prime example of this broadened mission is the habitat preservation program, which advises other governmental and private bodies on how to conduct economic development while reducing adverse effects on habitat and, thus, fish and wildlife. This approach to conserving fish and wildlife resources is more subtle and not as direct and visible as the traditional approach of producing more fish and wildlife at Service facilities. The combination of the two provides the most effective national program for fish and wildlife resource protection, enhancement, and conservation. This program was initiated simultaneously with increased budgetary support for core activities.

The Service is composed today of a headquarters office in Washington, D.C.; seven regional offices, including Alaska, and a variety of field units and installations. These include national wildlife refuges, fish and wildlife research stations and laboratories, cooperative research units at universities across the country; national fish hatcheries; and a nationwide network of wildlife law enforcement agents.

The following summary provides a comparison between FY 1981 appropriations enacted to date and the FY 1982 request:

Appropriation	1981 Appropriation	1982 Estimate	Inc (+) or Dec (-)	Perm Emp 12/31
Resource management ..... $	225,566	264,057	38,491	
(FTP)	(4,330)	(4,415)	(85)	4,020
Construction and anadromous fish ..... $	37,897	30,034	-7,863	
(FTP)	(134)	(134)	—	127
Migratory bird conservation account (Advance) ..... $	1,250	...	-1,250	
(FTP)	—	—	—	—
National wildlife refuge fund ..... $	8,500	—	-8,500	
(FTP)	—	—	—	—
Subtotal, appropriations requested.. $	273,213	294,091	20,878	
(FTP)	(4,464)	(4,549)	(85)	4,147
Permanents and trusts ..... $	148,085	169,313	21,228	
(FTP)	(279)	(279)	—	110
All other FTP ..... (FTP)	(607)	(607)	—	660
Total ..... $	421,298	463,404	42,106	
(FTP)	(5,350)	(5,435)	(85)	4,917

Highlights of 1982 Request

The changes between the 1981 program and the requested 1982 program are highlighted by appropriation below. These proposals will increase operation and maintenance of Service facilities, including national wildlife refuges, fish hatcheries assistance stations and research facilities; facilitate energy development through increased environmental analysis; expand law enforcement activities impacting fish and wildlife resources; implement the provisions of the Alaska National Interest Lands Conservation Act pertaining to fish and wildlife resources; continue rehabilitation of National Wildlife Refuge System facilities; and survey, meter and retrofit Service buildings to provide for energy conservation.

Alaska National Interest Lands Conservation Act

As a result of the recently enacted Alaska National Interest Land Conservation Act, the Service will assume increased responsibilities in the administration and maintenance of fish and wildlife resources in Alaska. The Act provides for the designation and conservation of certain public lands in Alaska, establishing nine new and expanding seven national wildlife refuges totaling seventy-six million acres. The focus of management of these units is continuance of all natural and cultural values, with particular emphasis on fish and wildlife and their habitats. In addition, traditional (recreational use) as well as other authorized uses (energy and mining interests, fishing and hunting guides, and commercial fishermen) of these lands and resources, including the important issue of subsistence use, must be accommodated in a manner that perpetuates the habitat and the resources it supports. Several factors and difficulties unique to Alaska become important in determining Service management objectives and strategies for these new units of the refuge system including:

— Reliance of native populations and cultural lifestyle of rural Alaskans on subsistence use of fish and wildlife and other products of the land;

— Remoteness of most refuges, their immense size and resultant transportation difficulties;

-- Development of legislated comprehensive management plans, identifying population and habitat requirements of existing wildlife resources and defining actions required to provide compatible uses of resources while maintaining viability of ecosystems;

-- Diversity and fragility of Alaska pristine ecosystems; and

-- Legislative mandate to assure that adjacent habitat is managed in concert with refuge habitat.

Consequently, administration of these sixteen refuges will require a mixture of management expertise not common to the management of refuges in the lower forty-eight States.

The Service also will encourage State administration of the statutory requirement that subsistence uses of renewable resources on public lands have preference over all other uses. Financial support for the State programs and a cooperative effort to better understand the nature and magnitude of subsistence uses and the impacts of those uses on fish and wildlife populations are the principal approaches used to support the State's initiative. In addition, four studies (Bristol Bay, Arctic National Wildlife Refuge Coastal Plan, Central North Slope and Barren Ground Caribou) are being initiated in response to specific provisions of the Act to better understand the relationships between important fish and wildlife resources and energy and economic development in Alaska.

Supplementary resources are requested for FY 1981 to implement provisions of the Alaska National Interest Lands Conservation Act, including basic management of the sixteen refuges; development of four specific fish and wildlife baseline studies; and reimbursement to the State of Alaska to establish the framework of the priority subsistence use program.

Funding requested in FY 1982 will enable the Service to continue and expand work begun in FY 1981.

Resource Management

The number, complexity, and rate of threats to fish and wildlife habitat are increasing. These threats include: conversion of forest to farmland, expansion of urban and suburban development, increased use of a variety of chemicals in industry and agriculture, development and maintenance of transportation facilities, and more intensive energy extraction efforts. Service efforts have shown that it is possible to carry out national economic development programs in ways that permit the nation to enjoy economic development and growth and retain relatively unchanged fish and wildlife resources at the same time.

In order to further strengthen capabilities to preserve and enhance the quantity and quality of lands and waters that are essential to the well-being of all fish and wildlife resources, the Service will improve its understanding of the extent of the acid rain problem nationwide and develop mitigation tools to address acid rain impacts; increase participation in the Department's coal leasing and Outer Continental Shelf programs; and expand scope of assistance to the Bureau of Land Management in oil shale and tar sands leasing activities.

New and enlarged refuges in Alaska will begin operations. Baseline studies will be initiated to assess the impacts of land use on wildlife resources in Alaska. Increased operations and maintenance will be performed on other existing refuges.

Law enforcement efforts will be expanded to protect fish and wildlife resources, including the walrus and polar bear in Alaska. The Service will protect and quantify Federal reserve water rights to preserve water needed for waterfowl maintenance and production. Increased operations and maintenance will be conducted at fish hatcheries and fishery research and technical assistance field stations. The Service will continue implementation of the Snake River compensation plan to protect anadromous resources from the adverse impacts of water development projects. There will be additional efforts to identify and manage fishery resources on existing wildlife refuge lands in Alaska. The Service will undertake additional actions to aid in the maintenance and recovery of endangered species.

Construction and Anadromous Fish

The appropriation request for FY 1982 will continue the restoration and rehabilitation of the National Wildlife Refuge System as one important means of protecting wildlife resources and increasing opportunities for all Americans to share in the benefits and values that these resources provide. The budget includes funds for the rehabilitation and construction of new facilities such as roads, buildings, water control structures, and public use facilities at thirty national wildlife refuges.

To meet energy conservation goals, the Service will survey, meter and retrofit existing facilities. The tight isolation facility at the National Wildlife Health Laboratory, Madison, Wisconsin, will be constructed and fish production facilities at the Schacte Creek unit of the Iron River National Fish Hatchery, Wisconsin, will be completed. Development of the Gainesville National Research Laboratory, Florida, will continue and the water supply system at the National Fishery Center, Leetown, West Virginia, will be rehabilitated. A dam inspection program on Service lands will be implemented.

The appropriation request for the anadromous fish program will fund the Federal share of forty-five projects in twenty-five States. The final phase of the three-year emergency striped bass study will be performed in FY 1982.

Migratory Bird Conservation Account

The Service will preserve 21,400 acres of wetlands in 1982. No advance from the Wetlands Loan Fund has been requested.

National Wildlife Refuge Fund

No direct appropriation is requested in 1982 for payments in lieu of taxes. The decision not to continue suppplementary appropriations for these payments was made as part of the broader Federal policy to control inflation. However, payments totalling $1,900,000 will be available to counties from refuge receipts from the sale of timber, grazing privileges, oil, gas, minerals and fees.

Permanents and Trusts

Grants-in-aid are made to assist the States, Puerto Rico, Guam, the Virgin Islands and American Samoa in carrying our projects to restore, enhance, and manage sport fishery and wildlife resources and for the conduct of State hunter education programs.

Receipts collected from the sale of products from refuges established as overlay projects on Corps of Engineers land are used to cover expenses of producing the products and for managing wildlife habitat.

74-939 O—80——52

DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

RESOURCE MANAGEMENT

For expenses necessary for scientific and economic studies, conservation, management, investigations, protection, and utilization of sport fishery and wildlife resources, except whales, seals, and sea lions, and for the performance of other authorized functions related to such resources; and maintenance of the herd of long-horned cattle on the Wichita Mountains Wildlife Refuge, /_$225,566,000 _/, of which not to exceed /$4,000,000/ shall remain available until expended: Provided, That funds in this appropriation may be used to issue regulations that will permit modification to the habitat of a threatened or endangered species when the net affect of the modification is equal to, favorable to, and not adverse to the protection of the species.	$264,057,000 $7,500,000

(Public Law 96-514 making appropriations for the Department of the Interior and Related Agencies, 1981)/

Exhibit 5

Appropriation Summary Statement

Appropriation: Resource Management

This is the basic operating appropriation which enables the Service to administer a national program to provide opportunities to the American public to appreciate, conserve, and wisely use fish and wildlife resources.

The major activities financed by this appropriation are:

1. Habitat preservation. Analytical techniques and methodologies are developed and recommendations made to prevent or minimize adverse environmental effects resulting from land and water development projects. To understand ecological relationships, fish and wildlife are monitored to determine the presence and effects of environmental contaminants. Ecological research is conducted at laboratories and training and research are performed at cooperative fishery and wildlife units at State universities.

2. Wildlife resources. To carry out its responsibilities, the Service maintains a wildlife refuge system, directs and coordinates national migratory bird programs and certain aspects of the Marine Mammal Protection Act, enforces Federal game laws, conducts research to improve wildlife management capabilities, and strives to alleviate conflict between man and wildlife when damage results to human enterprises. The Service also administers an interpretation and recreation program to expand public appreciation of fish and wildlife resource values.

3. Fishery resources. The Service assists in the development and management of interstate and international fisheries through operation of a national fish hatchery system, conduct of research and training to improve sport fish productivity, and provision of technical assistance to Indian tribes and to Federal and State agencies in the management of fisheries.

4. Endangered species. To prevent species from becoming extinct and to return them to the point where they are no longer threatened, the Service: (1) identifies and lists species that are endangered or threatened, (2) provides protection from taking, trade, importation and exportation, and adverse alteration of their critical habitat, and (3) implements recovery programs for individual species, including operation of refuges.

The total appropriation requested for FY 1982 is $264,057,000 which includes base adjustments of $14,287,000 and program improvements of $25,654,000. Also reflected is a program reduction of $1,450,000.

Program changes, resulting in a net increase of $24,204,000, are distributed as follows:

Habitat Preservation: ($+2,103,000)

-- Alaska National Interests Lands Conservation Act.
Conduct baseline habitat and population study of Central North Slope to evaluate the impact of oil and gas development on wildlife resources (300,000).

-- Environmental Contaminant Evaluation.
Research to evaluate the vulnerability of fish and wildlife resources outside the Northeast to acid rain, and develop mitigative technologies (456,000).

-- Biological Services (1,347,000).

- Federal Coal Program. Increase participation in the Federal coal leasing program to assure full consideration of fish and wildlife resources (370,000).

- State and Private Coal Programs. Provide early assistance planning to the Office of Surface Mining for the incorporation of wildlife resource information into production and reclamation plans (200,000).

- Oil Shale/Tar Sands. Expand scope of assistance to the Bureau of Land Management in the development of a prototype tar sands and oil shale leasing Program (377,000).

- Instream Flow. Continue development of assessment methods and increase capability to adequately handle technical assistance workload (200,000).

Wildlife Resources ($13,511,000)

-- Alaska National Interests Lands Conservation Act.
Provide for operations and maintenance of nine new and seven expanded refuges totaling seventy-six million acres (4,935,000); Establish subsistence use program on refuges (750,000); Conduct surveys and censuses of subsistence use on public lands (300,000); and assess impacts of land use on wildlife resources on Arctic Coastal Plain refuge (700,000) and Barren Ground Caribou (327,000).

-- New Refuges.
Operations will begin on six new refuges and one addition to an existing refuge in the lower forty-eight States (756,000).

-- Law Enforcement.
Increased emphases on undercover operations involving major illegal commercial traffic in wildlife (1,565,000).

-- Marine Bird Research.
Expand research on marine bird food habitat and assessment of shorebird habitats along Alaska peninsula (278,000).

Remaining program changes in wildlife resources area reflect a net increase of $64,000 affecting water rights (146,000), interpretation and recreation on Alaska refuges (43,000), and recreational facilities (-125,000).

Fishery Resources ($8,753,000)

-- Alaska National Interests Lands Conservation Act.
Increase fishery management on Service lands (938,000); Establish subsistence use program on refuges (150,000); Conduct surveys and censuses of subsistence upon public lands (300,000); Reimbursement up to 50 percent of costs to State of Alaska for administration of subsistence use program (3,500,000); and evaluate the relationship between fishery resources and energy and economic development in Bristol Bay region (800,000).

-- Operations and Maintenance.
Provide improved operational support and increased cyclical maintenance to seven research laboratories (900,000); Increase operational funding and cyclical maintenance for sixty-two fish hatcheries (2,152,000); and enhance fishery management operations at existing fishery assistance stations (206,000).

-- Lower Snake River.
Initiate and expand fish production operations provided by the Lower Snake River Fish and Wildlife Compensation Plan resulting from massive dam-related fishery losses (707,000).

-- Law Enforcement.
Intensify law enforcement against illegal commercial fishery (100,000).

-- Fishery Assistance.
Discontinue fishery assistance provided to Washington State Department of Game for assessment work under the Boldt decision area (-1,000,000).

Endangered Species ($-163,000)

-- Develop recovery plans for thirty species (162,000); Study completed for Yampa River, Colorado (-100,000); and reduce peregrine falcon recovery (-225,000).

Summary of Requirements
(Dollar amounts in thousands)

Appropriation: Resource Management

Page No.	Summary of adjustments to base and built-in changes:	Perm Pos	Amount	Perm Pos	Amount
	Appropriation enacted to date, 1981			4,330	225,566
12	Adjustments to base and built-in changes:				
	Adjustment for 1981 pay increases and related costs.		9,921		
	Annualization of 1981 pay increase		2,466		12,387
	Subtotal, adjustments for 1981 pay increase			4,330	237,953
	Other increases:				
	Employees Compensation Fund		385		
	GSA space cost increases		2,072		
	Other decreases:				
	Legal services transfer		-247		
	International Convention Advisory Comm. transfer		-310		
	Subtotal, adjustments to base and built-in changes				1,900
	1982 base			4,330	239,853

Comparision by activities/ subactivities	1980 Actual		1981 Appropriation Enacted to Date		1982 Base		1982 Estimate		Increase(+) Dec.(-) Over 1982 Base	
	Perm Pos	Amount	Perm Pos	Amount	Perm Pos	Amount	Perm Pos	Amount		
Habitat preservation										
Environmental cont evaluation	159	11,074	159	11,503	159	12,070	159	12,526		456
Land/wtr res dev. planning	317	15,038	317	15,984	317	17,050	319	17,350	+2	300
Biological services	167	14,056	167	16,109	167	16,681	167	18,028		1,347
Cooperative research units	94	4,682	94	4,629	94	4,915	94	4,915		...
Subtotal	737	44,850	737	48,225	737	50,716	739	52,819	+2	2,103
Wildlife resources										
Migratory birds	1,292	56,751	1,307	59,956	1,307	64,665	1,337	73,001	+30	8,336
Mammals & non-migratory birds	320	14,757	325	15,312	325	16,710	356	21,967	+31	5,257
Animal damage control	245	17,347	248	17,438	248	18,200	248	18,200		...
Interpretation & recreation	250	13,016	250	13,527	250	14,295	250	14,213		-82
Subtotal	2,107	101,871	2,130	106,233	2,130	113,870	2,191	127,381	+61	13,511
Fishery resources	814	36,239	826	39,516	826	42,709	844	51,462	+18	8,753
Endangered species	217	21,891	224	24,895	224	25,424	224	25,261		-163
Administration	151	6,498	152	6,697	152	7,134	152	7,134		...
Common program services	261	(21,364)	261	(22,947)	261	(25,552)	265	(25,758)	+4	(206)
Increases									+85	24,204
Total requirements	4,287	211,349	4,330	225,566	4,330	239,853	4,415	264,057		

Justification of Adjustments to Base and Built-in Changes
(Dollar amounts inthousands)

Exhibit 7

Transfers	Amount
Transfer to the Office of the Solicitor appropriation of $247,000 for legal services.	$-247
Transfer to the Office of the Secretary appropriation of $310,000 for the International Convention Advisory Commission	-310
These transfers will specifically decrease funds available to the Fish and Wildlife Service, Resource Management appropriation, by $557,000.	
Total, decrease in estimates	-557

Adjustment for 1981 Pay Increase and Related Costs

Total cost in FY 1981 of pay increase/anticipated FY 1981 pay increase supplemental	9,921
Additional amount in 1982 to provide full-year cost of pay increase	2,466
Total	12,387

The anticipated supplemental in 1981 of $9,921,000 includes $9,028,000 for the general schedule pay increase effective October 1, 1980 and $893,000 for wageboard pay increases granted during 1981.

An additional $2,466,000 is required in 1982 to cover the full-year cost of the 1981 pay supplemental and includes $2,244,000 for the general schedule and $222,000 for the wageboard.

Other Increases

Employees' Compensation Fund	385
Rent payments to GSA (SLUC)	2,072
Anticipated 1981 program supplemental for Alaska National Interest Lands Conservation Act, $6,000,000.	
Total, Other increases	2,457

The increase in the repayment to the Employee's Compensation Fund is the result of higher costs in 1980 than in 1979. The 1980 charges will be reimbursed to the Department of Labor, Employees' Compensation Fund, in 1982 pursuant to PL 86-767.

The GSA conducted a Fair Annual Rental (FAR) appraisal for 1981 which resulted in increases over the 1981 rates. The FAR estimate of $11,865,000 for 1982 rent payments to GSA was subtracted from the 1981 estimate of $9,793,000 for rent payments to GSA for an increase to the Resource Management appropriation of $2,072,000.

Exhibit 8

Justification of Program and Performance

Activity: Habitat Preservation
Subactivity: Environmental Contaminant Evaluation

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted to date	FY 1982 Base	FY 1982 Estimate	Inc.(+) or Dec.(-)
Monitoring	($)	643	675	675	0
	(FTP)	(5)	(5)	(5)	(0)
Field Operations	($)	1,339	1,405	1,405	0
	(FTP)	(17)	(17)	(17)	(0)
Research	($)	9,521	9,990	10,446	+456
	(FTP)	(137)	(137)	(137)	(0)
Common Program Services	($)	(1,229)	(1,282)	(1,286)	(4)
Total Requirements	($)	11,503	12,070	12,526	+456
	(FTP)	(159)	(159)	(159)	(0)

Monitoring

Authorization: 16 U.S.C. 742(a)-754; (Fish and Wildlife Act of 1956). This Act requires the development and distribution of fish and wildlife information and to 1) ". . . take such steps as may be required for the development, advancement, management, conservation, and protection of the fisheries resources;" and 2) ". . . for . . . wildlife resources through research . . . and other means."

7 U.S.C. 136-136(y); (Federal Environmental Pesticide Control Act of 1972). This Act requires Federal agencies, including the Fish and Wildlife Service, to provide data on monitoring and control programs for pesticides.

33 U.S.C. 125-et. seq.; (Federal Water Pollution Control Act). This Act requires Federal agencies, including the Fish and Wildlife Service, to to provide data and information on fish and wildlife research related to the "causes, effects, extent, prevention, reduction and elimination of pollution."

16 U.S.C. 661-667(e); (Fish and Wildlife Coordination Act). This Act requires the Fish and Wildlife Service to review all proposed Federal actions that may affect any stream or other body of water and to provide recommendations to minimize project related impacts on fish and wildlife resources including water pollution impacts on fish and wildlife.

Objectives: To detect and identify unknown pollutants which may adversely affect fish and wildlife or their habitats. To determine and provide information on the trends of contaminant residue levels in selected species over time and geographic location.

Base Program: Monitoring is an important tool for assessing chemical contamination of fish and wildlife resources. The Service's monitoring programs document national trends of contaminant levels in representative selected species of fish and wildlife. Also, this program detects and identifies new chemical contaminants for potential further evaluation to determine their impacts on fish and wildlife.

The Service's monitoring efforts include participation in the National Pesticide Monitoring Program. This Program was initiated in 1964 as a cooperative effort of the Science Advisory Commission and the Federal Working Group on Pest Management. This program was reinforced and received legislative status with the passage of amendments to the Federal Environmental Pesticide Control Act of 1972 and the Toxic Substances Control Act of 1976. The Service contributes by providing information on selected known environmental contaminants in designated species of fish and wildlife. The Service's program addresses two basic questions: 1) what are the geographical differences of contaminant residue levels in representative species of fish and wildlife, and 2) what are the trends over time. Within the National Pesticide Monitoring Program, three complementary monitoring networks are maintained to provide information on representative species of the aquatic and terrestrial ecological food chains.

Freshwater fish network - Approximately 110 predetermined sites are maintained. Samples from one-half of the sites are collected one year and the other half collected the following year. Two bottom-feeding species and one predator species are collected at each site (see Figure 1).

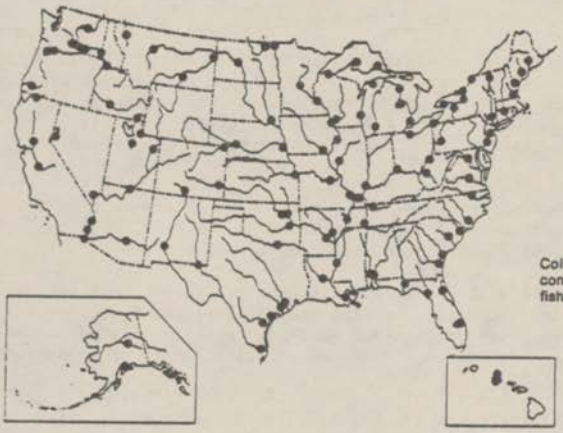


FIGURE 1

Collection localities for monitoring contaminant residues in freshwater fish.

Starling network - Samples are collected every three years at approximately 120 predetermined sites throughout the 48 contiguous States. Starlings are representative of terrestrial feeding bird species (see Figure 2).

Waterfowl network - Waterfowl wings are collected every three years from the 48 contiguous States and Alaska in conjunction with the Waterfowl Parts Survey conducted by the Service. Waterfowl wings represent wetland bird species feeding in aquatic systems.

FIGURE 2

Collection localities for monitoring contaminant residues in starlings.

All samples in the National Pesticide Monitoring Program are analyzed for selected organochlorine pesticides (e.g., DDT and dieldrin) and certain industrial compounds (e.g., PCB's) which are known to have adverse impact on fish and wildlife resources. Fish samples are also analyzed for seven metals (mercury, lead, cadmium, arsenic, selenium, zinc, and copper). In addition, selected samples are analyzed each year to detect other unknown compounds of potential concern to fish and wildlife resources and their habitat (i.e., herbicides, and industrial chemicals). Analysis of these complex compounds requires sophisticated analytical equipment and methods for detection and quantification.

The Service also participates in the Great Lakes International Fish Contaminant Monitoring Program established under the Great Lakes Water Quality Agreement of 1978 between the United States and Canada. Coordinated by the International Joint Commission, the program is performed cooperatively between the Fish and Wildlife Service, Environmental Protection Agency, Environment Canada, and the Ontario Ministry of Natural Resources. The Service conducts yearly monitoring of organic and metal contaminants in fish collected at 12 stations in the Great Lakes and Lake St. Clair. Selected samples are also analyzed to detect unknown compounds of potential concern. This Program is complementary to and enhances the information developed by the National Pesticide Monitoring Program.

Wide regional variation has been observed in the levels of chemical contaminants in both fish and birds. The highest contaminant residue levels are seen in the most heavily populated and industralized areas. Levels of PCB's remain high (25-100 parts per million) in fish and birds in spite of voluntary curtailment in the early 70's and the ban in 1976. The intense use of toxaphene in the 70's has resulted in potentially dangerous residue levels in fish from selected geographical areas of the Southeast and Southwest. Toxaphene is now being identified in fish and wildlife samples through the Nation and are suspected to be approaching global distribution as a result of atmospheric transport. Residue levels of metals in fish also show potential

problem areas; e.g., elevated arsenic levels in the Southern Plains and the Southwest, and selenium in the Northern Great Plains.

An increasing array of previously unidentified contaminants in fish and wildlife resources are being detected by the Service's monitoring programs. For example, more than 300 chemical contaminants have been tentatively identified in lake trout collected from the Great Lakes. Dacthal, a chlorinated herbicide, has recently been detected in fish samples collected from the lower Rio Grande River, Texas. Benzothiozols, industrial chemicals used in the vulcanization of rubber, have been measured in fish from the Raritan River, New Jersey. Some of the contaminants now being identified in fish species (e.g., terpenes, phthalates, dibenzofurans and dioxins) are known to be highly toxic to mammalian species. Because of the highly toxic nature of many of these contaminants, suitable laboratory facilities are currently not available to fully evaluate their impacts on fish and wildlife.

The following workload factor is indicated for Monitoring:

	1980	1981	1982
Fish and Wildlife Monitoring Sites analyzed for contaminants	180	180	180

No increases are requested in this program for FY 82.

Field Operations

Authorization: 16 U.S.C. 742(a)-754; (Fish and Wildlife Act of 1956). See Environmental Contaminant Evaluation monitoring for description of authority.

16 U.S.C. 661-667(e); (Fish and Wildlife Coordination Act). This Act requires the Fish and Wildlife Service to review all proposed Federal actions that may affect any stream or other body of water and to make recommendations. "Recommendations . . . shall be as specific as practicable with respect to features recommended for wildlife conservation and development, lands to be utilized or acquired for such purposes, the results expected, and shall describe the damage to wildlife attributable to the project and the measures proposed for mitigating or compensating for these damages." Other Fish and Wildlife Service authority related to this Act is described under Environmental Contaminant Evaluation - Monitoring.

7 U.S.C. 136-136(y); (Federal Pesticide Control Act of 1972). See Environmental Contaminant Evaluation - Monitoring for description of authority.

33 U.S.C. 125-et. seq.; (Federal Water Pollution Control Act). This Act (as amended) requires Federal agencies, including the Fish and Wildlife Service, to carry out research related to the effects of pollutants. The Act also requires the Service to respond to spills of oil and hazardous substances as part of the National Contingency Plan to minimize environmental damages.

Objectives: To provide for immediate response to sudden changes in pollution levels in the environment which may adversely impact fish and wildlife resources. To conduct field appraisals and investigations of fish and wildlife which may be unnecessary exposed to sources of environmental contamination.

Base Program: The program provides for (1) technical assistance for protection of fish and wildlife resources unnecessarily exposed to environmental contaminants associated with actions of Federal and federally-assisted or licensed land and water development, (2) annual review of chemical pest control operations on Service lands and Service administered Federal aid projects, (3) conservation of fish and wildlife resources in the implementation of other Federal or State pest control operations and contaminant regulatory actions, (4) participation in the National Oil and Hazardous Substance Pollution Contingency Plan to mitigate and restore damages to fish and wildlife resources and their habitats, and (5) field investigations and assessments of known or suspected fish and wildlife dieoffs related to environmental contaminants. The program is carried out by contaminant operational specialists through technical assistance and field contaminant assessments. These activities often times facilitate sound development planning through early involvement and resolution of contaminant impacts on fish and wildlife resources.

In FY 80, 30 field assessments were conducted. In anadromous fish in the Northeast, high copper and other heavy metals have been found. Investigations into the source of these materials have begun. Similarly, populations of anadromous fish of the Gulf Coast are burdened with high residues of industrial and agricultural contaminants. Abandoned mine drainage (e.g., zinc, lead, arsenic, and chronium), oil refinery discharges and discharges from uranium refineries in the Southwest are affecting species under State and Federal jurisdiction. Resources associated with the Upper Mississippi, Lower Ohio Rivers and large agricultural tracts in California are being affected by pesticide and industrial pollutants.

The Arroyo Colorado area, located along the lower reaches of the Rio Grande in Texas, represents valuable habitat for fish and wildlife. The relatively high levels of DDT and toxaphene detected in fish and wildlife continues to be a problem. This area in South Texas is exposed to some of the heaviest pesticide use in the Nation as a result of agriculturally related practices. Information gathered by the Service over the past three years has been summarized and provided to local, State and Federal agencies to pinpoint the source of the problem and to further the development of adequate water quality standards.

The Ocean's coastal areas provide critical habitats for fish and wildlife species. Disposal of dredged spoil containing contaminants (e.g., polychlorinated biphenyls and petroleum hydrocarbons) are of concern in these areas. Information regarding this technical problem has been provided in conjunction with alternative solutions for ocean dumping of contaminated Hudson River dredged materials. Information supplied by the Service is also being used to assist the Environmental Protection Agency and the Corps of Engineers to promulgate ocean dumping rules under the Marine Sanctuary Act.

As a result of an increase in FY 81, approximately 60 field assessments will be conducted in FY 81 and FY 82 to identify and verify contaminant sources affecting high priority fish and wildlife resources. Corrective actions will be recommended as appropriate to protect these resources.

During FY 80, more than 2,100 proposals for pesticide use on Service lands were formally reviewed. Approximately 10% of the reviews resulted in changed pesticide use patterns which are more compatible with fish and wildlife resources.

The Service responded to some 700 oil and hazardous substances spills in FY 1980. This was an increase of approximately 17% over the previous year. The rupture of the Colonial Pipeline releasing aviation fuel and number 2 home heating oil into the Rappahanock River near Fredericksburg, Virginia; the spill of crude oil from the Liberian tanker, Burmah Heate Agate, in Galveston Bay; and the chemical waste seepage and runoff from the Seymour Recycling Plant, Seymour, Indiana exemplify Service spill responses. Service personnel, in participation with other Federal and State agencies, made recommendations and took actions to protect fish and wildlife and their habitat from unnecessary damage. The Service also worked with many local and private groups in efforts to prepare for spills which could potentially occur in sensitive areas subject to increased transportation of oil and hazardous substances. With finalization of revisions to the National Contingency Plan as called for in the Comprehensive Environmental Response Compensation and Liability Act of 1980, this activity is expected to further increase.

The following workload factors are indicated in the Field Operations activity:

	1980	1981	1982
Proposals for pesticide use	2,100	2,100	2,100
Field assessments	30	60	60
Pollution incident responses	700	1,000	1,000
Technical assistance	2,000	2,000	2,000

No increases are requested in this program in FY 82.

Research

Authorization: 16 U.S.C. 742(a)-754; (Fish and Wildlife Act of 1956). See Environmental Contaminant Evaluation - Monitoring for description of authority.

16 U.S.C. 661-667(e); (Fish and Wildlife Coordination Act). See Environmental Contaminant Evaluation - Monitoring for description of authority.

33 U.S.C. 125-et seq.; (Federal Water Pollution Control Act). See Environmental Contaminant Evaluation - Monitoring for description of authority.

Objectives: To identify and provide scientific information on fish and wildlife populations and ecosystems that are adversely affected by environmental contaminants; to evaluate the impact of contaminants on these living resources; and to recommend corrective measures to reduce exposure of fish and wildlife to environmental contaminants.

Base Program: The Service's multidisciplinary research program focuses principally on population ecology in predicting and verifying environmental contaminant factors that affect population size, trends, distribution and habitat use. Attention is also given to physiology and behavior, where the objectives are to predict and verify environmental contaminant impacts on life processes pertinent to survival, reproduction, and behavior in the field. Fish (freshwater and anadromous) and birds (waterfowl, wading birds, shorebirds, and birds of prey) receive the principal focus of the research effort. Mammals, reptiles, amphibians, and invertebrates are also studied to a lesser extent.

Wildlife research efforts are carried out at the Patuxent Wildlife Research Center in Laurel, MD. Four field stations support the research studies at the Patuxent Center by conducting field investigations in selected representative ecosystems. These are: Corvallis, OR; Victoria, TX; Gainesville, FL; and Fort Collins, CO.

Research on fish and other freshwater organisms is conducted at the Columbia National Fisheries Laboratory and the Great Lakes Fishery Laboratory. The principal effort is at Columbia which supports three subsidiary research laboratories at Yankton, SD, Jackson, WY, and Denver, CO. Each facility is situated to conduct research on issues that have a regional orientation and cannot be appropriately addressed at Columbia (e.g., interagency investigations of herbicides used in western irrigation systems; potential toxicological and ecological impacts of industrial contaminants, forest or agricultural practices; and energy development on northern plains and western mountain species). In addition, eight field stations support the research at Columbia: Orono, ME; Athens, GA; Columbus, OH; LaCrosse, WI; Victoria, TX; Yankton, SD; Davis, CA; and Corvallis, OR.

The basic strategy for conducting the research involves 1) identification and prediction of fish and wildlife resources impacted by contaminants; 2) documentation of adverse effects; 3) tracking recovery of populations and 4) maintaining surveillance of populations once recovery has occurred. Application of the Service's research results reduces uncertainties for current and future environmental decisions as well as producing guidance on the best ways to minimize the ecological impact of chemicals presently used or found in the environment. Information transfer activities are assisting the application of these research results by synthesizing the technical information into a form for effective use by the Service's field operational personnel, other Federal agencies, and by the States. Examples of the Service's research contributions include:

- Black ducks experienced abnormal nesting behavior when exposed to chromium in their diets.

- Results of chemical and non-chemical control methods for rangeland grasshopper pests are contributing to the adoption and use of methods which do not pose wildlife hazards.

- Pre-market evaluation of two new replacement products for PCB's indicate a significantly lower impact on aquatic life than PCB's.

- Fish are significantly less susceptible to the wood preservative pentachlorophenol when produced by an alternative production process to reduce the amount of impurities.

- A pesticide which is not toxic to aquatic organisms is being evaluated as a substitute for the control of forest insects.

- Glyphosate, an agricultural herbicide, is less toxic to fish food organisms when suspended sediments are present in the water.

- Salmon species developed eye lense cataracts when exposed to Wyoming crude oil and the hydraulic fluid, triarylphosphate ester.

- o A new screening method using mallard eggs for testing complex unknown chemical mixtures showed that the most toxic unknown mixture studied to date is road-dust control oil.

- o Striped bass fry and fingerlings from three East Coast rivers were found to have weakened backbones. Traces of arsenic, PCB's and other chemicals are implicated as the cause of this condition.

- o Fish collected from areas in the Northeast which are heavily industrialized have a high incidence of neoplastic hepatomas, a form of tumor. The cause of this problem is currently being investigated.

The information noted above is assisting the Service in meeting its mission to conserve, protect and enhance fish and wildlife species and their habitats for the continuing benefit of people. The information is also made available to the Departments of Interior and Agriculture, Environmental Protection Agency, State conservation departments, private conservation groups, the academic community, the industrial community, and the general public for use in resolving resource contaminant issues.

The research program of the Service has demonstrated that fish and wildlife resources and their habitats have been adversely affected by many types of environmental pollutants. The drastic population declines of peregrine falcons, bald eagles, and brown pelicans throughout much of the country was attributable, in part, to excessive exposure levels of pesticides such as DDT. Eagles and other raptorial birds exposed to dieldrin and lead have experienced increased mortality rates. Facts do not exist, however, to identify or predict the interactions of fish and wildlife populations with the contaminants that enter the environment as a result of increased mining and smelting, coal conversion, and other industrial processes or as a result of production and transport of petroleum, use of detergents to dissipate oil spills, and use of new methods of sewage disposal. Ecological effects of the use of the newer types of pest control chemicals in forestry, range management, and agriculture are poorly understood. Neither are all of the problems of persistent organochlorines behind us, particularly those of PCB's and their substitutes, compounds produced by chlorination of sewage effluents, and certain organochlorine pesticides that are still in use.

In 1981, approximately 190 research studies will be conducted. This workload is comparable to that accomplished in 1980. Areas of increased emphasis in 1981 include:

- o Assessment of biochemical indicators for carbamate and organophosphate insecticide toxication in Northeastern and Northwestern resident and anadromous salmonids, other anadromous fishes, and fish food organisms.

- o Importance of overflow and impact of agricultural contaminants on lakes of the Atchafalaya River Basin.

- o Effects of contaminated irrigation return flows on fish and wildlife resources, including striped bass in the Central Valley river systems, California.

- o Survival of lake trout eggs and fry exposed to contaminants in waters of the Great Lakes.

- o Reproductive success and contaminant levels in fish and wildlife of the Texas Gulf Coast, including Galveston Bay, impacted by dump sites, agricultural chemicals and industrial effluents.

- o Evaluation of the impact of contaminants on reptiles and their value as an indicator of contaminant problems.

- o Assessment of contaminants in waterfowl from the Northeast, Upper Mississippi, and Lake Michigan.

- o Effects of dust control chemicals on cutthroat trout and fish food organisms in streams of the Pacific Northwest.

Increase for 1981:	1982 Base	1982 Estimate	Increase
$	9,629	10,185	456
(FTP)	(137)	(137)	(0)

Large amounts of gases and particulates are continuously emitted into the atmosphere from both natural and man-made sources. Over many millions of years, the earth's atmosphere had adjusted to the natural emissions, but man's activities have increasingly caused changes in natural ecosystems. In Europe in the 1960's, it was recognized that pollutants injected high in the atmosphere were transported to neighboring nations. The transport and deposition of sulfur oxides and nitrous oxide pollutants has been referred to as acid rain. By the late 1970's, acid rain has become a recognized problem for many parts of the Northeastern United States and Eastern Canada. Initial steps have been taken to assess the magnitude of that problem.

Enough has been done to show that rainfall in the most affected areas of the Northeast can contain acidity 100 to 1000 times as great as that of natural rain water and that many lakes have become barren of all forms of fish and aquatic life as a result. Approximately 50 percent of the high mountain lakes in the Adirondack Mountains are now considered to be "dead" lakes. Canadian researchers estimate that at the current rate of acidification between 4,000 to 8,000 Canadian lakes will be lost in the next two decades.

Several facts are now evident: 1) great quantities of acid are being deposited on the Northeastern United States; 2) increased acidity in rain is being observed in the Southeast, Midwest and localized areas along the West Coast; and 3) the potential production of acids and other pollutants in Colorado, Wyoming and other nearby States from full development of fossil fuels is high.

Based on bedrock geology of low acid neutralizing potential, vast populations of fish and wildlife resources are potentially being subjected to acid precipitation (see Figure 3). Currently the Service is conducting a limited research program on Atlantic salmon and other salmonids in the Northeast to determine the impact of acid rain and the associated release of toxic metals. Service personnel have provided technical assistance to numerous Federal agencies regarding acid rain. In addition, they have participated in the Department of State's bilateral talks with Canada; developed input for the Council on Environmental Quality, the Senate, and Congressional summaries on the subject; and developed and coordinated a Memorandum of Understanding with the National Park Service concerning acid rain and air pollution research.

74-939 O—80——53

Except for selected areas in the Northeast, the magnitude of fish and wildlife resources and their habitat impacted by acid precipitation is not fully understood. Accordingly, the Service needs to provide a more detailed understanding of the extent of this problem Nationwide. The Service also needs to develop mitigation tools to address the problem.

Fig. 3. Areas of the Continental United States sensitive to acid precipitation (Adapted from U.S.-EPA).

Research will be initiated to determine fish and wildlife resources outside the Northeast subjected to acid precipitation and the vulnerability of these resources to continued acid precipitation. Emphasis will be given to those areas of the United States which are known to be sensitive to acid precipitation, those areas where development of fossil fuel is anticipated or planned, and those areas which contain important fish and wildlife resources. Research efforts in the Northeast will emphasize cause and effect relationships and the initial development of mitigating technologies.

Specifically, four new research projects are planned for FY 82. These projects are coordinated within the Department of Interior's efforts on acid precipitation and the Federal Acid Rain Coordination Committee. In addition, the projects support the information needs required for the development of a United States/Canada Transboundary Air Pollution Agreement (including transboundary acid rain pollutants). The projects include:

1. Vulnerability of ecological systems in the Great Lakes States, Rocky Mountain States, and the Southeast- Field and laboratory experiments will be conducted with aquatic animals, plants and microorganisms to identify the time of reproduction and stages of growth which coincide with such strong-acid events as: a) snow melting in spring; b) stagnant air masses followed by either very heavy or very light rains; c) and moderate rains following prolonged drought in summer and early fall. This project will provide information to aid in the management of fish and wildlife resources in these areas and for considering emission management strategies. Data from ongoing studies in the New England and the Middle Atlantic States will also be used in this research.

2. Acid Rain mitigation studies of fishery resources and their habitats - Small scale and large scale field experiments will be conducted employing various management procedures by which fishery resources and their habitats can be protected from the harmful effects of acid deposition and associated metal-ion toxicity. Building upon work performed in the lakes and streams of Scandinavia and Canada, applied treatments will include various types of acid neutralizing substances such as powered lime and rock limestone and both organic and inorganic metal-complexing agents.

3. Mobilization of toxic metals on the health and composition of fish - Studies will be conducted to determine the extent to which acid rain mobilizes metals into natural waters with resultant impacts on the health and composition of fish. The composition of the fish is important when considering them as a human food source. Influence of acid deposition will be isolated from other possible causes such as acid mine drainage and agricultural and sewage disposal practices. Work will be done in association with the United States Geological Survey (one-fourth of effort).

4. Avian and mammalian indicators of atmospheric contamination - Research is proposed to evaluate the usefullness of indicator species from various ecological systems (coastal, grasslands, forests, prairies) as early warning of atmospheric contamination associated with acid precipitation. The trajectory and distribution of pollutants associated with airborne emissions is readily modeled. Deposition effects on terrestrial plants and aquatic systems is the subject of current and proposed studies. However, effects of these materials on birds and mammals are little understood.

Object Class Distribution

The object class detail for the $456,000 increase is as follows:

	1982 Estimate
Positions other than permanent	$284,000
Total personnel compensation	$284,000
Travel and transportation of persons	$ 53,000
Transportation of things	17,000
Printing and reproduction	12,000
Supplies and materials	65,000
Equipment	25,000
Total obligations	$456,000

Activity: Habitat Preservation
Subactivity: Land and Water Resources Development Planning

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted to date	FY 1982 Base	FY 1982 Estimate	Inc.(+) or Dec.(-)
Project Investigations/ Technical Assistance	($)	3,346	3,538	3,538	0
	(FTP)	(57)	(57)	(57)	(0)
Permits and Licenses	($)	6,057	6,549	6,549	0
	(FTP)	(146)	(146)	(146)	(0)
Area-Wide Planning	($)	6,581	6,963	7,263	+300
	(FTP)	(114)	(114)	(116)	(2)
Common Program Services	($)	(1,708)	(1,778)	(1,781)	(3)
Total Requirements	($)	15,984	17,050	17,350	+300
	(FTP)	(317)	(317)	(319)	+2

Project Investigations
Technical Assistance

Authorization: 16 U.S.C. 742(a)-754; (Fish and Wildlife Act of 1956). See Environmental Contaminant Evaluation-Monitoring for description of authority.

16 U.S.C. 661-667(e); (Fish and Wildlife Coordination Act). See Environmental Contaminant Evaluation-Monitoring for description of authority.

16 U.S.C. 1001-1009; (Watershed Protection and Flood Prevention Act). This Act allows the Secretary of the Interior to make surveys and investigations and ". . . prepare a report with recommendations concerning the conservation and development of wildlife resources . . ." on small watershed projects.

42 U.S.C. 4321-4347; (National Environmental Policy Act of 1969). This Act requires the Fish and Wildlife Service to review and provide recommendations and technical assistance with respect to potential impacts on fish and wildlife resources from Federal actions.

16 U.S.C. 1221-1226; (Estuary Protection Act). This Act requires the Secretary of the Interior to review all project plans and reports for land and water resource development affecting estuaries and to make recommendations for conservation, protection and/or enhancement.

Objectives: 1) Ensure that the environmental impacts of specific Federal and federally assisted water resource development projects and their alternatives are evaluated, and needed fish and wildlife mitigation, and enhancement measures are identified, justified, and recommended.

2) Implement standardized procedures for evaluating project impacts on both terrestrial and aquatic habitats, and for comparing alternative plans developed under the National Environmental Policy Act and the Water Resources Council Principles and Standards for Planning.

3) Oversee Fish and Wildlife Service compliance with the National Environmental Policy Act, and review environmental impact statements prepared by other Federal agencies.

Base Program: Under the Land and Water Resources Development Planning Program, the Service provides environmental expertise in accordance with legislative mandates to Federal and State regulatory, construction, and planning agencies for matters relating to fish and wildlife resources. This program includes surveys and investigations of proposed land and water resource development projects, providing information and recommendations related to fish and wildlife conservation and enhancement to the appropriate agency, overseeing Service compliance with the National Environmental Policy Act, and reviewing other agencies' environmental impact statements.

It is the policy of the Fish and Wildlife Service to seek to mitigate losses of fish, wildlife, their habitat, and uses thereof from land and water developments. Consequently, when proposed federally funded, permitted, or licensed land or water developments affect those resources, the Service conducts the necessary site specific investigations and reviews, and provides the detailed biological information and recommendations to avoid or minimize and compensate the resource losses which would occur due to project construction. The recommendations of the Service are considered by Federal development and regulatory agencies for their adoption as permitted by law. Federal law requires that the conservation of fish and wildlife receive "equal consideration" with other project purposes and features and be coordinated with other project features.

The necessary coordination with several Federal agencies has been formalized in a number of memoranda of understanding or agreement. These memoranda generally spell out procedures under which the Service will make its investigations and advise the regulatory agencies of the consequences of a proposed action to fish and wildlife resources. Such memoranda or agreements have been entered into with the following agencies: Army Corps of Engineers, Soil Conservation Service, Forest Service, Nuclear Regulatory Commission, Water and Power Resources Service, Heritage Conservation and Recreation Service, Tennessee Valley Authority, National Park Service, Bureau of Land Management, Geological Survey, Environmental Protection Agency, Office of Surface Mining, and Department of Transportation.

As a result of the Service's participation in land and water developments, an estimated 13,400,000 acres of fish and wildlife habitat were recommended for conservation during FY 80. During FY 81, the number of acres of habitat recommended for conservation is expected to be 15,450,000. The acreage recommended for conservation in FY 82 is expected to be similar. This means that projects to be constructed on these lands will receive the benefit of recommendations which will minimize impacts of construction on fish and wildlife resources.

Recent years have seen increases in land and water resources development projects and the emergence of new energy developments that can greatly affect fish and wildlife resources. These changes have been accompanied by new and increasingly complex legislation that has created many new and diverse responsibilities for the Land and Water Resources Development Planning Program. In the summer of 1978 the Service conducted a complete survey of Division of Ecological Services field offices. The data collected for FY 78-80 show

that, in general, the Service is able to respond to 50 to 60 percent of the requests for planning assistance received from other agencies. Since the Service is able to respond to only a little more than half of the requests for assistance, the establishment of priorities related to the projects selected for review is imperative. Unfortunately, many projects with substantial adverse impacts to fish and wildlife habitat are planned and constructed without benefit of fish and wildlife information and recommendations.

The Land and Water Resources Development Planning Program includes three subprograms (Project Investigations, Permits and Licenses, and Area-Wide Planning). Project Investigations (discussed in this section) and Permits and Licenses primarily involve Service assistance to the planning process of specific projects that are federally funded or licensed, such as impoundments, navigation projects, stream channel modification, and waterfront developments. The third subprogram, Area-Wide Planning, involves Service participation in comprehensive planning activities which cover large geographic areas and are not project specific, such as Clean Water Act Section 208 studies and State Coastal Zone Management Plans.

Through the Project Investigations Subprogram the Service investigates, reviews, and makes recommendations on water resource development projects funded or constructed by the Army Corps of Engineers, the Water and Power Resources Service, the Soil Conservation Service, the Bureau of Indian Affairs, the International Boundary and Water Commission, and the International Joint Commission.

Service participation in this program is illustrated by the following projected accomplishments for selected work areas. These figures show that the Fish and Wildlife Service is able to respond to about 60 percent of requests for technical assistance. These projections are based on actual data for FY 78-80 assembled by the Service in its survey of Ecological Services field offices.

Number of Agency Requests for Technical Assistance and Environmental Statements Receiving Service Evaluations and/or Planning Assistance 1/

	FY 80		Estimated FY 81		Estimated FY 82	
	No. of Requests	No. of Responses	No. of Requests	No. of Responses	No. of Requests	No. of Responses
Corps of Engineers Maintenance dredging	269	195	300	205	300	205
Soil Conservation Service Small Watershed Projects	441	263	450	265	450	265
Environmental Impact Statement Reviews	1,680	1,160	1,850	1,295	1,850	1,295

1/ The figures given differ substantially from those in the FY 1981 Budget Justifications. The figures in the 1981 Budget Justifications represent number of projects and were based on a sample of Division of Ecological Services field offices made in 1977. The FY 1982 figures represent the number of requests for technical assistance received and responded to and are based on a 1980 survey of all Ecological Services field offices for the period of FY 78-80.

Federal agencies, including the Corps of Engineers, the Environmental Protection Agency and the Soil Conservation Service, as well as State agencies administering Federal funds, increasingly are requesting early Service participation in their planning activities. Such early participation allows for full analyses of environmental costs and benefits of project alternatives prior to selection of final project plans, allows for development of innovative project design features (such as development of dredge spoil disposal areas for wildlife habitat), and allows for timely identification of environmentally sensitive areas before committing a project to a specific course of action. Early coordination also yields positive returns by avoiding conflicts, court cases, and delays in planning and construction which also result in substantially lowered project costs.

Two Project Investigation areas in which the Service has increased its early planning efforts are Corps of Engineers maintenance dredging projects and Soil Conservation Service small watershed projects. The Corps is responsible for the maintenance of Congressionally authorized navigation channels at authorized depths. In performing maintenance dredging on approximately 300 channels annually, the Corps generates about 300 million cubic yards of dredged material which must be properly disposed. This dredged spoil presents a major disposal problem due to the impacts that disposal in shallow water areas and wetlands would have upon the aquatic ecosystem. For these reasons, the Service usually recommends alternative disposal methods, such as the use of upland sites. The Corps has sought early Service involvement in the planning process for projects maintained by several Corps Districts, including those at Norfolk, Baltimore, and New York. This has resulted in improvements in terms of selecting environmentally acceptable permanent disposal sites and in the timing of dredging activities. For example, in a recent maintenance dredging project on the Wicomico River, Maryland, the Service recommended an acceptable 125 acre site that can be used for approximately 50 years. In addition, a wildlife management plan that includes providing habitat for waterfowl was developed for the site.

The Soil Conservation Service designs flood prevention and watershed protection projects that include stream impoundment and channelization, and clearing banks and streams of obstructions in cooperation with local sponsors. The planning process, which takes several years, results in the analysis of structural methods of flood protection. Alternatives which adversely affect public fish and wildlife resources may be selected due to lower costs to local sponsors and the lack of adequate Service input to the early plan formulation process. In the past, the channelization of streams has been a major cause of the loss of wetlands and riparian habitat important to fish and wildlife. This resulted in numerous environmental conflicts and a number of court cases. Consequently, the Soil Conservation Service and the Fish and Wildlife Service worked together to develop channel modification guidelines for use in the planning of water and related land resource projects involving potential channel alterations. The guidelines recognize the value of streams and associated riparian and wetland habitat and are intended to protect those resources from the impacts of stream channelization.

During FY 79 and FY 80, the Service responded to approximately 60 percent (546 of 928) of the requests for technical assistance on small watershed projects. Application of the channel modification guidelines in early planning phases was instituted during FY 79 and 80 and has resulted in modifications to 65 projects. These modifications resulted in the deletion of 1,065 miles of

proposed channel alterations, changes in construction practices to reduce impacts on fish and wildlife, and the addition of mitigation features to offset wildlife losses. The guidelines are most effective when applied in the project planning phases as opposed to construction phases since this eliminates the need for time consuming and often costly project redesign. For example, application of the guidelines to the Walnut Roundaway Watershed Project, Louisiana, resulted in the development of a project plan acceptable to the Service, the Soil Conservation Service, and the project sponsors. The plan provided for the deletion of 5 miles of channelization and the conservation of 3,400 acres of wetlands and forestlands.

Permits and Licenses

Authorization: 16 U.S.C. 742(a)-754; (Fish and Wildlife Act of 1956). See Environmental Contaminant Evaluation - Monitoring for description of authority.

16 U.S.C. 661-667(e); (Fish and Wildlife Coordination Act). See Environmental Contaminant Evaluation - Monitoring for description of authority.

42 U.S.C. 4321-4347; (National Environmental Policy Act of 1969). See Land and Water Resource Development Planning - Project Investigations for description of authority.

16 U.S.C. 1221-1226; (Estuary Protection Act). See Land and Water Resource Development Planning - Project Investigations for description of authority.

33 U.S.C. 446 et seq.; (Clean Water Act of 1977). This Act requires the Fish and Wildlife Service to review proposed State permit programs for the control of discharges of dredged or fill material. It further requires the Service to review all Federal permits for the control of discharge of dredged or fill material.

Objectives: 1) Ensure that the impacts to fish and wildlife resources of federally licensed or permitted land and water development projects are identified and evaluated and that appropriate recommendations for the conservation or mitigation of those resources are provided to the appropriate Federal agencies.

2) Participate in the development and approval of State programs to administer the Permit provisions of the Clean Water Act, Sections 402 and 404, to ensure conservation, protection, and enhancement of fish and wildlife resources.

Base Program: Through its Permits and Licenses Subprogram, the Service reviews and makes recommendations on projects for which Federal permits have been requested from the Army Corps of Engineers, the Coast Guard, the Environmental Protection Agency, the Federal Energy Regulatory Commission, the Nuclear Regulatory Commission, the Bureau of Land Management, the Geological Survey, and the Forest Service. Significant types of projects reviewed under this subprogram include structures in navigable waters under Section 10 of the River and Harbor Act of 1899, dredge and fill activities under Section 404 of the Clean Water Act of 1977, discharge of pollutants under Section 402 of the Clean Water Act, hydroelectric power plants licensed under the Federal Power Act, nuclear power plants licensed under the Atomic Energy Act of 1954 and the Energy Reorganization Act of 1974, and grazing and timbering activities on Federal lands.

The figures given below (based on data assembled in the 1980 survey of Division of Ecological Services field offices) show the number of requests for Service assistance expected to be received from regulatory and licensing agencies.

Number of Requests for Service Planning Assistance in Permit Actions 1/

	FY 80	Estimated FY 81	Estimated FY 82
Total Requests Received	35,956	37,250	37,250
Total Returned With No Action Taken	20,412	19,060	19,060
Total Responded to	15,544	18,190	18,190

1/ The figures given differ substantially from those in the FY 1981 Budget Justifications. The figures in the 1981 Budget Justifications were based on a sample of Division of Ecological Services field offices made in 1977. The FY 1982 figures are based on a 1980 survey of all Ecological Services field offices for the period of FY 78-80.

Since the late 1960's, the number of Federal permit actions requiring Service investigation has increased from less than 10,000 to over 35,000 in FY 80. This large workload and the associated potential for adverse impacts to fish and wildlife resources require the Service to seek innovative ways to adequately review the permit actions and ensure that appropriate information and recommendations are provided to the regulatory agencies. At present, the Service takes no action on approximately 55 percent of the permit actions which it receives for review due to funding and manpower constraints. Of those applications not reviewed, the projects will be constructed without benefit of recommendations to minimize impacts on fish and wildlife resources. Since the Service cannot review all permit applications received, priorities are established based on the quality and uniqueness of the resources involved (i.e., waterfowl habitat, anadromous fish habitat, shellfish areas, and fish spawning and nursery areas), the magnitude of potential impacts (i.e., project size, resources and habitat lost or altered, and mitigation potential), and the financial and personnel resources available to do the job.

"Permit Contracting" and "Joint Permit Processing" are two procedures that the Service is using to reduce the number of applications for fish and wildlife habitat modifications which are not reviewed. The former involves contracting with non-Service organizations to investigate proposed permit actions. Benefits of the use of this procedure include reductions in the time and number of Federal personnel required for reviewing individual permits. This enables the field biologists to review a larger number of permit application or to devote greater effort to those permits involving significant impacts to fish and wildlife resources. Joint Processing is a procedure whereby permit actions receive concurrent State and Federal review by sharing data which would have been generated independently by several different agencies. The benefits of this procedure are similar to those for permit contracting. For example, the use of joint processing with the Baltimore and Norfolk Districts, Corps of Engineers, in FY 77-80 significantly increased the assistance that the Service provided to the Corps' permit review process without requiring increased effort.

The Service also is becoming involved in early coordination activities in the Permits and Licenses Subprogram. For example, the development of final project plans for highways, airports, and other transportation facilities which require Federal permits can take many years. Highway departments, such as in North Carolina, Virginia, New Hampshire, and North Dakota increasingly are requesting early Service participation in highway planning. For example, the North Dakota State Highway Department has a Memorandum of Understanding with the Service which provides for coordination at the predesign stage. In Virginia, monthly meetings are held between the Department of Highways and Transportation and the Service and other Federal and State agencies for the consideration and discussion of project alternatives prior to route and design selection. Similar early coordination procedures are followed in North Carolina, New Hampshire, and other States. Such early participation can be manpower intensive and costly; however, it provides for the consideration of fish and wildlife information during project planning, thereby allowing highway planners to select acceptable highway corridors that avoid sensitive environmental areas such as wetlands, endangered species habitat, highly utilized trout streams, and spawning areas. Also, planners are able to incorporate features into the plans which enhance the wildlife values of selected highway corridors.

The benefits of Service efforts on permits and licenses include the conservation of a wide variety of high value fish and wildlife habitat. The individual permit actions reviewed generally involve relatively small areas of habitat; however, the cumulative impacts of the thousands of individual actions are significant. Demands for transportation corridors, housing developments, commercial developments, and other land consumptive uses are growing constantly. Through its permit reviews the Service provides information to regulatory agencies to ensure that decisions on proposed developments that would impact fish and wildlife habitat are based on a balanced view of the value of these resources to wildlife and man.

Area-Wide Planning

Authorization: 16 U.S.C. 742(a)-754; (Fish and Wildlife Act of 1956). See Environmental Contaminant Evaluation - Monitoring for a description of this authority.

16 U.S.C. 661-667(e); (Fish and Wildlife Coordination Act). See Environmental Contaminant Evaluation - Monitoring and Field Operation for a description of this authority.

42 U.S.C. 4321-4347; (National Environmental Policy Act of 1969). See Land and Water Resource Development Planning - Project Investigations for description of this authority.

16 U.S.C. 1221-1226; (Estuary Protection Act). See Land and Water Resource Development Planning - Project Investigations for a description of this authority.

33 U.S.C. 466 et. seq.; (Clean Water Act of 1977). This Act requires the Service ". . . upon request of the Governor of a State, and without reimbursement, to provide technical assistance to such State in developing a Statewide water quality planning program and in implementing such program after its approval." Other authority under this Act is described under Environmental Contaminant Evaluation - Monitoring and Field Operations.

16 U.S.C. 1451-1465; (Coastal Zone Management Act of 1972). This Act requires the Secretary of Commerce to obtain the views of Federal agencies affected by the program, including the Department of the Interior, and to ensure that these views have been given adequate consideration before approval of Coastal Zone Management Plans. The Service provides the Department's views with regard to fish and wildlife resources.

16 U.S.C. 1271-1287; (Wild and Scenic Rivers Act). This Act requires the Secretary of the Interior to comment on such proposals. The Fish and Wildlife Service provides the Department's views with regard to fish and wildlife resources.

P.L. 96-487 of December 2, 1980 (Alaska National Interest Lands Conservation Act). This Act requires the Secretary of the Interior to assess the oil and gas potential of Alaska North Slope Federal Lands and to evaluate the impact of oil and gas exploration and development on the wildlife resources of these lands.

Objectives: 1) Assist in area-wide land and water resource development planning to insure that conservation, protection, and enhancement of fish and wildlife resources are adequately considered as an equal purpose with other beneficial uses of the Nation's natural resources in the development of area-wide plans.

2) Evaluate, in sufficient detail for legislative or other action, fish and wildlife habitats having certain unique qualities which dictate that preservation is the best use (e.g., Wild and Scenic Rivers, Wilderness Areas, Outstanding National Resource Waters, and National Trails).

Base Program: Through the Area-Wide Planning Subprogram, the Service participates in the planning activities of the National Oceanic and Atmospheric Administration Office of Coastal Zone Management and 35 coastal States and territories, Statewide and local planning agencies, State water quality agencies, river basin commissions, the National Park Service, the Forest Service, the Bureau of Land Management, the Soil Conservation Service, the Water Resources Council, the Corps of Engineers, and the Water and Power Resources Service. Some of the planning areas that the Service participates in include the development of State Coastal Zone Management Plans, the development of State water quality management plans, the development of State water quality standards, wilderness area studies, wild and scenic river studies, and Resource Conservation and Development Projects. The Service's participation in area-wide planning is limited to fish and wildlife aspects, and complements the efforts of the Environmental Protection Agency, the National Marine Fisheries Service, and other agencies providing environmental reviews.

The Area-Wide Planning Subprogram differ from the Project Investigations and Permits and Licenses Subprograms because, with certain exceptions, studies are neither site nor project-specific. The studies develop alternatives and identify opportunities, problems, and needs for large geographic areas. By participating in planning activities, the Service seeks to ensure that fish and wildlife are considered equally with other interests in the development of area-wide plans. The need to do this is growing as the emphasis on the development of new energy facilities and resources increases.

Service participation in area-wide planning studies is expected to result in the following projected levels of involvement in planning (based on data assembled in the 1980 survey of Division of Ecological Services field offices).

Number of Requests for Service Planning Assistance in the Development of Area-Wide Plans 1/

	FY 80	Estimated FY 81	Estimated FY 82
State Coastal Zone Management Program reviews: (including planning assistance)			
Program requests	415	430	430
Responded to	192	210	210
Section 208 Water Quality Management Plans:			
Area or State-wide plan requests	207	240	240
Responded to	88	105	105
State programs being developed and implemented to control the discharge of dredge and fill material under Sections 208 and 404 of the Clean Water Act of 1977			
State requests	3	3	5
Responded to	3	3	5
Section 303 Water Quality Standards Development			
State requests	99	100	100
Responded to	39	45	45
Resource Conservation and Development Plans (SCS)			
Project requests	118	140	140
Responded to	36	40	40

1/ The figures given differ substantially from those in the FY 1981 Budget Justifications. The figures in the 1981 Budget Justifications represent number of projects, plans, or programs and were based on a 1977 sample of Division of Ecological Services field offices. The FY 1982 figures represent number of requests for planning assistance received and responded to and are based on a 1980 survey of all Ecological Services field offices for the period of FY 78-80.

Involvement in such planning activities is manpower intensive and requires attendance at many planning sessions. By participating in such planning to the fullest extent practicable, fish and wildlife concerns will receive equal consideration in conjunction with proposed development activities. As a result, costly conflicts and delays resulting from the incompatible siting of developments in sensitive environmental areas will be reduced or eliminated.

A major activity in Area-Wide Planning is the development of State Clean Water Act programs. The Clean Water Act reflects the concern of Congress that: (1) fish and wildlife resources be adequately considered in State water quality

planning and implementation; and (2) States manage the permit program for discharges of dredged or fill material. To meet these requirements, the Service is supporting the development of State programs which provide protection, mitigation, and enhancement of fish and wildlife resources. In FY 81, the Service will provide funds and planning assistance to the States of California, Colorado, and Michigan for the development of model State Clean Water Act programs under cooperative agreements developed with those States. In addition to providing planning assistance to States, in FY 1981 the Service will (1) develop a water planning handbook for use by States in developing and implementing Section 208 planning programs and Section 404 permit programs for the control of discharges of dredged or fill material, (2) develop a handbook of best management practices related to protection, mitigation, or enhancement of fish and wildlife from the discharge of dredged or fill material, and (3) train appropriate State and Service personnel in the use of the handbook products.

Increase for 1982		1982 Base	1982 Estimate	Increase
Alaska Central North	($)	0	300	+300
Slope Study	(FTP)	(0)	(2)	(+2)

Alaska Central North Slope Study (Current 0(0)/Increase 300(2)) - Section 1001 of the Alaska National Interest Lands Conservation Act requires the Secretary of the Interior to conduct a comprehensive study of the oil and gas potential of all Federal lands in Alaska North of 68 degrees North latitude and east of the National Petroleum Reserve - Alaska, exclusive of lands in conservation units created by the Act (see following map). Section 1005 further requires the Secretary to evaluate the impact of oil and gas exploration, development, production, and transportation and other human activities on the wildlife resources of these lands, including impacts on the Arctic and Porcupine caribou herds, polar bear, muskox, grizzly bear, wolf, wolverine, seabirds, shorebirds, and migratory waterfowl. Section 1006 requires the Secretary to consult with the Secretary of Transportation to identify and evaluate alternative transportation routes relative to the oil and gas potential of these lands.

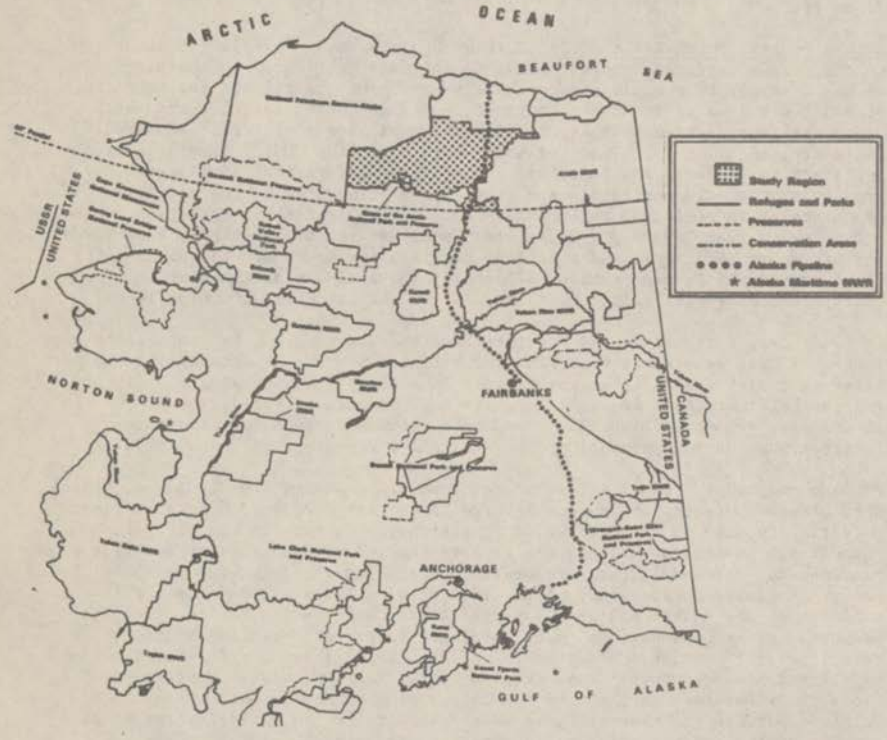
The Secretary's report to the President and the Congress, to be prepared by the Bureau of Land management with Fish and Wildlife Service assistance, is due no later than eight years after enactment. In addition to assessing the oil and gas potential of these lands, the report must include an evaluation of alternative transportation routes and make recommendations for wilderness designations and for protection of the wildlife resources of these lands.

Pending oil and gas exploration and development on Alaska's North Slope, beyond that already underway at Prudhoe Bay and in the Beaufort Sea, pose significant potential impacts to fish and wildlife and their habitats in the study region. Both direct impacts of oil and gas exploration and development and indirect consequences from additional transportation corridors through the Region will occur. A comprehensive study of the impacts of oil and gas development is mandated by the Alaska National Interest Lands Conservation Act in order that measures and recommendations cn be developed to protect fish and wildlife resources or to mitigate unavoidable impacts, while providing for development of oil and gas resources. Lead responsibility for the overall Central North Slope Study has been assigned to the Bureau of Land Management. The Fish and Wildlife Service has been assigned responsibility for the wildlife resources portion of the study. Wildlife information will also be useful to the

the Service as it assists the Bureau of Land Management identify and evaluate alternative transportation corridors.

Approximately 4.5 million acres of public lands to be studied occur within the eight million acre study region. The remaining lands consists of native and State selections made under the Alaska Native Claims Settlement and Alaska Statehood Acts and the Trans-Alaska Pipeline Corridor. It is anticipated that the wildlife resources part of the study can be completed within five years at the requested funding level. The limited season available for field work is a factor that increases the length of time required for the study. Additional time will be required for the Bureau of Land Management to incorporate fish and wildlife information in the final stages of its planning process; therefore, it is important that the Service's efforts be fully underway by the end of FY 1981-82.

Central North Slope Study



FWS-34

The Service is requesting supplemental funds for FY 1981 and anticipates hiring necessary personnel and initiation of the study by the end of September 1981. The increased funding requested for FY 1982 will enable the Service to continue the work initiated in 1981. The study will involve baseline habitat and population investigations, analysis of potential environmental impacts, and development of guidelines and stipulations for oil and gas development. This comprehensive study will address the following tasks over the planned five year study period:

1. Describe wetlands and special habitats in the affected region based on geomorphology, vegetation, and nutrients/chemistry.

2. Assess the utilization of these wetlands by fish and wildlife, including invertebrates and fish, shorebirds, and migratory waterfowl.

3. Determine distribution patterns and abundance of fish, birds, and mammals in the affected area, and develop maps depicting critical and important summer and winter habitat and ranges.

4. Study specific impacts on fish and wildlife in the affected region from seismic exploration, exploratory drilling, and development/production activities for oil and gas (such as effects of seismic blasting on over-wintering fish or caribou winter use).

5. Develop proposed guidelines, stipulations, and recommendations for protection of fish and wildlife resources in planning petroleum development activities.

6. Monitor any oil and gas exploration and development to document impacts and to refine stipulations.

Object Class Distribution

The Object Class breakdown for the $300,000 increase is as follows:

	1982 Estimate
Permanent positions	51,100
Positions other than permanent	56,300
Total personnel compensation	107,400
Personnel benefits	37,600
Travel and transportation of persons	6,000
Transportation of things	2,000
Rent, communications, and utilities	12,000
Printing and reproduction	1,000
Other services	106,000
Supplies and material	20,000
Equipment	8,000
Total	$300,000

Activity: Habitat Preservation
Subactivity: Biological Services

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted to date	FY 1982 Base	FY 1982 Estimate	Inc.(+) or Dec.(-)
Coal					
Research and	($)	1,834	1,886	1,886	0
Development	(FTP)	(21)	(21)	(21)	(0)
Operations	($)	2,857	2,910	3,480	+570
	(FTP)	(22)	(22)	(22)	(0)
Power Plants	($)	1,005	1,005	1,005	0
	(FTP)	(16)	(16)	(16)	(0)
Systems and Inventory	($)	5,355	5,431	5,431	0
	(FTP)	(31)	(31)	(31)	(0)
Coastal/OCS	($)	2,464	2,563	2,763	+200
	(FTP)	(40)	(40)	(40)	(0)
Water Resources	($)	1,527	1,782	1,982	+200
	(FTP)	(22)	(22)	(22)	(0)
Geothermal, Minerals and	($)	1,067	1,104	1,481	+377
Oil Shale	(FTP)	(15)	(15)	(15)	(0)
Common Program Services	($)	(1,720)	(1,840)	(1,851)	(11)
Total Requirements	($)	16,109	16,681	18,028	+1,347
	(FTP)	(167)	(167)	(167)	(0)

Coal

Authorization: 16 U.S.C. 742(a)-754; (Fish and Wildlife Act of 1956). See Environmental Contamination Evaluation - Monitoring for description of authority.

16 U.S.C. 661-667(e); (Fish and Wildlife Coordination Act). See Environmental Contamination Evaluation - Monitoring - Field Operations for description of authority.

42 U.S.C. 4321-4347; (National Environmental Policy Act of 1969). See Land and Water Resource Development Planning - Project Investigations for description of authority.

30 U.S.C. 1201 et seq.; (Surface Mining Control and Reclmation Act of 1977). The Act requires the Department of the Interior to regulate surface mining and reclamation at existing and future mining areas. The Fish and Wildlife Service provides the Department with technical assistance regarding fish and wildlife aspects of Department programs on active and abandoned mine lands, including review of State Coal Program submissions, mining plans, and abandoned mine reclamation plans.

Objective: Protect fish and wildlife and their habitat associated with coal activities and help avoid delays which affect coal production by: 1) developing and making available to the coal industry, and Federal and State agencies

the fish and wildlife impact assessment information and technology required to minimize conflicts between coal activities and fish and wildlife and their habitat through early consideration of fish and wildlife needs in coal activity planning; 2) assisting States and the Office of Surface Mining in the development of reclamation programs for active and abandoned mine lands which emphasize less costly reclamation activities with increased fish and wildlife benefits; and, 3) reviewing coal mining and reclamation proposals on active and abandoned mine lands and providing to the industry and Federal and State agencies recommendations which provide for the protection and enhancement of fish and wildlife resources during coal extraction and mined land reclamation.

Base Program: The key to protection of fish and wildlife habitat while facilitating coal production is the provision of appropriate fish and wildlife information and technical assistance early in the coal planning process and when requested throughout leasing activities. This permits decisionmakers to make informed, defendable coal activity decisions. In this regard, the Service has developed the capability to carry out rapid and detailed analyses of coal activities in relation to fish and wildlife needs. The generation of fish and wildlife information and the development and application of methods for analysis of this information in relation to coal activities is carried out by the Service's Western and Eastern Energy and Land Use Teams located in Fort Collins, Colorado, and Leetown, West Virginia.1/ The Service's Division of Ecological Services is the primary delivery mechanism through which the fish and wildlife impact assessment information and recommendations regarding specific coal activities is provided to Federal, State and local coal planners as well as to the industry. These analyses and information and provided for planning purposes and also form the basis for Service recommendations to the Department as well as State agencies concerning coal activity planning, permit processing, and leasing. Incorporation of the information and recommendations into coal planning minimizes fish and wildlife losses and maximizes habitat enhancement opportunities while enabling coal development to meet National production goals.

The Service plays an important role in the Department's Federal Coal Management (leasing) Program by providing the information and analyses needed to allow planners and to direct coal activities away from sensitive environmental areas thus avoiding costly time delays due to challenges from the environmental community. For example, the Service applied its rapid assessment methodology and fish and wildlife information base to the Gillette and Highlight Review Areas for the Bureau of Land Management. As a result, the analysis of a large amount of data was made possible in a very short amount of time thereby enabling BLM to maintain its leasing schedule. (What would normally have taken four months to perform under old methods was performed in one month). This analysis permitted the use of more complex data manipulation than had been previously possible within the same time frame thereby enabling decisionmakers to make more informed choices regarding coal production alternatives. This effort resulted in a defendable, well rounded analysis which reduced the potential for legal challenges based on inadequate consideration of environmental factors. In addition to the cost and time savings the benefits to fish and wildlife resources were consideration of their needs in coal production decisions.

1/ Development of fish and wildlife information is also carried out by the Service's Division of Research. Certain site specific information is currently being collected by the Research Divisions Sheridan, Wyoming Field Station. Studies at Sheridan will be completed in FY 81. Strong support for the Federal Coal Program will be maintained by orienting data development activities for other coal regions in the West. Therefore funding for the Sheridan Field Station will be discontinued after FY 81 and applied to fish and wildlife information development throughout the Western States.

74-939 O—80——54

The Service develops guidelines for economical disposal of surface mine wastes in a manner compatible with fish and wildlife resource needs. Also, the Service is providing guidance to the Tennessee Valley Authority in a demonstration of reclamation for fish and wildlife on coal mined lands in Tennessee.

Approximately 30% of the Coal Project budget funds are allocated for studies under contract or interagency agreement. In some cases another Federal agency, such as the Tennessee Valley Authority, has an existing data bank of personnel, information and equipment, which it can share with the Service and avoid duplication of effort. In other cases, such as research and development studies, it is necessary to locate expertise, or data not available within the Service. Contracting permits effective use of external capabilities, and with effective monitoring, produces usable results and products.

Service coal related activities during FY 80 concentrated on application and refinement of the Fish and Wildlife Service's assessment capabilities while operational personnel participated in Federal Coal Leasing activities. During FY 80, operational requirements (participation in leasing activities) of the Federal Coal Management Program increased as the Bureau of Land Management initiated accelerated leasing activities in several western areas. Operational requirements for State and private coal permit activities increased in FY 80 also. Through FY 80, however, the Service responded primarily to Federal Coal Leasing needs.

Accomplishments through FY 81 are expected to:

1. Implement operational use of fish and wildlife information bases and impact assessment methods for use in providing early planning technical assistance to the industry and Federal and State agencies as well as for use by Service personnel in providing recommendations regarding coal permitting and leasing activities.

2. Provide technical assistance to the Office of Surface Mining and States for incorporation of fish and wildlife concerns into the development of active and abandoned mine lands programs in 24 States.

3. Assist the Office of Surface Mining in the review of State Program Submissions for the State and Private Coal Program and implement a Memorandum of Understanding (MOU) with that agency on coal programs.

4. Assist the Bureau of Land Management in completion of Final Guidelines for consultation during application of the Unsuitability Criteria for Wildlife.

5. Provide technical assistance to 208 Federal Coal Program planning activities for coal projects on Federal lands in FY 81. This represents participation in approximately 75% of FY 81 Federal Coal Management Program Activities.

6. Provide technical assistance to 1,955 private and State coal program planning activities for coal projects on private and State lands in FY 81. This represents participation in approximately 70% of FY 81 private and State coal program activities.

7. Compile Best Technology Currently Available (BTCA) as it relates to fish and wildlife protection and enhancement for 9 of 12 coal regions for use by industry, State and Federal coal planners.

Workload Factors	FY 80	FY 81	FY 82
1. Fish and wildlife information and analysis provided (number of planning or permitting activities fully participated in):			
Federal Coal Management Program			
o Emergency lease application reviews	0	2(of 2)	4
o Site-specific EIS reviews	0	10(of 14)	16
o Preference Right Lease Applications (PRLA's) reviewed	11 of 11	42(of 56)	36
o Lease exchange reviews	0	2(of 2)	4
o Negotiated sale reviews	0	1(of 1)	2
o Lease modification reviews	0	9(of 12)	11
o Lease readjustment reviews	0	19(of 33)	42
o Mining and reclamation plan reviews	43 of 43	71(of 97)	67
o Exploration license reviews	0	32(of 43)	52
o Technical assistance to BLM			
a. Resource Management Plans and initial inventories	8	8	5
b. Management Framework Plan Amendments	3	10	7
c. Activity Plans	0	2	3
Total	65 of 65	208(of 281)	249(of 249)
Private and State Coal Programs			
o Mining and reclamation plan reviews	0	1,400(of 2,060)	2,060
o Technical assistance to industry on mining and reclamation plans	0	495(of 750)	750
o Best Technology Currently Available recommendations to regulatory agencies for fish and wildlife protection	0	60(of 60)	60
Total	0	1,955(of 2,870)	2,870(of 2870)
2. Acres of habitat mapped for use in coal planning and permit/leasing activities (millions of acres).	.750	4.5	4.0
3. Number of Coal Regions for which Best Technology Currently Available was compiled. (There are 12 Coal Regions.)	1	8	3
4. Number of Coal Regions in which the Rapid Assessment Methodology was applied.	1	3	3
5. Number of Reclamation demonstrations in which the FWS is participating.	2	2	3

Increase for 1982		1982 Base	1982 Estimate	Increase
Coal Operations	($)	2,910	3,480	+570
	(FTP)	(22)	(22)	(0)

Operations-Federal Coal Program (Current level $2,410; Increase $370)
The increase for coal operations will be used to provide Service support to all FY 82 Coal Leasing activities in order to assist the Department to meet National coal development goals. Such support is necessary for the Department to make full use of the rapid assessment capabilities and fish and wildlife information bases developed by the Service. This will cut planning time and increase decisionmaking capabilities through more effective handling of large, complex data bases. The net result of such support is full consideration of fish and wildlife resource needs in coal activity decisions. This full consideration results in avoidance of conflicts thus providing for energy development unencumbered by legal challenges.

The Department's Coal Management (leasing) Program is being fully implemented in FY 81 (281 leasing, planning, and review activities versus 65 in FY 80). Current Service funding will allow for full participation in approximately 75% of the Program's activities in FY 81. During FY 82 the Service will be able to support 83% of the expected 249 leasing, planning, and review activities at current funding levels. The increase will be used to further develop the fish and wildlife information base required for full Service participation in the remaining coal leasing activities. Those activities not receiving adequate Service participation will have a higher potential for legal challenges on the basis of inadequate consideration of fish and wildlife needs in the leasing decision processes.

The full consideration of fish and wildlife needs is provided through application of the Service developed assessment methods which permit the analysis of large amounts of coal production, and environmental data. When the methods are used in the planning and leasing process the likelihood for successful implementation of decisions made using these analyses is high. The increase for coal operations in FY 82 will be used to ensure Service input to 100% of the planning coal leasing activities in the Department's Coal Management Program by providing the necessary data and analysis.

The $370,000 increase will be allocated as follows:

$150,000	Mapping of fish and wildlife resources in coal development areas 1/
60,000	Interpretation of resource data
145,000	Development of fish and wildlife resource information for migratory birds and other species of high Federal interest
15,000	Participation in land use planning activities, site specific analyses and environmental statement reviews and/or preparation
$370,000	Total

1/ Mapping (interpretation of aerial photographs and transfer to automated data) is contracted out due to the highly specialized nature of the activity and the need for services on an intermittent basis.

Object Class Distribution

The object class breakdown for the increase is as follows:

	1982 Estimate
Travel and transportation of persons	$ 20,000
Printing and reproduction	5,000
Other services	300,000
Supplies and material	20,000
Equipment	25,000
Total	$370,000

Operations-State and Private Coal Programs (Current $500,000; Increase +200,000) The Service plays a consulting role with the Department's Office of Surface Mining and with State Coal Program authorities. This role includes providing fish and wildlife information, impact assessment technical assistance, and recommendations on mining and reclamation plans to Federal and State agencies and to the industry. The result of such consultation is private coal development which has had the benefit of fish and wildlife information and analyses incorporated into production decisions. This increases the ability of the State and private programs to maximize production with lowered potential for environmental challenges based on inadequate consideration of fish and wildlife needs.

The implementation of most State and private coal program mining and reclamation activities will occur in FY 81. Concurrent with State and private coal program implementation, the Service is developing its capabilities to adequately respond to requests for technical assistance to industry and reviews of mining and reclamation plans. Because such capabilities are only now being developed, full participation in State and private coal program activities is not anticipated until the last half of FY 81. As a result, the Service expects to participate in approximately 70% of the State and private coal program activities in FY 81. This FY 81 effort, when annualized, will require $700,000 to implement. The $200,000 increase for FY 82 will be used to supplement the current $500,000 effort and thereby allow for continued full participation in State and private coal program activities. Thus, all opportunities for incorporation of fish and wildlife information into production and reclamation plans will be utilized.

As a result of the above participation, the Service will provide recommendations for the conservation of approximately 5,000,000 acres of fish and wildlife habitat associated directly with coal mining and reclamation in FY 82 and beyond and will positively impact the quality of habitat in all non-Federal areas of known developable coal deposits.

The Department has directed each of its agencies dealing with coal activities to prepare separate budget requests. As a result, the Service does not receive transfer funds from the Office of Surface Mining for participation in the State and Private Coal Program.

Object Class Distribution

The object class breakdown for the increase is as follows:

	1982 Estimate
Positions other than permanent	$125,000
Total personnel compensation	$125,000
Personnel benefits	$ 13,000
Travel and transportation of persons	15,000
Printing and reproduction	5,000
Other services	35,000
Supplies and material	2,000
Equipment	5,000
Total	$200,000

Power Plant Project

Authorization: 16 U.S.C. 742(a)-754; (Fish and Wildlife Act of 1956). See Environmental Contaminant Evaluation - Monitoring for description of authority.

16 U.S.C. 661-667(e); (Fish and Wildlife Coordination Act). See Environmental Contaminant Evaluation - Monitoring for description of this authority.

Objectives: (1) develop information and techniques to assess, predict, and minimize impacts of electric power generation and maximize opportunities for fish and wildlife and their habitats; (2) provide this information and technology to Service users, other governmental agencies and industry in order to facilitate development of needed power production and ensure full consideration of fish and wildlife in the process.

Base Program: The Power Plant Project develops and disseminates information and impact mitigation technology regarding the ecological aspects of electric power generation and transmission. The Project is diversifying its role to include non-traditional power sources such as small hydroelectric, and is transferring technologies developed for power plants to other problems, such as conflict resolution planning for siting of pipelines or refineries.

Benefits of the Power Plant Project are the improved siting design and management of power plants and transmission facilities in a manner which is sensitive to the needs of associated fish and wildlife resources. These improvements, in turn, are expected to reduce the number and cost of required baseline studies in the future. Based on accurate assessments, expensive control technology may be shown to be unnecessary. For example:

1. Application of transmission line right-of-way maintenance techniques described in the "Managing Transmission Line Rights-of-Way for Fish and Wildlife Manual developed by the Service will enhance fish and wildlife and reduce costs by eliminating or reducing unnecessary and costly clearing practices. Benefits of the use of this manual are being realized by fish and wildlife through incorporation of clearing practices which are sensitive to resource habitat requirements and by utilities through reduced costs associated with the innovative, habitat oriented clearing techniques. For example, the Baltimore Gas

and Electric Company, Maryland, is utilizing the manual to aid in developing right-of-way management "prescriptions". These "prescriptions" involve varied methods of management, many of which involve beneficial habitat manipulation in lieu of complete clearing of all vegetation beneath the lines. This results in significant fish and wildlife benefits while reducing costs for maintenance of the rights-of-way.

2. Application of techniques described in the Project's manual for assessing aquatic impacts will insure the collection of relevant data only and thereby reduce costs over current practices while insuring the best possible predictions for the effects of power plant development on aquatic resources.

A significant portion of the Project's activities are undertaken through contracting. This is due to the diversity of needs, the short-term (generally under two years) responsiveness of product, and the anticipatory nature of the research programs; all of which preclude effective in-house development.

Accomplishments through FY 81 include:

1. Production of a number of reports and manuals containing a synthesis of existing information or development of new information for application to existing or emerging resource problems. For example:

   a. Within one month of the May 18, 1980 eruption of Mt. St. Helens, a technical assistance manual on volcanic ash problems and concerns for fish and wildlife was released. Designed for planning officials and land managers, the manual described various strategies and options for ash disposal which would enhance fish and wildlife welfare.

   b. Preparation of a report describing a conflict resolution process for power plant facility siting. This technique could just as readily be applied to any siting problem such as pipelines, refineries, waste treatment areas, or airports.

   c. Preparation of a technical assistance manual for assessing impacts of power plants on fish and shellfish populations. This report should eliminate the acquisition of irrelevant and extraneous data, reduce costs of conducting necessary site reviews, and increase the reliability of conclusions related to predicted or measured impacts.

   d. Preparation of topical briefs aimed at providing users with current approaches to solving or assessing fish and wildlife impacts associated with power plant facility siting and construction. Topics addressed include entrainment and impingement of aquatic resources on cooling water intake structures. Methods to assess and reduce these impacts, which can be significant depending upon location of the intakes in relation to fish spawning areas, have been described for use by facility planners and designers.

2. Participation with the National Marine Fisheries Service in their analyses of Columbia River Summer Chinook Salmon related to power production on the river.

Through FY 82 the Power Plant Project will:

1. Increase activities related to air quality by:

   a. Publishing a number of topical briefs on the vulnerabilities of selected ecosystems to air pollutants.

2. Develop new technologies, or continue to modify existing ones, for a broader spectrum of power generation problems including:

   a. Fish and wildlife impacts resulting from small hydroelectric generation facilities.

   b. Fish and wildlife impacts associated with transportation of fuel to power plants. This includes coal-slurry pipelines and rail transport.

Workload Factors:	1980	1981	1982
Methods development reports, publications, maps, and manuals	7	9	9
Methods development technical assistance (number of requests)	135	140	140
Agency personnel trained (number of personnel)	120	120	120
Requests for information filled and reports distributed (number)	19,000	19,000	20,000

Systems and Inventory

Authorization: 16 U.S.C. 742(a)-754; (Fish and Wildlife Act of 1956). See Environmental Contaminant Evaluation - Monitoring for description of authority.

16 U.S.C. 661-667(e); (Fish and Wildlife Coordination Act). See Environmental Contaminant Evaluation - Monitoring for description of this authority.

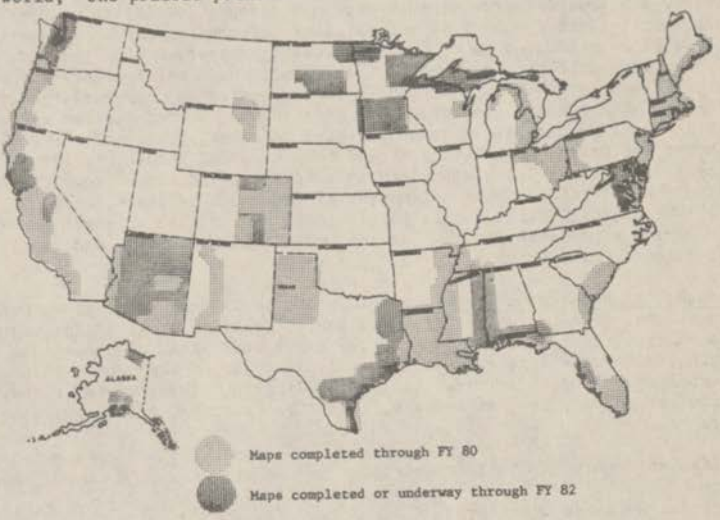
16 U.S.C. 1221-1226; (Estuary Protection Act). This Act requires the Secretary to ". . . conduct directly or by contract a study and inventory of the Nation's estuaries. . .."

33 U.S.C. 446 et seq.; (Clean Water Act of 1977). This Act requires the Secretary of the Interior ". . . to complete the National Wetlands Inventory of the United States . . . and to provide such information from such inventory to States as it becomes available to assist such States in the development and operation of programs under this Act."

Objectives: (1) Develop standardized National procedures for habitat classification and inventory, and encourage and assist with the implementation of these procedures by the Service and other Federal and State agencies to ensure sound resource development and management; (2) conduct a National Wetlands Inventory, develop and disseminate information that will foster wise use of the Nation's wetlands; (3) maximize the effectiveness of Fish and Wildlife Service participation in resource management decisions by improving data acquisition, information management, and analysis capabilities.

Base Program: The Systems and Inventory Subprogram is divided into three projects - National Wetlands Inventory, Habitat Analysis, and Information and

Technology Management. The National Wetlands Inventory Project, based in St. Petersburg, Florida, is conducting a survey of the Nation's wetlands. The inventory, which began its operational phase in FY 77, involves preparation of a data base, in map form, in which wetlands data are collected, interpreted, stored, and reproduced. Wetland maps will be completed for priority areas, and a report on the status and trends of the Nation's wetlands will be prepared using statistical sampling procedures. Through FY 80, the priority areas have been the coastal zone, including that of the Great Lakes, and the floodplains of major rivers. In FY 81 and 82, the Fish and Wildlife Service priority is to continue mapping in the Coastal Zone and in the "duck factory of the world," the prairie potholes.



The National Wetlands Inventory is the only program which systematically documents changes in wetlands. The rate of wetland losses have been estimated at 200,000 to 300,000 acres annually. This project is being conducted with the assistance of the following Federal and State agencies: The Corps of Engineers, Soil Conservation Service, U.S. Geological Survey; Economic Development Administration, U.S. Environmental Protection Agency, Water Resources Council; and agencies of the States of Florida, Georgia, South Carolina, New Jersey, Michigan, Texas, Colorado, New Mexico, Minnesota, and Connecticut. Their assistance ranges from providing full-time liaisons stationed with the inventory in St. Petersburg, Florida, to providing on-the-ground review of draft maps.

A significant portion of the National Wetland Inventory is conducted through two general types of contracts: aerial photograph interpretation and field work; and overlay/map production. The purpose of contracting the aerial photograph interpretation and field work is to obtain the best regional expertise. The inventory has contracted this type of work with the States of Connecticut, South Carolina, Georgia, Texas, New Mexico, Michigan, and

Colorado; the Universities of Massachusetts, Arizona, South Dakota and Oregon, as well as private consultants. Map production is competitively procured, for two years at a time, from one contractor.

The Habitat Analysis Project, through the Interagency Agreement Related to Classifications and Inventories of Natural Resources, is developing and testing methods for national level inventories and assessments of renewable resources. This agreement is between the Bureau of Land Management, Fish and Wildlife, Forest Service, Geological Survey, and the Soil Conservation Service. The Project will also complete testing of a standard format and terminology for computerized fish and wildlife species data bases. This format will provide for a standard source of information on fish and wildlife species. As a result data to satisfy the fish and wildlife information needs of several agencies will be generated in a consistent manner thereby making the data useable for many different purposes. The evaluation of the species data base system will involve pilot applications being conducted in cooperation with five States. The Project also develops, manages and/or transfers to users computerized data management systems designed to store, retrieve, and analyze the diverse ecological information needed to make sound natural resource management decisions. This technology is specifically directed towards increasing the efficiency with which spatial data such as distribution of habitat, vegetation, soils, animal populations, and related information is used in decision processes of the Service and cooperating State and Federal natural resource management agencies.

The Information Management Project develops and implements strategies, policies, and procedures, used by Habitat Preservation to manage ecological information and technology. This includes identifying users and their needs as well as developing, disseminating, and evaluating application of the needed information and technology. Project services include publication of abstracts, technical bulletins, brochures, program reports, exhibits, training, briefings, and seminars.

Accomplishments through FY 81 include:

1. National Wetlands Inventory

    a. Distribution of products, including a wetland classification system, ecoregion maps, a survey of State and local wetland inventories, and a general summary report on our Nation's wetlands. The wetland maps are being used by the Service and other Federal agencies including the Corps of Engineers, Soil Conservation Service, Federal Highway Administration, Environmental Protection Agency, Bureau of Land Management, National Marine Fisheries Service, Housing and Urban Development Agency, National Park Service, U.S. Forest Service, Department of Transportation, Federal Emergency Management Agency, and the Economic Development Administration. The maps are also being used by private organizations, and State and local governments in twenty States including California, Michigan, Colorado, and Alaska.

    b. Participation in the Alaska Joint High Altitude Aerial Photography Program through contribution to acquisition of aerial photography to provide base materials for initiation of wetland mapping activities.

c. Completion of wetland maps and overlays. Through FY 81, the NWI completed 4,375 maps. An additional 1,875 wetland maps will be completed in FY 82. A portion of the funds which are used for map production in FY 80 will be used to support the statistical determination of the status and trends of the Nation's wetlands in FY 81 and FY 82, thus the reduction in the workload factors for map production and distribution.

d. Continuation of a sampling program, initiated in 1980, to statistically determine the status and trends of the Nation's wetlands. This program will continue through 1981 and is scheduled to be complete in March of 1982. This study will be used by National, State and regional biologists and planners in the development of projects involving wetlands.

2. Habitat Analysis

a. Development and implementation of computerized systems for storing, retrieving, and displaying numerical, tabular and textual data using a terminal. Data bases developed include: priority resource areas, used at all levels of management planning for establishing work priorities; data bases for tracking the progress of the National Wetlands Inventory, and for providing National Wetland Inventory users with information on wetland acreages, and values; and habitat requirements and species descriptions for support to State/Federal species data base development.

b. Development and implementation of a geographically based computer system which includes components for storing map and aerial photo based data. The system is being used to support several efforts including: Refuge master planning in the southwest and northeast; the Great Lakes Winter Navigation Study in cooperation with several Federal and State agencies, the Alaska Information Management Service which is used to assess land activities and proposed natural resource impacts by the State and several Federal agencies; and Department of the Interior Digital Mapping Program in coordination with the Geological Survey, Bureau of Land Management, Bureau of Mines, Forest Service, National Park Service and the Water and Power Resource Service.

3. Information and Technology Management

a. Development and implementation of a delivery mechanism which supplies ecological information needed by other Fish and Wildlife Service programs, other Federal agencies, State and other governments, and the private sector.

b. Development and implementation of a user informational services program to make Habitat Preservation capabilities, products and services widely known and available. This facilitates their application in natural resource management and development decisions.

Benefits include better coordination of Federal agency resource data collection and dissemination efforts, allowing each agency to correlate and analyze data collected by other agencies. Other benefits include a reduction in the need for new habitat information collection activities within Federal and State agencies by the provision of a data base of existing habitat information.

Workload Factors	FY 80	FY 81	FY 82
Methods development reports, publication, manuals, maps	2,589	1,816	1,895
Agency personnel trained (number of personnel)	670	900	800
Copies of publications distributed	25,750	25,000	25,000
Man-years spent entering data into geographic information systems	6	8	10
Technical assistance reports	171	180	200

Coastal Ecosystems/Outer Continental Shelf Development

Authorization: 16 U.S.C. 742(a)-754; (Fish and Wildlife Act of 1956). See Environmental Contaminant Evaluation - Monitoring for description of authority.

16 U.S.C. 661-667(e); (Fish and Wildlife Coordination Act). See Environmental Contaminant Evaluation - Monitoring for description of this authority.

42 U.S.C. 4321-4347; (National Environmental Policy Act of 1969). See Land and Water Resource Development Planning - Project Investigations for description of this authority.

43 U.S.C. 1801; (Outer Continental Shelf Lands Act Amendments of 1978). This Act requires the Secretary of the Interior to manage an environmentally sound oil and natural gas development program on the outer continental shelf. The Fish and Wildlife Service provides recommendations for the Department regarding potential ecological impact prior to leasing in specific areas, and contributes to environmental studies undertaken subsequent to leasing.

Objective: (1) Protect fish and wildlife and their habitat and facilitate wise coastal development through development of ecological information and techniques for use in a manner which results in early recognition of fish and wildlife needs. (2) Provide Fish and Wildlife Service support and participation in the Department's coastal energy and minerals development programs. (3) Generate key fish and wildlife species information to improve predictive capability for use in assessments of resource loss and recovery from catastrophic events such as oil spills.

Base Program: This program involves the development and application of fish and wildlife information and impact assessment technologies to environmental problems affecting the Nation's coastal ecosystems, including the effects of Outer Continental Shelf development. By providing such information and

assessment techniques to industry and to Federal, State, and local agencies, the development of coastal resources will be facilitated, and fish and wildlife resources conserved, through incorporation of fish and wildlife needs early in project development decisions. Additionally, the Service provides direct support to the Department's coastal oil and gas leasing, and hard minerals mining programs through analysis of and input to leasing and development activities. Recommendations for the minimization of impacts to fish and wildlife resources are provided to the Department along with support information which permits the selection of alternative development scenarios which have less potential for legal challenges based on inadequate consideration of fish and wildlife resources.

Project activities are carried out by the National Coastal Ecosystems Team at Slidell, Louisiana, and by personnel in each Regional Office. Major Coastal Ecosystems Project activities reflect the growing importance of accelerated offshore oil and gas development, and its effect on the ecologically sensitive habitats of the Nation's coastal zones, which are among the most productive areas of the environment, and are potentially the most vulnerable to development impacts. Providing the appropriate fish and wildlife information to coastal development planning will encourage balanced development with recognition of fish and wildlife needs. Project personnel have worked successfully to provide decisionmakers with applied research results, impact assessment technology, and mitigation recommendations concerning environmental problems affecting the Nation's coastal, nearshore, and offshore environments with particular emphasis on OCS development and production.

Accomplishments through FY 81 include:

1. Establishment of coastal ecological information bases and development of improved techniques to minimize the environmental effects of energy and other development activities on coastal fish and wildlife resources. Among products completed were: an Ecological Inventory of Atlantic Coast Fish and Wildlife resources, synthesis of ecological information for the rocky coast of Maine, the sea islands of South Carolina and Georgia, and the Pacific Northwest coast; an ecological characterization of the Mississippi Deltaic Plain region; an ecological description of North Carolina intertidal flats; and, reports on the distribution and abundance of marine birds in Alaska.

   These products are being used by a wide variety of coastal development interests including energy industries and Federal, State, and local agencies for project planning and evaluation. For example:

   o Atlantic Coast Ecological Inventory - maps generated by this effort are now being incorporated by the U.S. Coast Guard into contingency planning for oil and hazardous substance spills. The maps permit quick and easy identification of important fish and wildlife resources and their habitats which are vulnerable to a spill in a given area. The inventory is being used by the Bureau of Land Management to address such coastal petroleum facility siting problems as Mid-Atlantic pipeline landfalls in New Jersey. Also, the inventory was used in the development of a draft energy/transportation management plan for the States of Delaware and New Jersey.

Demand for the maps is high. Map usage by a wide variety of interests from sport fishermen to petroleum facility siting planners is anticipated.

- Mississippi Deltaic Plain Region Characterization - used by the State of Louisiana in development of its Coastal Zone Management Program. In addition, products of this characterization are being used by the State as baseline data to facilitate processing of State Coastal Use Permits and in predicting cumulative development impacts.

- The Ecology of Intertidal Flats of North Carolina: A Community Profile - is being used by the Universities of North Carolina, Alabama, South Carolina, and Virginia as a text or supplementary text in undergraduate and graduate level courses; and is being used by Coastal Zone Management Programs of the States of North Carolina and Maryland for program education purposes.

2. The Project made significant accomplishments in the area of coordination with other Federal agencies, in the design of environmental studies, and in the synthesis and interpretation of environmental information. For example:

   a. Fish and Wildlife Service personnel provided Departmental decisionmakers with ecologically acceptable recommendations on on proposed Outer Continental Shelf oil and gas lease sale activities involving 7,000,000 acres of fish and wildlife habitat.

   b. Biological information was provided to the Bureau of Land Management and the Geological Survey concerning all 22 proposed oil and gas lease sales. This has enhanced the planning efforts of the Department by providing assessments of potential fish and wildlife resource and other multiple use conflicts early in the decision process. By providing recommendations for mitigating adverse impacts the Service assists the Department in maintaining its leasing schedule.

Specific examples of FY 1982 activities include:

1. Application of Pacific Northwest Ecological Characterization and Pacific Coast Ecological Inventory information to the steelhead trout, chinook and sockeye salmon resource problems of the Columbia River Basin.

2. Completion of habitat mapping as part of the ecological characterization of the Florida Panhandle and Southeast Coast to address fish and wildlife resource problems in the South Florida wetlands and Florida Keys.

3. Completion of bird studies to assess the impacts of the Ixtoc I oil spill, completion of the ecological characterization of the Texas Barrier Island System.

Benefits of the Coastal Ecosystem Project include improved effectiveness in reducing environment/energy conflicts during siting of energy facilities in the coastal zone, especially siting of refineries, storage, and transportation installations. More effective planning and utilization of ecological information will minimize conflicts between development and the environment

thereby improving time and cost effectiveness in development. Benefits also include providing the biological information necessary to meet the environmental mandates of the Outer Continental Shelf Lands Act Amendments and to ensure that the Department's aggressive leasing program remains on schedule. The Service's Outer Continental Shelf Project ensures that fish and wildlife resources receive adequate consideration during OCS oil and gas planning, development, and production activities.

Workload Factors	FY 80	FY 81	FY 82
Methods development publications, maps, and manuals	44	51	41
Methods development technical assistance (number of requests)	120	150	150
Agency personnel trained	800	550	550
Recommendations (e.g., consult, review, report) to Departmental energy and minerals decisions	55	65	65
Outer Continental Shelf permits reviewed	1,800	2,700	3,200
OCS Sale area leases participated in	10	16	27
OCS participation in pre-lease sale steps	168	216	300
Participation in pipeline corridor plans (number of sales)	18	18	18

Increase for FY 82

		1982 Base	1982 Estimate	Inc.(+) or Dec. (-)
Outer Continental Shelf Operational Activities	($)	340	540	+200
	(FTP)	(7)	(7)	(0)

The Interior Department has purused an aggressive Outer Continental Shelf leasing schedule of five sales per year. Comprehensive environmental analysis and full consultation with the affected State is basic to the success of this effort. The $200,000 increase is necessary for the Fish and Wildlife Service to meet the established Departmental schedule of environmental analyses for the accelerated 5-year Outer Continental Shelf oil and gas leasing schedule. This schedule calls for entry into 7 new frontier areas where the oil resources potential is believed to be the highest. The participation of the Service and incorporation of fish and wildlife information into lease scheduling and assessment activities has enable the Department, thus far, to maintain its lease schedule. Current funding, however, will not be sufficient to allow the Service to keep pace with the accelerated schedule. This is particularly important since the accelerated schedule not only impacts Alaskan areas, but also the lower 48. The accelerated 5-year lease schedule increases workload

requirements to analyze fish and wildlife resource assessments for cumulative impacts in specific sale areas from 16 sale areas in FY 81 to 27 in FY 82. These analyses will assist the Department in meeting its environmental responsibilities in biologically sensitive areas.

The increase will be used to supplement the Service's operational activities in the Oil and Gas Leasing Program. Emphasis will be placed upon early participation in sale area planning activities, and preparation of resource reports, for the purpose of providing the necessary fish and wildlife resource information for the Department's leasing decisions in Pacific, North Atlantic and Alaska sale areas. This information, along with impact assessments will be provided to the Bureau of Land Management to permit the selection of oil and gas production alternatives which meet production goals while recognizing area fish and wildlife resource needs. This is especially important to the Department in order to maintain its leasing schedule. The information will form a strong basis for defendable decisions which will withstand legal challenges.

Object Class Distribution

The object class breakdown for the $200,000 increase is as follows:

	1982 Estimate
Positions other than permanent	$100,000
Total personnel compensation	$100,000
Personnel benefits	$ 10,000
Travel and transportation of persons	12,000
Other services	60,000
Printing and reproduction	4,000
Supplies and materials	4,000
Equipment	10,000
Total	$200,000

Water Resource Analysis

Authorization: 16 U.S.C. 742(a)-754; (Fish and Wildlife Act of 1956). See Environmental Contaminant Evaluation - Monitoring for description of authority.

16 U.S.C. 661-667(e); (Fish and Wildlife Coordination Act). See Environmental Contaminant Evaluation- Monitoring for description of this authority.

33 U.S.C. 125 et seq.; (Federal Water Pollution Control Act). See Environmental Contaminant Evaluation - Monitoring for description of authority.

Objectives: (1) Develop information and techniques to assess, predict and minimize water development impacts and maximize opportunities for fish and wildlife and their habitat; (2) assist States and Federal agencies, through training and technical support, to solve fisheries problems related to stream flow requirements and management of streamside vegetation; (3) develop methods for measurement of riparian habitat values and identify ways in which development in riparian ecosystems can take place in an environmentally sound manner.

Base Program: This project consists of applied research, impact assessment methods development, training, and technical assistance on the implications of stream alterations, riparian development, water allocation (primarily changes in stream flow) and water resource development on fish and wildlife resources.

Studies initiated by the project are intended to strengthen fish and wildlife considerations in the decisionmaking process at the State and local level by providing advance information for water development siting decisions, state-of-the-art methods for ecological assessments, and a broad array of options for planning purposes. Significant elements of the project involve development of State maps displaying relative stream fishery values for use by State and Federal environmental, land use, and fish and game agencies as planning tools; evaluation of past efforts to mitigate the effects of water development on fish and wildlife; and development of methods for determining stream flow requirements for aquatic resources.

Implementation of project activities is through the Western Energy and Land Use Team in Fort Collins, Colorado; the Eastern Energy and Land Use Team in Leetown, West Virginia; and general staff personnel in Fish and Wildlife Service offices in Alaska, Oregon, New Mexico, Mississippi, Georgia, Massachusetts, Colorado and California.

The Project's products, which include handbooks, technical documents, and maps, are used by Service operational personnel in the Division of Ecological Services, by other Federal agencies (e.g., Soil Conservation Service, Water and Power Resources Service, Corps of Engineers, Environmental Protection Agency, etc.) and by the States in their water development activities.

Accomplishments through FY 81 include:

1. Continued development and implementation of methods for assessing impacts of altered stream flows on aquatic ecosystems.

2. Continued to provide training on field techniques for assessing instream flow needs, computer analyses of instream flows, water administration, and stream measurement techniques to approximately 600 biologists and water managers from States, Fish and Wildlife Service, other Federal agencies and private firms per year.

3. Preparation of reports on topics related to stream alterations and their impacts on fish and wildlife. Included are:

   - o A synthesis of the effects of bank stabilization on the physical and chemical characteristics of streams and small rivers.
   - o A report on the status of riparian ecosystems in the United States.
   - o A report on the impacts of stream alterations on riparian communities in southcentral Oklahoma.
   - o A report on the responses of submerged vascular plant communities to environmental changes such as reduced water flows.
   - o A technical systhesis of functions, values, and management of riparian ecosystems.

74-939 O—80——55

- o A report on the biological and economical impacts of stream alterations in the Virginia Piedmont.
- o A report on the impacts of stream alteration and grazing on riparian communities in Iowa.
- o A report on the potentials and hazards of using municipal wastewaters to create and maintain riparian ecosystems.
- o A synthesis of the effects of channelization on fish and wildlife.

The products generated by the project are in response to demonstrated information needs regarding management of the Nation's aquatic resources, especially those associated with riparian ecosystems. Benefits of the Water Resources Analysis Project are: improved siting of water development projects, improved protection and enhancement of fish and wildlife resources as an integral part of water resource development, and more accurate assessments of impacts. Reduction of delays and litigation associated with many water development projects is made feasible by consideration of fish and wildlife during the early design stages. By working with water developers and assisting them with advanced prediction of development impacts, the Water Resources Analysis Project provides tools and methods to directly benefit aquatic resources.

Workload Factors:	FY 80	FY 81	FY 82
Methods development publication, maps and manuals	60	60	70
Methods development technical assistance (number of reports)	350	450	450
Agency personnel trained (number of personnel)	665	600	600
Recommendations (e.g., consult, review report) to Departmental water, energy and minerals decisions	20	25	27

Increase for 1982	1982 Base	1982 Estimate	Increase
$	200	400	+200
(FTP)	(4)	(4)	(0)

Development and Application of Solutions to instream flow problems. (Current 200, Increase +200).

Allocation of water resources among competing users has become a major factor in water resources management especially in the West and near heavily populated Eastern cities. The technical assistance capabilities developed by the Service's Instream Flow Group and delivered to approximately 1200 users per year (FY 79, 80) are providing water managers with a technically sound methodology of quantitatively determining biological implications of stream flows.

The Instream Flow Group, located at the Service's Western Energy and Land Use Team in Fort Collins, Colorado, provides major technical assistance and training in stream flow allocation impact analyses to Federal personnel on a reimbursable basis. Arrangements for providing similar services for State personnel and private interests are being pursued. The current level of technical assistance requests is approximately 1200 per year. Service funding for FY 81 ($200,000) will allow for a diminished core group from that of FY's 79 and 80. This group will be capable of responding on a reimbursable basis to approximately half (600) of the technical assistance requests received. Activities carried out by the Instream Flow Group consist primarily of the following:

1. Maintenance of instream flow expertise
2. Refinement of assessment methods
3. Technical assistance

The maintenance of group expertise and refinement of assessment methods are especially important since the progress made in these areas is then delivered to the user community through improved technical assistance. As such, the opportunity to carry out refinement of assessment methods, for example, is not available since a majority of the funding is on a reimbursable basis and is therefore earmarked for specific user reimbursed needs. At current funding levels the majority of the groups' efforts are directed toward securing technical assistance reimbursement which precludes important maintenance of expertise and assessment methods refinement capabilities. Additionally, efforts directed toward securing outside funding result in a decreased level of support to the Fish and Wildlife Service's own operational personnel.

The increase for FY 82 will be used to bolster the basic Instream Flow Group capability to adequately handle the technical assistance workload with maximum use of reimbursement procedures. A $400,000 funding level is considered essential to maintain the core group activities at an acceptable level of expertise and systems refinement in addition to its ability to provide technical assistance to 600 users per year.

Object Class Distribution

The object class breakdown for the $200,000 increase is as follows:

	1982 Estimate
Positions other than permanent	$125,000
Total personnel compensation	$125,000
Personnel benefits	$ 13,000
Travel and transportation of persons	15,000
Printing and reproduction	10,000
Other services	7,000
Supplies and material	10,000
Equipment	20,000
Total	$200,000

Geothermal, Minerals and Oil Shale

Authorization: 16 U.S.C. 742(a)-754; (Fish and Wildlife Act of 1956). See Environmental Contaminant Evaluation - Monitoring for description of authority.

16 U.S.C. 661-667(e); (Fish and Wildlife Coordination Act). See Environmental Contaminant Evaluation - Monitoring for description of this authority.

42 U.S.C. 4321-4347; (National Environmental Policy Act). See Land and Water Resource Development Planning - Project Investigations for description of authority.

Objectives: (1) Develop fish and wildlife information and techniques to be used to facilitate development of environmentally balanced Departmental minerals resource development programs; (2) identify specific impacts on fish and wildlife resources and techniques to minimize the adverse effects of exploration and development; (3) provide technical support to energy and minerals development interests to insure adequate consideration of fish and wildlife resources in energy and minerals development considerations.

Base Program: This program deals with ecological effects resulting from the development of energy and minerals, other than coal, on Federal lands; and national priority Federal energy development projects on non-Federal lands.

A significant portion of the Minerals Project is conducted through contracts. Because most research needs are addressed in one or two year efforts, it is not possible to establish an in-house capability without sacrificing responsiveness to evolving issues.

The project is focused on fulfilling the Department's non-coal energy mining priorities, including the Prototype Oil Shale Leasing Program in Colorado, Wyoming, and Utah; Tar sands development in Utah; uranium mining and milling both in the arid southwest and in the Northern Great Plains; exploration and development of the Nation's geothermal resources; and other priority development of energy and non-energy minerals. The Project is increasing its emphasis on phosphate and limerock mining reclamation in Florida and peat development in the Great Lakes region and the southeastern States. The Department's new thrust in desertification is receiving significant development assistance from the Project.

Accomplishments through FY 1981 include:

1. Continued active participation in priority Department of the Interior programs and new legislation development, including:

   a. Direct assistance to the National Plan of Action to Combat Desertification;

   b. Direct assistance through membership on the Interagency Working Group on Oil Shale;

   c. Participation in the Department's Non-Fuel Minerals Task Force.

2. Active research and development of mitigation practices and technologies in support of non-energy mining:

a. Completion of a three year demonstration project to reclaim abandoned phosphate slime ponds to wetlands in central Florida;

b. Completion of the third and final phase of the Southeast Idaho Phosphate Development Wildlife Replacement Alternatives Study by applying a computerized wildlife management system, developed by the Service, to the specific habitats of the Southeast Idaho Mining Region. The study demonstrates new technologies which allow planners to evaluate alternative wildlife reclamation options and determine the most cost effective approach in a short period of time.

c. Completion of a technical report and manual on fish and wildlife considerations in hardrock mining reclamation in the upper midwest. This manual is designed to provide Service and industry reclamation specialists with sound management principles, as well as to serve as a source book for information and technologies in implementing mined land reclamation plans.

3. Development and dissemination of sound management practices and mitigative technologies in energy-related mining:

a. Preparation of a technical report on considerations for fish and wildlife resources in uranium-mined lands on Indian lands in the desert southwest;

b. Completion and implementation of a management information system developed to provide wildlife managers with replacement alternatives in the prototype oil shale leasing area of Colorado, Utah and Wyoming. This technology has been utilized by Colorado and Wyoming wildlife agencies as a method for State planning.

c. Preparation of a technical report on the impacts of peat mining in the upper midwest to aquatic organisms. This report is timely in that it has been incorporated by the Department of Energy in their Programmatic EIS of Peat Development as an Alternative Energy Source;

d. Conduct of parallel studies on the development of waterfowl enhancement areas from geothermal and oil shale wastewater in the arid western U.S.

4. Active participation in assuring wildlife protection in the development of geothermal resources through:

a. Establishment of an operational program of technical review and assistance to other Federal agencies. The operational activities are being carried out by the Service's Division of Ecological Services.

b. Provision of ecological data, recommendations, and stipulations to the Bureau of Land Management and the U.S. Geological Survey on geothermal leasing, exploration, and development activities involving 3,778,076 acres of Federal land.

c. Provision of recommendations to the Bureau of Land Management and the U.S. Geological Survey on 301 competitive leases covering over

520,000 acres found within 107 known Geothermal Resources Areas, 1,400 non-competitive leases covering 2.7 million acres outside of known Geothermal Resource Areas, and 159 Environmental Assessments prepared for exploration activities.

Through FY 82, the Minerals Project will:

1. Increase its activities directed toward reducing fish and wildlife/minerals development conflicts by developing mitigation technologies and responding to technical assistance requests:

   a. Prepare a technical manual for Service biologists to enable them to review and respond to Corps of Engineers "Section 404" permits on limerock mining areas in south Florida. Presently, no proven technologies exist to recommend for mitigating drained or partially drained wetlands in this area, and these procedures will simplify the present review process.

   b. Expand its role in the identification of impacts and mitigation methods for the harvesting of peat in the eastern U.S. This effort will supplement and assist the Department of Energy in preparation of a Programmatic EIS on Peat Development as an Alternative Energy Source:

2. Continue participation and direct assistance to Department of the Interior in minerals leasing and legislative priorities:

   a. Continue to provide direct support to the Oil Shale Advisory Panel, and technical assistance to the U.S. Geological Survey's Oil Shale Supervisor's Office.

   b. Continue to provide technical assistance to BLM and USGS pursuant to a 1976 Memorandum of Understanding regarding geothermal development on Federal lands.

Workload Factors	1980	1981	1982
Methods development publications, maps and manuals	8	12	11
Methods development, technical assistance	30	40	40
Recommendations (e.g., consult, review, report) to Departmental energy and mineral decisions	25	25	40
Complete mapping of fish and wildlife resources in areas being considered for tract delineation in the Oil Shale Leasing Program (sq. miles)	0	0	1,867
Complete mapping of fish and wildlife resources in areas being considered for tract delineation in the Prototype Tar Sands Leasing Program (sq. miles)	0	0	1,067
Participation in Geothermal Leases (number of new leases)	2	3	4
Participation in exploratory geothermal drilling reviews	125	125	125

Increase for 1982		1982 Base	1982 Estimate	Increase
Oil Shale/Tar Sands Activities	($)	141 (1)	518 (1)	+317 (0)

Departmental decisions have called for expansion of the current oil shale prototype leasing program by December 1982, development of a permanent oil shale leasing program, and development of a prototype tar sands leasing program by April 1983. The Service will be called upon to provide support to the Department's oil shale and tar sands planning and leasing activities. The purpose of the Service's involvement is to ensure full consideration of fish and wildlife needs within the oil shale and tar sands planning and review activities. This will result in more informed decisionmaking by the Bureau of Land Management and substantially reduce the likelihood of legal challenges based on inadequate consideration of fish and wildlife resources.

The Service's past and present activities in oil shale are entirely directed toward supporting the Department's earlier limited oil shale leasing program. In this regard, resources are principally allocated to participation in the Department's Oil Shale Advisory Panel and the Oil Shale Supervisor's Office. This includes research and development of means to mitigate or reclaim areas affected by the few technologies in present use. The expanded oil shale program will far outstrip the Service's capabilities to support Departmental activities: An increase of $262,000 will be required to provide to the Department the operational support necessary to meet oil shale energy development goals within the time frame developed. This includes participation in the following activities:

A. Prototype Oil Shale Leasing Program ($187,000)

1. Mapping of fish and wildlife resources in areas being considered in the tract delineation process
2. Interpretation of resources data
3. Participation in the Bureau of Land Management's Land Use Management Activities
4. Assistance to the Bureau of Land Management's site specific analyses

B. Permanent Oil Shale Leasing Program ($75,000)

1. Participation in development of the permanent program
2. Participation in the development of the Programmatic Environmental Impact Statement

The Service currently has no activity in tar sands. An increase of $115,000 will be required to support the Department's tar sands activities.

A. Prototype Tar Sand Leasing Program ($115,000)

1. Mapping of fish and wildlife resources in the areas being considered in the tract delineation process

2. Interpretation of resources data

3. Participation in the Bureau of Land Management's Land Use Management Activities

4. Assistance to the Bureau of Land Management's site specific analysis

Participation in the above activities will ensure the full consideration of fish and wildlife needs in the 1,867 square miles of habitat within the prototype oil shale leasing program and 1,067 square miles of habitat within the prototype tar sands leasing program. Such consideration will be made possible by development and application of fish and wildlife information data bases to energy production needs. This will result in more informed decision-making as well as reduced costs and time for analyses.

Object Class Distribution

The object class breakdown for the $377,000 increase is as follows:

	1982 Estimate
Positions other than permanent	$160,000
Total personnel compensation	$160,000
Personnel benefits	$ 16,000
Travel and transportation of persons	15,000
Printing and reproduction	5,000
Other services	156,000
Supplies and materials	5,000
Equipment	20,000
Total	$377,000

Exhibit 8 (cont'd.)

Activity: Habitat Preservation

Subactivity: Cooperative Research Units

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted to date	1982 Base	1982 Estimate	Inc. (+) or Dec. (-)
Cooperative Research Units	($)	4,629	4,915	4,915	-
	(FTP)	94	94	94	-
Common Program Services		494	505	505	-
Total Requirements:	($)	4,629	4,915	4,915	-
	(FTP)	94	94	94	-

Authorization: 16 U.S.C. 753a-753b; (Cooperative Unit Act). This law provides cooperative programs for research and training between the Fish and Wildlife Service, the States, and Universities.

Objectives: (1) Provide a medium for Federal, State, and university cooperators to conduct cooperative research on resource management issues of high priority; (2) provide through advanced training an adequate complement of highly trained resource managers; and (3) provide technical assistance and promote conservation education for the cooperating agencies on programs related to the conservation and understanding of fish and wildlife and their habitat.

Base Program: 26 Cooperative Fishery Units, 21 Cooperative Wildlife Research Units, and 3 combined Fish and Wildlife Research Units are currently in operation at 31 State universities throughout the country. See the following table for Unit locations. The combined Unit concept unifies traditionally separate fish and wildlife disciplines to investigate complex ecosystem-related issues such as Bottomland Hardwood Management in the Mississippi Delta, and energy development problems in Wyoming.

Exhibit 8 (cont'd.)

Cooperative Research Units

State	University	Fishery	Wildlife	Combined
Alabama	Auburn University	x	x	
Alaska	University of Alaska	x	x	
Arizona	University of Arizona	x	x	
California	Humboldt State University	x		
Colorado	Colorado State University	x	x	
Florida	University of Florida			x
Georgia	University of Georgia	x	x	
Hawaii	University of Hawaii	x		
Idaho	University of Idaho	x	x	
Iowa	Iowa State University	x	x	
Louisiana	Louisiana State University	x	x	
Maine	University of Maine	x	x	
Massachusetts	University of Massachusetts	x	x	
Mississippi	Mississippi State University			x
Missouri	University of Missouri	x	x	
Montana	Montana State University	x		
	University of Montana		x	
New York	Cornell University	x	x	
North Carolina	North Carolina State University	x		
Ohio	Ohio State University	x	x	
Oklahoma	Oklahoma State University	x	x	
Oregon	Oregon State University	x	x	
Pennsylvania	Pennsylvania State University	x	x	
South Dakota	South Dakota State University	x	x	
Tennessee	Tennessee Technological University	x		
Utah	Utah State University	x	x	
Virginia	Virginia Polytechnic Institute and State University	x	x	
Washington	University of Washington	x		
Wisconsin	University of Wisconsin at Stevens Point	x		
	University of Wisconsin at Madison		x	
Wyoming	University of Wyoming			x

The Cooperative Units receive their direction from the Service, State and university cooperators. The Wildlife Management Institute is a cooperator for the Wildlife Research Units and the combined Fish and Wildlife Research Units. Service policy continues to emphasize research on ecological issues of national and regional significance. The Units coordinate their activities with other Service programs, integrate Cooperative Unit research with that of Service research laboratories and centers, and work with management offices of the Service on studies of high priority. The demand for resource management information has become a major factor in shaping the management of the Cooperative Units program. The Service recognizes that properly supervised graduate researchers provide an effective means of obtaining sound resource information. Graduate students and Unit staffs are able to perform more in-depth research by supervising technicians who do routine data collection and research activities. This enables graduate students to obtain valuable supervisory experience, provides technicians with experience necessary to qualify for careers, and aids in carrying out complex resource management projects.

Exhibit 8 (cont'd.)

The following workload factors are related to the Unit output:

Measure	1980 Level	1981 Level	1982 Current Level
Research Projects	523	450	425
Training Sessions	35	40	35
Graduated Students	125	95	90
Minorities Enrolled	20	20	20
Scientific Publications	140	120	100
Cooperative research and training equivalents in full-time students or post-graduates per year	575	550	500

Training is defined as graduate courses, short courses, workshops, seminars, symposia, directed study, or research taught or supervised by Unit personnel.

Reductions are projected in number of research projects, graduate students, numbers of students being trained, and other outputs based on increased costs of field expenses and graduate stipends, ceilings on travel to conduct work, lack of funds to pay for publication costs, and reduced capability to pay directly for minority student training. This program has no fund increase for FY 80, 81, and 82 during a period of rising costs for education, personnel, and research.

During 1980, about 125 graduate professionals completed training throughout the Unit program and most are employed in Federal, State or private conservation agencies. Approximately 450 graduate professionals receive direct supervision and counsel from Unit personnel on a wide array of pertinent research studies.

	Number of Research Projects		
	1980	1981	1982
Animal Damage Control	14	15	15
Biological Services	74	50	50
Endangered Species	29	30	35
Environmental Contaminant Evaluation	29	20	25
Fisheries Resources	187	165	150
Interpretation and Recreation	3	10	5
Land and Water Resource Development Planning	33	25	25
Mammals and Non-Migratory Birds	104	95	90
Migratory Birds	50	40	40
Total	523	450	425

In 1978, P.L. 95-616 added authority to pay for assistance of other researchers on fish and wildlife ecology and resource management projects. This authorization considerably expands the work that can be carried in that the Units can now be a focal point for directing scientific research in all facets of fish and wildlife. For FY 80, the Units secured $4.8 million in contracts and grants, up 45 percent from FY 79. These funds were, by source: $1,462,455 in Fish and Wildlife Service contracts; $1,525,329 in other Federal agency contracts; and $1,806,860 in State, university and private contracts. FY 80 increases demonstrate that the new legislation facilitates financing research through the Unit program.

Exhibit 8 (cont'd.)

Some examples of activities and accomplishments from ongoing research, which are funded through agreements with other Service programs and cooperating agencies include: (1) effects of the Central Arizona Project on Arizona wildlife; (2) continuing interdisciplinary investigations on effects of stream channelization, strip mining, and energy developments on fish and wildlife resources; and (3) studies on common fish and wildlife species to provide information for each of the cooperating agencies for use in resource management decisions; and (4) studies on the propagation and biology of the endangered cui-ui sucker.

The Units also allow increased capability and flexibility in Service research on priority issues through the close contacts and working relationships with professionals at 31 universities. Results of research done through the Units are transmitted to appropriate Federal and State conservation agencies, and are used in active management of fish and wildlife resources across the United States. The Units promote conservation education, including the training of minority students and continuing education of Federal and State biologists. Minority enrollments will continue to rise through special programs through the Units if outside funds can be acquired. In many cases, the Units provide especially close working relationships with universities, and private conservation groups.

No increases are requested in this program for FY 82.

Justification of Program and Performance

Activity: Wildlife Resources
Subactivity: Migratory Bird

(Dollar amounts in thousands)

		1981 Appropriation Enacted to Date	FY 1982 Base	FY 1982 Est.	Inc. (+) or Dec. (-)
Migratory Bird Refuges	$	39,922	43,058	50,078	+7,020
	(FTP)	(906)	(906)	(936)	(+30)
Migratory Bird Law Enforcement	$	6,476	6,985	7,923	+938
	(FTP)	(132)	(132)	(132)	(0)
Migratory Bird Research	$	6,228	6,718	6,996	+278
	(FTP)	(113)	(113)	(113)	(0)
Migratory Bird Management	$	7,330	7,904	8,004	+100
	(FTP)	(156)	(156)	(156)	(0)
Common Program Services	$	(6,408)	(7,429)	(7,494)	(+65)
Total Requirements	$	59,956	64,665	73,001	+8,336
	(FTP)	(1,307)	(1,307)	(1,337)	(+30)

Migratory Bird Refuges

Authorization: 16 U.S.C. 742a - 742j - Fish and Wildlife Act of 1956.
The Act of August 8, 1956, as frequently amended, establishes a comprehensive national fish and wildlife policy. Among other things, it authorizes the Secretary of the Interior to take steps "required for the development, management, advancement, conservation, and protection of wildlife resources through research, acquisition of refuge lands, development of existing facilities, and other means."

16 U.S.C. 668dd - 668ee - National Wildlife Refuge System Administration Act of 1966.
This Act constitutes an "Organic Act" for the National Wildlife Refuge System by providing guidelines and directives for administration and management of all areas in the system, including "wildlife refuges, areas for the protection and

conservation of fish and wildlife that are threatened with extinction, wildlife ranges, game ranges, wildlife management areas, or waterfowl production areas."

16 U.S.C. 715 - 715d, 715e, 715f - 715k, 715n - 715r - Migratory Bird Conservation Act.
This Act established the Migratory Bird Conservation Commission to approve areas recommended by the Secretary of the Interior for acquisition with Migratory Bird Conservation Funds. Procedures were established for acquisition by purchase, rental, or gift of areas for migratory bird sanctuaries, and the Secretary of the Interior is authorized to maintain and develop refuges.

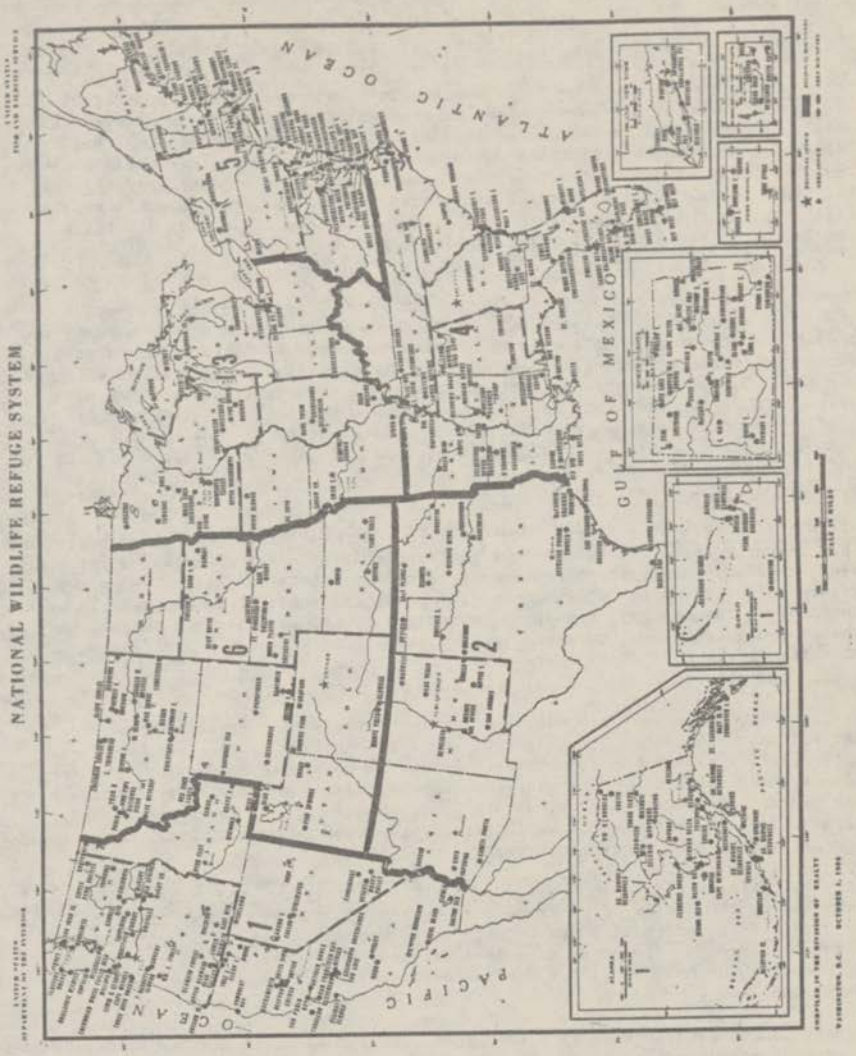
The Alaska National Interest Lands Conservation Act. Public Law 96-487.
This Act, of December 2, 1980, provides for the designation and conservation of certain public lands in Alaska, including the designation of units of the National Park, National Wildlife Refuge, National Forest, and National Wilderness Preservation Systems. It establishes 9 new and enlarges 7 existing national wildlife refuges in Alaska, as well as creating new units in other national conservation systems; directs specific studies of fish and wildlife resources in several regions of Alaska; establishes subsistence use of renewable resources as the priority consumptive use on public lands in a program to be conducted by the State of Alaska with reimbursement from the Federal Government.

Objectives: To manage units of the National Wildlife Refuge System to: provide optimum amounts of high quality wildlife habitats throughout the United States; provide protection to migratory birds while they are on refuges; maintain and enhance breeding, migration, and wintering habitat for migratory waterfowl; and place special management emphasis on migratory bird species which have low population levels, such as trumpeter swans, prairie falcons, and white pelicans.

Base Program: The National Wildlife Refuge System is an extensive network of federal lands providing habitat valuable to wildlife. Refuges in the system as of September 30, 1980 are shown on the map on the following page. In December 1980, with the addition of 53.7 million acres in Alaska, the Refuge System encompassed 88.7 million acres located in 49 of 50 States (the one exception is West Virginia), Puerto Rico, the Virgin Islands, American Samoa and the Pacific Trust Territories.

The System includes 404 national wildlife refuges and 19 wetland management districts (8 districts are headquartered at national wildlife refuges) comprising 1.6 million acres in IA, ME, MN, MT, NB, ND, SD, and WI. The Service acquired waterfowl production areas in Iowa in 1980 and expects to acquire areas in Michigan in 1981. Two former national monuments in Alaska (Becharof and Yukon Flats), containing 11.8 million acres, became units of the National Wildlife Refuge System with the signing of the Alaska National Interest Lands Conservation Act on December 2, 1980.

The National Wildlife Refuge System is endowed with a great variety and abundance of resources. Extending from Alaska east to Puerto Rico and the Virgin Islands and west to the South Pacific Islands, this ecological diversity requires a complex array of wildlife management techniques to achieve objectives of the Migratory Bird, Mammals and Non-Migratory Bird, Interpretation and Recreation, and Endangered Species Programs. Although 385 refuges are categorized as migratory bird refuges, every refuge provides habitat for migratory birds and therefore has value for meeting the Migratory Bird Program


NATIONAL WILDLIFE REFUGE SYSTEM
ATLANTIC OCEAN
GULF OF MEXICO
PACIFIC OCEAN
1
2
3
4
5
6

FWS-67

objectives.

The resource management program on national wildlife refuges includes:

Marsh and water management - Water management on refuges varies considerably because of the wide variety of water sources which nourish lakes, streams, and marshes on individual areas. Some refuges are located on, or adjacent to, reservoirs constructed for other purposes where control of water levels is the responsibility of other agencies. Some coastal units encompass bays, lagoons, and tidal pools. Others, particularly those in the West, must operate within limits established by state water-right laws and local irrigation districts which dictate the amount of water available to the refuge. The Service manages 255,000 acre-feet of water, primarily in western states.

Marshes are a prominent physical feature of many refuges and are extremely important to waterfowl management. Marshes are constantly undergoing changes in plant succession, sometimes subtle, sometimes abrupt. The proper stage of succession makes a particular marsh attractive and valuable to various wildlife species. On some refuges, natural change is the principal factor which maintains marshes in conditions favorable to certain species. On other refuges, highly productive marshes are created and maintained by systems of dikes, pumps, and water control structures, management of marsh and water areas may include manipulation of water levels, vegetation control, and developments such as dikes, islands, and ponds.

Grassland Management - Several objectives may be met through managing the grassland resource on refuges in various geographic areas. For example, on refuges along the Gulf Coast, the objective is to reduce vegetation height and old growth to provide sites where geese can browse the short green forage. In other sections of the country, grassland is managed to maintain the necessary interspersion of vegetation, thus providing diversity of habitats for different wildlife species. Primary emphasis is given to maintaining optimum habitat for ground-nesting birds.

Haying and grazing have secondary values involving man's use of a renewable natural resource. Such use is permitted if it enhances or does not conflict with wildlife management objectives. Haying is conducted on refuges to control undesirable vegetation (weed and brush encroachment), to provide green browse for geese, and as part of agricultural crop rotations. It is conducted under terms of special use permits which specify the area to be cut, time of cutting, and fees to be paid to the Government.

Certain habitats can be improved for wildlife by rotating the areas hayed and lengthening the number of years between cutting. Grazing by domestic livestock is conducted under special use permits stipulating time of stock entry and removal, payments, number of animals permitted, and other special conditions. On a nationwide basis, 2,121,000 acres were grazed and 24,200 acres were hayed in FY 1980.

Prescribed burning is used as a management tool to maintain desired successional stages of grasslands or to change range composition from dominant plants to species more desirable for wildlife. Research has shown that fire can be used effectively in grassland management to achieve desired wildlife objectives.

Forest management - Refuge forest lands are managed in accordance with approved management plans which prescribe timing of work to be done, methods of harvest,

species to be harvested, access roads to be used, disposition of slash, and reseeding. These plans are written and implemented by professional foresters under guidance of wildlife biologists.

Forest lands on 65 refuges total approximately 2.4 million acres. However, because of policy, location, or growth conditions, only about 445,000 acres are available for growing trees on a sustained yield basis. Forest management practices conducted on these lands are governed by the specific wildlife habitat needs of a given refuge. Twenty refuges have significant forest acreages, while 45 have acreages classified as woodlots. (Data on the new Alaska Refuge lands is not yet available.)

Forest-wildlife management on refuges encompasses the best techniques of both all-aged and even-aged silviculture principles. The most successful demonstration of wildlife and timber coordination has been developed under a combination of these principles.

Following several periodic selective thinnings, stands are usually regenerated through either shelterwood or seed-tree cutting techniques. Regeneration patterns are designed and distributed to provide quality habitat and a favorable environment for wildlife-oriented education and recreation. Habitat variety is assured by restricting the size of each age stand. Natural regeneration is used in establishing new stands of trees, but in some instances mechanical planting is desirable. Prescribed burning is an important management tool for improving pine forest habitat and reducing wildfire, disease and insect hazards.

Another management technique, has been the development of "greentree reservoirs" on refuges. Low level dikes are constructed around blocks of mast producing trees to permit flooding during winter months when the trees are dormant. Waterfowl use these areas extensively, feeding on seeds, mast, and emergent plants in the shallow impoundments.

Cropland management - The primary objective of cropland management is to provide food and cover for wildlife and, in some areas, to help alleviate wildlife depredations on adjacent private lands. Making economic opportunities available to qualified cooperators, when they are compatible with primary wildlife management goals, is incidental to higher priority responsibilities.

The magnitude of farming varies significantly between refuges and depends upon wildlife needs and the availability of natural foods. Lands cultivated range from ten or twenty-acre wildlife food plots to fields covering several hundred acres. Farming operations are conducted by refuge personnel or by permittees and are similar to those normally performed on surrounding private lands. Commonly, the refuge portion, under a sharecrop arrangement, is left standing in the fields for wildlife use.

In 1980, some 138,000 acres were cultivated on 131 refuges and 12 wetland management districts. Refuge personnel farmed approximately 23,000 acres, and nearly 650 cooperators farmed the remaining 115,000 acres. Cooperators received an average two-thirds share, but shares can vary as much as fifteen percent, depending upon the services required. Wildlife feed on grain missed during harvest and regrowth occurring on these harvested areas.

Other Management - Not all refuge lands are intensively managed; some are retained perpetually in their natural state, for reasons such as accessibility, need to protect endangered species, legal restrictions, or simply the objective

74-939 O—80——56

of maintaining naturalness. Undisturbed areas provide diversity and control areas for other management programs. Wilderness areas, scientific sites, and natural areas are examples of habitats maintained in a natural condition.

The vast and diverse management programs on refuges require facilities such as roads and trails (6,340 miles), dikes (2,650 miles), water control structures (7,790) buildings such as headquarters, workshops, storage sheds, and vistor centers, (3,595 facilities), and a wide variety of light and heavy equipment and vehicles.

The following data are indicative of the workload in the refuge program:

National Wildlife Refuges	FY 1980	FY 1981 Estimate	FY 1982 Estimate
		1/	
Number of Refuges	420	404	404
Total Acres Managed (Millions)	81.7	81.8	86.8
Cropland (Acres)*	138,000	139,000	139,000*
Grassland (Acres)*	2,435,000	2,438,000	2,438,000*
Forest Managment (Acres)*	2,410,000	2,412,000	2,412,000*
Road and Trails (Miles)*	6,320	6,340	6,340*
Dikes (Miles)*	2,630	2,650	2,650
Buildings and Facilities (#)*	3,565	3,575	3,595

1/ Consolidation of Alaska refuges resulted in fewer individual units but increased acreage.
*Some workload factors for the new Alaska refuges are not yet available.

Waterfowl Production Areas			
Acres (millions)	1.6	1.6	1.6
States (number)	9	9	9
Coordination Areas			
Acres (millions)	0.4	0.4	0.4

Increase for 1982	1982 Base	1982 Estimate	Increase
$	1,747	4,524	+2,777
(FTP)	(906)	(931)	(+25)

Management of New and Expanded National Wildlife Refuges in Alaska - An Overview

Section 302 of the Alaska National Interest Lands Conservation Act establishes nine new units of the National Wildlife Refuge System totaling about 26.6 million acres. Section 303 consolidates 18 existing refuges comprising 22.3 million acres into seven units, enlarges them by 27.1 million acres for a total area of 49.4 million acres and, in some cases, changes their names. These 16 refuges, totaling 76 million acres, and their fish and wildlife resources are described herein and displayed on the accompanying map. Section 304 establishes policies and requirements under which these refuges will be administered.

The principal purposes for which the Alaskan Refuges were established and enlarged include:

- conservation of fish and wildlife, their habitats and their natural diversity;
- fulfillment of international treaty obligations;
- assuring preference for traditional subsistence uses by local rural residents;
- maintenance of water quality and quantity; and
- protection of special values, such as archeological and geological features

The focus of management on these units is maintenance of all natural and cultural values, with particular emphasis on fish and wildlife and their habitats. In addition, traditional as well as other authorized uses of these lands and resources, including the important and sensitive issue of subsistence use, must be accomodated in a manner that perpetuates the habitat and the resources it supports.

In managing these new units of the National Wildlife Refuge System, however, several factors and difficulties unique to Alaska become important in determining management objectives and strategies:

- native cultures and the "frontier" lifestyle of other rural Alaskans are based on subsistence use of fish and wildlife and other products of the land by tradition and due to the high cost of the alternative sources of food and materials;
- the remoteness of most of these refuges, their immense size, and resultant transportation difficulties;
- low human populations and density;
- the great diversity and, in many instances, fragility of these pristine ecosystems;
- the legislative mandate to assure that adjacent habitat in the same watershed or other areas of ecological concern is managed in concert with refuge habitat; and
- the large number and great extent of inholdings that are expected to remain indefinitely within refuge boundaries.

Brief Description of Refuges Established or Expanded by the Alaska National Interest Lands Conservation Act (P.L. 96-487)

The location of each refuge is depicted on the accompanying map.

New Refuges

The Alaska Peninsula National Wildlife Refuge includes 3,500,000 acres on the South side of the Alaska Peninsula. It is bounded by Becharof Refuge to the north and the Izembek and Alaska Maritime Refuges to the south. The refuge supports fish and wildlife resources of local, national, and international significance. These resources include major populations of brown bear, caribou, moose, as well as substantial marine mammal populations, vital staging areas for waterfowl and shorebirds, significant raptor populations, large nesting colonies of marine birds, salmon populations of considerable importance to local, national, and international fisheries and a variety of other fish and wildlife species.

The Becharof National Wildlife Refuge, encompassing 1,200,000 acres near the North end of the Alaska Peninsula, supports one of the densest known populations of the great Alaska brown bear. This area includes habitat used by a discrete population of bears for denning and foraging. Readily available prey such as caribou, moose, and spawning salmon are key to this intensive use by bears. Ducks, swans, eagles and other birds are also found in abundance. The Egegik River drainage including Lake Becharof and its feeder streams produces nearly 5 percent of the United States annual catch of sockeye salmon. This one drainage accounts for approximately 10 percent of the total Bristol Bay commercial catch of 20-27 million salmon annually.

The Innoko National Wildlife Refuge (3,850,000 acres) is south of Koyukuk, a small settlement on the Yukon River, and incorporates a major wetland complex. This land belongs to the beaver, the moose, the goose and the black bear. This transition between the tundra of western Alaska and the boreal forest of the interior valleys is a major waterfowl nesting area. It produces 380,000 ducks each year that migrate primarily to Washington and California, although scaup reared in this habitat often reach the Atlantic Coast. It also produces 65,000 geese, with the white-fronted geese migrating through the central U.S. to Mexico while Canada geese orient to the Pacific Coast. Along with snipe, other notable bird species which nest on this refuge include sandhill cranes by the thousands, bald eagles, osprey and peregrine falcons. Moose are of primary importance among large mammals with major wintering concentrations alone the Kaiyuh River. Black bears and beaver are also abundant, as are many other species of furbearers. Chum, chinook and coho salmon as well as several resident fish species abound in refuge waters. Approximately 300,000 salmon are harvested by subsistence users with a small local commercial fishery accounting for a portion of the take.

Across the Trans-Alaska Pipeline from the Yukon Flats National Monument is a smaller solar basin enclosing the 1,430,000 acre Kanuti National Wildlife Refuge. Producing at least 75,000 waterfowl that migrate to many parts of North America including Mexico, Kanuti is particularly noted for providing high density nesting habitat for white-fronted geese that winter along the Gulf of Mexico. The refuge also supports large populations of furbearers and moose and is a traditional wintering area for portions of the Western Arctic Caribou Herd, historically the largest in Alaska. Common species of fish found

in refuge waters include the northern pike, whitefish, grayling, sheefish and king and chum salmon. Local subsistence use is approximately 10,000 salmon, primarily chum, annually.

North of the Yukon River, the Koyukuk River floods a forested basin dotted with many lakes. The 3,550,000 acre Koyukuk National Wildlife Refuge produces substantial numbers of the elusive snipe as well as numerous other shore and water birds. Approximately 75,000 Canada and white-fronted geese and over 300,000 ducks, mainly pintails, widgeon, scaup and scoters, are produced in this area. It also contains the westernmost nesting grounds of the trumpeter swan, with a population of about 150. Moose, black bear and wolves are abundant. Caribou of the western Arctic herd winter throughout the unit. The area provides excellent habitat for such furbearers as beaver, muskrat, mink and marten. Chinook and chum salmon, sheefish and whitefish are important fishery resources; northern pike abound in lowland lakes and Arctic grayling in colder headwater streams. About 20,000 chum salmon are utilized for subsistence. The occurrence of the attractive Nogahabara sand dunes in the northern part of the unit adds a unique geological dimension to the refuge ecosystem.

Nowitna National Wildlife Refuge (1,560,000 acres) is another key nesting area for white-fronted geese as well as trumpeter swans and several other species of waterfowl. Nearly a quarter of a million waterfowl migrate down the Central Flyway to coastal Texas and Louisiana. Wetland areas also support important marten and other furbearer populations. The southern portion of the refuge is home to caribou and grizzly bear, while moose concentrate in larger numbers in willow thickets along the Yukon River at the northern end of this refuge during the winter. The Yukon River is also an important salmon migration route. The Nowitna River, designated a wild river by the Act, flows into and through the refuge and is a valuable spawning ground for the sheefish, an Arctic species often referred to as the "freshwater tarpon". However, rapidly increasing recreational use of this river has the potential of disrupting nesting by white-fronted geese if not properly monitored and controlled.

The 2,150,000 acre Selawik National Wildlife Refuge is the northwesternmost of the great wetland basins of Alaska. Here, at the crossroads of Asiatic and North American Flyways, can be found birds from five continents: bluethroats and yellow wagtails from Antarctica; upland and pectoral sandpipers from South America and wheatears from Africa. Waterbirds nesting in Selawik also disperse to all parts of the lower 48 states; greater scaup to the Atlantic Coast; lesser scaup to Louisiana; white-fronted geese to national wildlife refuges on the coast of Texas and numerous species such as pintails, mallards and greenwinged teal to national wildlife refuges in California, Oregon, and Washington. Selawik is also a migration and wintering area for such diverse wildlife as the sheefish and caribou and the year-round home to many moose, bear and wolves.

The 700,000 acre Tetlin National Wildlife Refuge abuts the Alcan Highway on the South as it enters Alaska from Canada. This refuge is the northernmost terminus of many migratory birds seldom seen in other parts of Alaska, such as redhead and ring-necked ducks and blue-winged teal. Aside from species that regularly nest in this habitat, Tetlin National Wildlife Refuge, like the Yukon Flats basin, becomes very important in years when waterfowl which

normally nest in Canada and the North Central United States overfly drought-stricken pothole areas seeking stable water conditions in Alaska. For example, in 1977 waterfowl nesting densities in Tetlin increased 50 percent over recent years with significant increases in nesting canvasbacks (up 82 percent) and redheads (up 700 percent) due to poor water conditions in the Prairie Pothole region of the United States and Canada. Grayling, burbot, whitefish and Dolly Varden are the most common fish. The Tanana River drainage population of Dolly Varden is of special scientific interest because of its genetic isolation. Lake trout and northern pike are present in larger lakes on the refuge.

The Yukon Flats National Wildlife Refuge (8,630,000 acres) annually provides breeding habitat for more than 2,100,000 ducks, 16,500 geese and several million other birds which migrate to all parts of North and South America each fall. Between 10 and 25 percent of the North American breeding population of canvasback ducks are found there. Yukon Flats is also important because of its capacity to provide nesting habitat for some ducks displaced from the prairie pothole regions of the U.S. and Canada during drought years. Aquatic resources of Yukon Flats NWR are extensive. Over one million acres of lakes and more than 25,000 miles of rivers and streams are located within its boundaries. These waters support 21 different species of fish. Both chinook and coho salmon travel through Yukon Flats on a 2,000 mile trip to their spawning grounds--probably the longest spawning run in the world. Another species which contributes to the fishery is the inconnu (sheefish) which, in recent years, has become a prized catch for sport fishermen. The refuge also encompasses the entire Hodzana River watershed. The legislative history of the Act reflects a commitment to the regional (native) corporation to seek special regulations that will allow some mineral exploration and some land selections to be worked out with the Service in the headwaters of this river.

Expanded Refuges

The most far-flung, remote and colorful refuge is the Alaska Maritime National Wildlife Refuge (3,548,000 acres including 11 existing refuges). This refuge consists of rocks, islands, spires, reefs and headland cliffs which dot the marine waters of Alaska from the Chukchi Sea to the Aleutian Island chain to the Southeast panhandle. In sharp contrast to the millions of acres required for nesting shorebirds and waterfowl inland, many millions of seabird nests are crowded onto all suitable habitat on this refuge. Marine bird resources of Alaskan waters probably amount to over a hundred million birds of at least 55 species. To date, over 135 nesting locations have been described outside the Aleutian Islands, of which 26 each contain over a million nests. In addition, this habitat is important to one or more species of mammals--including sea lions, harbor and hair seals, walrus, sea otters and polar bears. Sixteen species of whales, many endangered, also use waters lying immediately offshore of these areas.

The 18,055,000 acre Arctic National Wildlife Refuge in northeastern Alaska includes the former Arctic National Wildlife Range. It represents one of the most spectacular assemblages of Arctic plants, animals and land forms in the world. The 120,000 animals of the Porcupine caribou herd, presently the continent's largest, migrate through and winter in large numbers on this new refuge. A majority of the calving grounds for this herd is on the coastal plain within the refuge. State lands in the Porcupine River basin which are surrounded

by the refuge are also important to this caribou herd and will be managed cooperatively with the Service lands to assure its continued viability. This new refuge also hosts several hundred moose, several thousand Dall sheep and such other wildlife as grizzly bears, wolves, wolverine, lynx, river otter, marten, fox and the endangered peregrine falcon. The refuge supports important grayling, Arctic char, whitefish, lake trout, and northern pike populations.

The Izembek National Wildlife Refuge occupies the northern portion of the final 45 miles of the Alaska Peninsula and contains about 321,000 acres. Izembek and Moffet Lagoons plus Cold and Morzhovor Bays, lie within its boundaries. Principal wildlife species occurring on the refuge include black brant, Canada geese, emperor geese, a variety of other waterfowl and Alaska brown bear. The refuge protects a portion of habitat of the 36,000 animal Alaska Peninsula Caribou Herd. Four species of Pacific salmon are found on the refuge. Virtually the entire world population of black brant stage for their fall migration to the west coast of the United States in the lagoons and bays on the refuge.

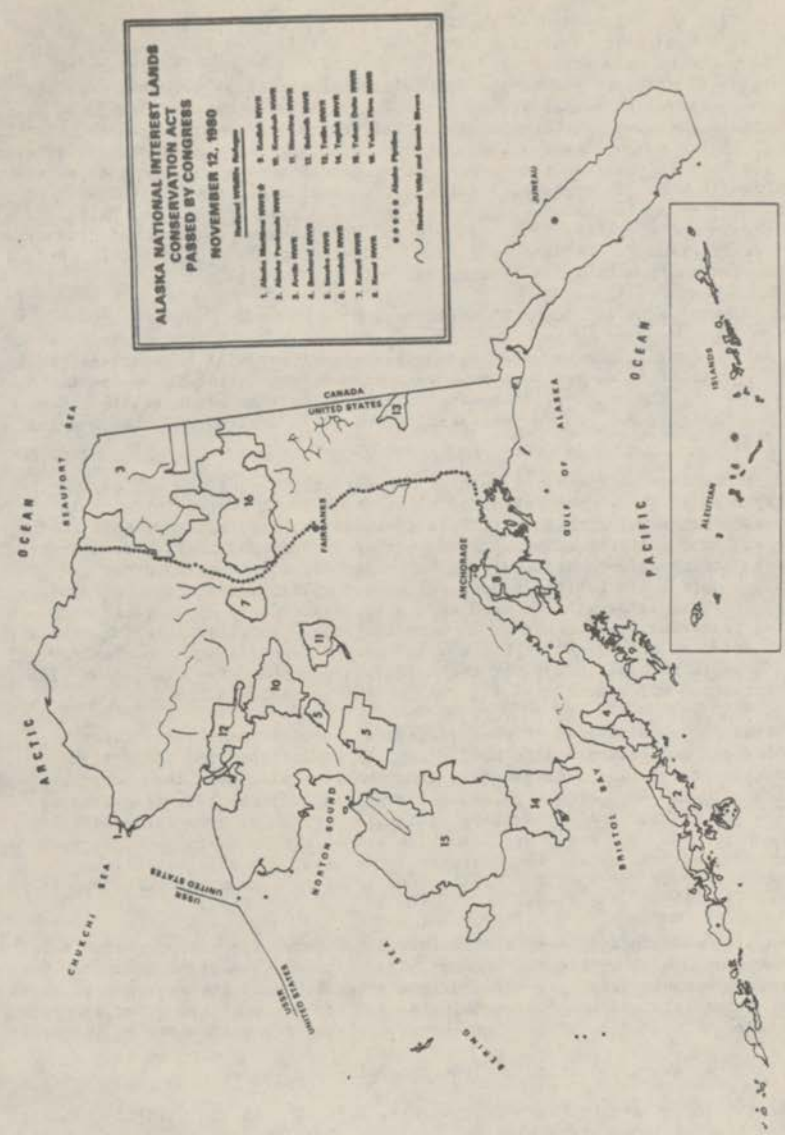
About 20 miles south of and across Cook Inlet from Anchorage is the Kenai National Moose Range which was established in 1941. With the addition of 240,000 acres adjacent to the Range, P.L. 96-487 established the 1,970,000 acre Kenai National Wildlife Refuge. This diverse ecosystem contains mountain ranges, glaciers and ice fields, forests, lowland lakes, wetlands and rivers which support a wide diversity of fish and wildlife resources including the Kenai moose for which the Range was originally established. It also supports one of the largest loon populations in North America and six percent of the world's nesting trumpeter swans. Research findings indicate that nearly all refuge streams are important spawning and nursery habitat, contributing approximately one-third of the Cook Inlet commercial fishery of 5 million salmon annually with a value in excess of $30 million. Nearly half of the statewide recreational fishery of 100,000 anglers per year, or a value in excess of $20 million, occurs on drainages within the Kenai NWR. The additions encompass a variety of habitats that support a diverse array of wildlife species, including a significant mountain goat population and the Chickaloon Flats, a major waterfowl staging area for Fall migration.

The Kodiak National Wildlife Refuge was also established in 1941 to preserve the natural habitat of the famed Kodiak bear and other wildlife, including red fox, land otter, blacktail deer, reindeer, mountain goat, Dall sheep, moose, and various furbearers. Rainbow and Dolly Varden trout abound in lakes and streams while salmon and steelhead may be caught during their upstream migration. With the addition of 50,000 acres on Afognak Island and an undetermined amount of submerged lands by P.L. 96-487, the refuge now totals more than 1,865,000 acres.

South of the Yukon-Kuskokwim Delta region, the low, wetland tundra gives way to a mountainous peninsula included in the 4,105,000 acre Togiak National Wildlife Refuge. Three major river drainages--the Kanektok, the Goodnews and the Togiak--contribute freshwater to Bristol and Kuskokwim Bays, freshwater which is essential for maintaining these extraordinarily productive estuaries. These bays help support 10 species of whales as well as harbor seals, sea lions and salmon. Literally millions of migrating shorebirds and waterfowl use the near-shore waters of these bays. Normally, about 1.7 million salmon migrate up the rivers and streams of this refuge during summer and fall months to spawn. The fisheries of this refuge also involve significant numbers of steelhead, rainbow and lake trout, Arctic grayling, Dolly Varden and Arctic char. Other summer residents of the refuge include waterfowl, eagles, gyrfalcons, peregrine falcons and one

to two million seabirds. This refuge encompasses one of the most diverse mammal assemblages in Alaska with over 32 species of land mammals ranging from tiny shrews to giant brown and grizzly bears. Some of the mammal populations are currently at low levels due to harvest pressures, but would be expected to increase under appropriate refuge protection and management.

Where the lower reaches of the Yukon and the Kuskokwim Rivers converge and then separate on the coastal plain of Southwest Alaska, one of the wettest spots in this Nation is created. The Yukon Delta National Wildlife Refuge (19,624,000 acres) is a vast, water-dotted tundra. Probably no North American area of similar size is so critical to so many species. This habitat sustains at least 100,000 shorebirds of several species; 3,000,000 ducks; 50,000 swans (80 percent of the Pacific Flyway population); and 720,000 geese (including 80 percent of the world's emperor geese, all of its cackling Canada geese, and half of the continental population of black brant). The refuge also supports a large fishery resource (chinook, chum, coho, sockeye and pink salmon, northern pike, blackfish, sheefish, several species of whitefish, grayling and Arctic char) which is the subsistance mainstay for the more than 13,000 natives in 56 villages included within the refuge's boundaries. It contains a diverse mammal resource including foxes, otters, mink, hares, lemmings, bears, lynx, wolves, beaver, wolverine, moose, harbor seals and walrus. Another 100 bird species nest in this habitat and migrate to six continents.


ALASKA NATIONAL INTEREST LANDS
CONSERVATION ACT
PASSED BY CONGRESS
NOVEMBER 12, 1980
ARCTIC OCEAN
BEAUFORT SEA
CANADA
UNITED STATES
FAIRBANKS
ANCHORAGE
GULF OF ALASKA
PACIFIC OCEAN
JUNEAU
ALEUTIAN ISLANDS
CHUKCHI SEA
BERING SEA
BRISTOL BAY
NORTON SOUND
UNITED STATES
USSR

FWS-77

Consequently, administration of these new refuges and additions will require a mixture of management expertise not normally utilized on Service land and staffing patterns will vary somewhat from that of refuges in the lower coterminous 48 states. Due to the specialized capabilities required such as ecologists, social anthropologists, archeologists, hydrologists, land use planners and economists with responsibilities related to several refuges, the regional office in Anchorage will house a substantial staff of such specialists. Since the Service utilizes the Program Management System to manage the various activities in which it engages, funds and personnel to accomplish the work mandated by the Alaska National Interest Lands Conservation Act are being requested in the Migratory Bird, Mammals and Non-Migratory Birds, and Fishery Resources Programs for refuges in Alaska. These programs appropriately fund various management activities on national wildlife refuges.

Alaska Refuges O&M $2,777,000, 25 positions.

Basic management of nine new and seven expanded refuges will be initiated in FY 1981. Initial funds and positions were primarily to establish a Service presence on the ground, provide basic protection for fish and wildlife resources and habitat, and provide necessary services to Natives and others using the refuge.

FY 1982 funds and positions will enable the Service to continue and expand the work begun in FY 1981. Comprehensive planning, a basic prerequisite to intelligent and purposeful fish and wildlife stewardship, requires knowledge of the nature and extent of the existing resources of an area and their use. Surveys, censuses, and management studies will be conducted on refuges to determine numbers, species, and habitat needs of fish and wildlife resources. The basic ecology of these lands will be studied. Also, assessments of historic and cultural resources will be made. In most instances, detailed baseline data are spotty, outdated or absent for the new refuges. In general, the current information base is not sufficient for the necessary comprehensive management planning, including wilderness reviews, that must be undertaken.

Priorities for obtaining additional biological, social, cultural, historic/archeological and economic information must be established and efforts to obtain this information initiated. A comprehensive plan will then be prepared for each refuge. When completed, such plans will define actions required to maintain the viability of ecosystems, including levels of compatible uses for various purposes. For those species which are likely to be impacted by such use or other activities allowed on these lands, the plan will establish population targets for specific habitat units and outline managment strategies for attaining those objectives.

The enormity and limited time for the refuge comprehensive planning task required under Section 304(g) of the Act creates major data management problems for the Service. A computerized, geo-based data storage and analysis system will be used to accumulate and manipulate existing and new resource and other information needed to meet the refuge comprehensive planning requirements of the Act.

Other Service responsibilities include the following tasks:

(1) Continued protection of special values, such as fish and wildlife habitat and archeological and geological features (Section 304)

(2) Maintenance of water quality and quantity (Section 304)

(3) Interim management of native-selected lands until final selections are made and approved (Section 304)

(4) Provision for various public uses, including hunting, fishing, and other wildlife-oriented recreation (Section 304)

(5) Issuance of permits for various authorized uses, including economic uses such as commercial fishing and, when compatible with refuge objectives, timber harvesting; determine validity of mining claims and issue permits (Section 304)

(6) Management of 13 wilderness areas on 11 refuges and study of candidate areas on other refuges (Section 702; Section 1317)

(7) Management of six wild and scenic rivers on five refuges; assist in studying five candidate rivers (Section 602; Section 604)

(8) Permitting and regulating access across refuges; includes access by State or private parties for cadastral surveys, geophysical studies, exploratory studies or other temporary uses (Sections 1109, 1110, 1111)

(9) Assessment of the impact of expected construction, use, and occupancy of cabins and related structures on refuge lands (Section 1303 b,d)

(10) Assessment of the compatability of agricultural development on the Yukon Flats National Wildlife Refuge (Section 1324)

(11) Continuation of the evaluation of the proposed Terror Lake Hydroelectric Project within the Kodiak National Wildlife Refuge (Section 1325)

Minimal needs common to all refuges include the following: salaries for permanent and part-time employees, costs of establishing, furnishing, and maintaining headquarters and support facilities, vehicles (4-wheel drive pick-up trucks, and snowmobiles), boats, communications equipment, basic wildlife and habitat surveys, basic supplies and materials, and travel between remote areas and headquarters sites.

A summary of the total increase in the Migratory Bird Program for new refuge lands in Alaska is as follows:

Item	($000)
Salaries, and benefits, full-time permanent employees	$641
Salaries, and benefits, part-time employees	535
Moving costs	40
Establishing headquarters (incudes utilities, and installation of communications)	102
Vehicles (4-wheel drive pick-up trucks)	122
Barges, boats and motors	687
Wildlife and habitat surveys	210
Supplies and materials	400
Travel	40
TOTAL	$2,777

Allocations of funds and positions by field stations and for regional office support are itemized below. Funding and personnel requests in both the

Migratory Bird and Mammals and Non-Migratory Birds Programs are displayed below to illustrate the involvement of both Programs. Only the Migratory Bird Program share of funds and personnel are requested here. A similar display appears in the Mammals and Non-Migratory Birds section where funds for that Program are requested. (Funds and personnel are also requested in the Fishery Resource Program.)

Funds/Positions

Stations	Migratory Bird Program	Mammals and Non-Migratory Bird Program	Total
Alaska Maritime	500/3	387/2	887/5
Alaska Peninsula	120/3	63/0	183/3
Arctic	57/1	140/2	197/3
Becharof	29/1	120/1	149/2
Innoko	156/1	102/1	258/2
Izembek	--	--	--
Kanuti	142/1	111/1	253/2
Kenai	---	170/2	170/2
Kodiak	---	102/0	102/0
Koyukuk	130/2	172/1	302/3
Nowitna	70/1	76/1	146/2
Selawik	155/2	59/1	214/3
Tetlin	147/1	116/1	263/2
Togiak	61/1	41/1	102/2
Yukon Delta	770/4	177/2	947/6
Yukon Flats	350/2	170/2	520/4
Regional Office	90/2	152/2	242/4
Totals	2777/25	2158/20	4935/45

Object Classification Distribution

The object class detail for the $2,777,000 increase is as follows:

Item	$
Permanent positions	$525,000
Lapse	-52,000
Permanent positions	473,000
Positions other than permanent	395,000
Total compensation	868,000
Personnel benefits	345,000
Travel and transportation of persons	40,000
Transportation of things	30,000
Communications, utilities and other rent	70,000
Printing and reproduction	5,000
Other services	210,000
Supplies and materials	400,000
Equipment	809,000
TOTAL	$2,777,000

Increases for 1982	1982 Base	1982 Estimate	Increases
$	0	350	+350
(FTP)	(0)	(0)	(+3)

Service Responsibility for Assuring Preference for Subsistence Uses on Alaska Refuges - An Overview

Title VIII of Public Law 96-487, the Alaska National Interest Lands Conservation Act, establishes a statutory policy of preference for the taking of fish and wildlife and other renewable resources on federal lands in Alaska for non-wasteful subsistence use. Subsistence use has preference over all other consumptive uses of these resources. The Secretary is authorized to enter into cooperative agreements with the state, other federal agencies, native organizations and other persons or organizations in order to carry out the purposes of this title. Further, in providing for subsistence preference, the Secretary is to permit, under reasonable regulations, the use of snowmobiles, motorboats and other means of transportation traditionally used by local rural residents for access to subsistence resources. The Act also mandates that no land use decisions, including leases, permits or other use of occupancy shall be effected until proper notice is given in the local area affected by the decision and reasonable steps are taken to minimize adverse impacts on subsistence uses and resources. The title also recognizes the Secretary's authority to designate areas where and periods when no taking of fish and wildlife will be permitted on federal lands for reasons of public safety, administration or to assure continued viability of a particular fish and wildlife population.

Refuges in Alaska will be heavily utilized for subsistence purposes. As Alaska's natives ended their nomadic existence early in this century, they settled where substantial fish and wildlife resources, virtually all of their diet at that time, were concentrated. It is these same areas, because of the fish and wildlife resources, that are now national wildlife refuges. Residents of over 145 villages, more than 35,000 people, located within or adjacent to the 16 refuges established by the Act have traditionally used refuge habitat for subsistence purposes and are expected to continue to do so. The number of villages and people associated with each refuge, the principal species they subsist on, and certain major resource concerns associated with subsistence use are listed in Table 1.

There have been several instances of conflict between sport and subsistence hunters in Alaska. Such conflicts can be expected to increase because under state management traditional levels of subsistence harvest have been reduced in order to accommodate sport hunters. Due to the change in policy embodied in the Act, subsistence uses has priority over sport uses. As a consequence, the Service, natives, the Alaska Department of Fish and Game and sport hunters could be involved in an increasing number of adversarial situations.

To date, there are no known problems related to subsistence use of fishery resources, although such use has not been studied extensively. However, given the rapid population growth in rural Alaska, the substantial dependence on fish protein in the subsistence diet (90 percent is fish), and the massive commercial use of the same salmon stocks, it is essential to better understand the impact on this subsistence resource. For instance, if there were unrecognized problems, escapement rates from the offshore commercial fisheries would have to be increased dramatically to accommodate subsistence use under the preference provisions of the Act. This could possibly result in direct conflicts between subsistence and commercial users of this finite resource, particularly in years of limited salmon runs, which would be equally as difficult to resolve as those that have arisen in the Puget Sound area and on the Klamath River in California in recent years.

U.S. FISH AND WILDLIFE SERVICE
Alaska National Interest Lands Conservation Act
Table 1 - Subsistence Use On National Wildlife Refuges

Refuge	Villages1,2/ Affected	People 1,2/ Involved	Partial Listing of Resources/Species Involved	Concerns
New Refuges				
Alaska Peninsula	10	1,500	Brown bear, caribou, moose, wolf, ducks, geese, shorebirds, salmon	
Becharof	4	830	Brown bear, caribou, moose, waterfowl, salmon	
Innoko	8	1,600	Waterfowl, caribou, moose, cranes, swans, salmon, grizzlies, sheefish and furbearers	Subsistence & sport hunting overharvesting
Kanuti	4	414	Waterfowl, caribou, moose, swans, salmon, furbearers	
Koyukuk	4	1,440	Waterfowl, moose, swans, salmon, other fish	Major recent conflict between natives & sportsmen
Nowitna	3	620	Waterfowl, swans, salmon, furbearers	
Selawik	5	1,800	Caribou, migratory birds, waterfowl, shellfish, salmon, furbearers	Heavy subsistence use, impact uncertain
Tetlin	8	775	Caribou, waterfowl, fish, furbearers, moose	
Yukon Flats	10	2,000	Waterfowl, moose, sheep, swans, salmon, foodfish	Protein demand will double in ten years
Subtotals, New Refuges	56	10,979		
Refuge Additions				
Alaska Maritime	15	1/	Marine sea birds, marine mammals, seals	Egging
Arctic	1	300	Caribou, migratory birds, sheep, grayling, sea birds, trout, whitefish, furbearers, muskox, polar bear, wolves and wolverine	
Izembek	1	250	Migratory waterfowl, brown bear	
Kenai	10 3/	10,000 3/	Salmon, whitefish, mountain goats, bears, sheep migratory birds	
Kodiak	2/4/	2/	Brown bear, salmon	Sport hunting
Togiak	6	1,300	Salmon, migratory birds, sea birds, marine mammals, moose, caribou, bear	Over harvest by subsistence and sport hunters
Yukon Delta	56	13,000	Waterfowl, swans, shorebirds, other migratory birds, caribou, marine mammals	Human population growth second only to Anchorage; Over harvest of white-fronted and emperor geese and black brant
Subtotal, Refuge Additions	89	24,850		
TOTALS	145	35,829		

1/ Predominatly natives, except Kenai and Izembek
2/ Data are not available or are insufficent for presentation
3/ Crude estimate
4/ Village selections under ANCSA still in dispute

Section 807 provides specific judicial procedures to assure that those individuals and organizations affected by refuge subsistence priority decisions can seek relief of what they consider to be undesirable or unjust decisions. This section also has provisions whereby those who sue the Service over subsistence decisions can be reimbursed for court costs and "reasonable" attorney's fees if they prevail. This provision conceivably could stimulate suits and congest the federal courts of Alaska. Of greater concern, a flood of lawsuits against the Service will result in predominantly adverse, rather than cooperative, relationships with subsistence users on Alaskan refuges. Therefore, good communications and understanding with local residents will be a major deterrent to court actions and abuse of subsistence preference. There is no way to completely eliminate complaints or allegations of inadequate subsistence preference, but the principal goals of Service actions under these sections will be to minimize the number of complaints. The Service will also work to inform the local residents of biological factors and habitat needs of the fish and wildlife they depend upon so that overuse of or stress on populations can be avoided or minimized.

Note: Funds and personnel for managment of subsistence uses on refuges are also requested in the Mammals and Non-Migratory Bird Program and in the Fishery Resources Program.

Management of Subsistence Uses on Refuges $350,000, 3 positions.

Subsistence priority provisions of the Act are a major management concern of the the Service due to the likelihood of conflict and the development of adversarial relationships if not skillfully implemented. A subsistence program cannot be effectively implemented on national wildlife refuges in Alaska simply by fiat and a massive law enforcement effort. Rather, it must be implemented in a cooperative mode with sufficient personnel resources to deal directly with users on a timely basis. Any other approach will very rapidly disintegrate into an adverse situation which will be totally unworkable in a very short time. As administrative difficulties multiply, the situation could deteriorate to the point where there is no assurance that the nationally significant Alaska fish and wildlife and habitat resources for which the Service is now responsible can be adequately protected.

In FY 1982 funding will be devoted to identifying the existing distribution of subsistence harvest on refuges where the heaviest subsistence use is known to occur (Yukon Delta, Yukon Flats, Togiak, Alaska Peninsula). Other refuges will be studied in subsequent years. Major emphasis will be meeting with residents to discuss their subsistence needs and ways in which refuge management and policies affect the fish and wildlife resources. These informal meetings/discussions will establish the framework for all subsistence management on national wildlife refuges and facilitate such activities, discussed below, as cooperative agreements, access provisions, and regulations. Without these preliminary informal discussions, the Service will likely be viewed by residents as restrictive or autocratic and management will be far more difficult. ($150,000, 2 positions)

The Service will continue to develop agreements with the State, other Federal, Native and other private land owners adjacent to refuges with the heaviest subsistence use. The agreements will serve to implement mutual decisions and responsibilities for subsistence uses on refuges. They will help minimize the possibilities for misunderstandings and abuses of the subsistence program by establishing formal avenues for discussion and cooperation. ($75,000, 1 pos.)

The Service will begin analyses of lands being considered for exchange or other change in status in order to initiate the necessary procedures required prior to such changes. Regarding access to refuges for subsistence purposes, the Service will issue permits and monitor compliance with access regulations. ($40,000, no positions)

The funds and positions requested will also be used to continue the Service's regulations formulation process. The costs and amount of regulation needed will vary with each refuge and the need to protect species on that refuge. Central to the Service's concept of regulation setting are public involvement meetings with affected local residents to solicit views and reactions and assess possibile impacts of the regulations before they are implemented. This procedure will help to minimize ill will among subsistence users, and it may also serve to soften the impact of the regulations by explaining the purposes in advance and obtaining agreement as to their necessity. ($50,000, no positions)

Section 816(b) authorizes the Secretary to designate areas where, and establish periods when, no taking of fish and wildlife will be permitted on public lands for reasons of public safety, administration, or to assure the continued viability of a particular fish and wildlife population. After consultation with the State and adequate notice and public hearing, the Secretary may temporarily close an area of public land to subsistence uses. The section also includes provisions to effect emergency closures.

Tasks Involved:
(1) Identify areas of concern.
(2) Gather data to determine need for closures (closure is the last resort).
(3) Hold public hearings, prepare necessary notice and coordinate efforts with the State.
(4) Prepare necessary closure orders (last resort).
(5) Follow-up to determine when areas can be re-opened to subsistence and other uses.

The Service will exercise the actual closure provisions only in areas and at times when there is no other viable alternative. However, we already can identify some species and areas where there is potential for problems (white-fronted geese, emperor geese, black brant on Yukon Delta NWR). If such concerns are not examined and determinations on the need for closure made, the Department will be in serious negligence of its responsiblity and liable for court action. ($35,000, no positions)

Object Classification Distribution

The object class detail for the $350,000 increase is as follows:

Item	$
Permanent positions	$ 84,000
Lapse	-8,000
Permanent positions	76,000
Positions other than permanent	152,000
Total compensation	228,000
Personnel benefits	81,000
Travel and transportation of persons	2,000
Other Services	29,000
Supplies and materials	10,000
Total	$350,000

Increases for 1982	1982 Base	1982 Estimate	Increases
$	0	300	+300
(FTP)	(0)	(2)	(+2)

Arctic National Wildlife Refuge Coastal Plain Resource Assessment - An Overview

Section 1002(d) of the Alaska National Interest Lands Conservation Act requires that baseline studies of the fish and wildlife resources and an assessment of impacts of oil and gas exploration and development on the western coastal plain of Arctic NWR be completed within 18 months of enactment. Both a short- and long-range, multidisciplinary approach to studying habitats and species of concern on portions of the Arctic Slope of the refuge will be required. Field studies are specifically required on caribou to determine habitat requirements during the calving season, effects of predation, and migratory behavior. Other priorities include studies of moose, white-fronted and Canada geese, raptors, wolves, grizzly bears, polar bears, and freshwater and anadromous fish. Final regulations providing guidance for private or public seismic exploration for oil and gas of a portion of the refuge must be published within 2 years.

The data gathering and analysis effort initiated in FY 1981 must be expanded in FY 1982 to meet the 18-month time frame for producing the initial report required by the Act. Another major report is required within 5 years of passage of the Act and periodically thereafter, since the Act calls for a continuing effort to monitor fish and wildlife populations and their habitats. Thus, a major field effort must continue at least through FY 1985.

The Mammals and Non-Migratory Bird Program is requesting $400,000 and 2 positions for its portion of this study.

Arctic NWR Coastal Plain Resource Assessment - Migratory Bird Program $300,000, 2 positions.

Task to be accomplished:

1. Conduct basic inventories of migratory bird species, including Canada, white-fronted and snow geese, whistling swans, black brant, duck species

   including old squaw, green-winged teal, pintail, bufflehead, Stellar's and king eiders, and scoters, and several raptors, the most significant being the Peregrine falcon. ($75,000, 1 position)

2. Identify, classify, and map important habitats, including breeding, staging, and feeding areas for these species. Determine the carrying capacity of these habitats. ($75,000, no positions)

3. Assess the impacts of human activities, including gravel extraction and industrial use of water and natural processes on migratory birds and their habitats. ($50,000, no positions)

4. Analyze the potential impacts of oil and gas exploration, development, and production on migratory birds and their habitats, and on the subsistence life-style of affected Natives and other people. ($100,000, 1 position)

74-939 O—80——57

In addition to salaries and other personnel-related costs, funds will be used largely for aircraft rental in order to accomplish the various habitat and wildlife surveys. Approximately ten percent of the funds will be needed for purchase of supplies and equipment needed to support an extensive field effort.

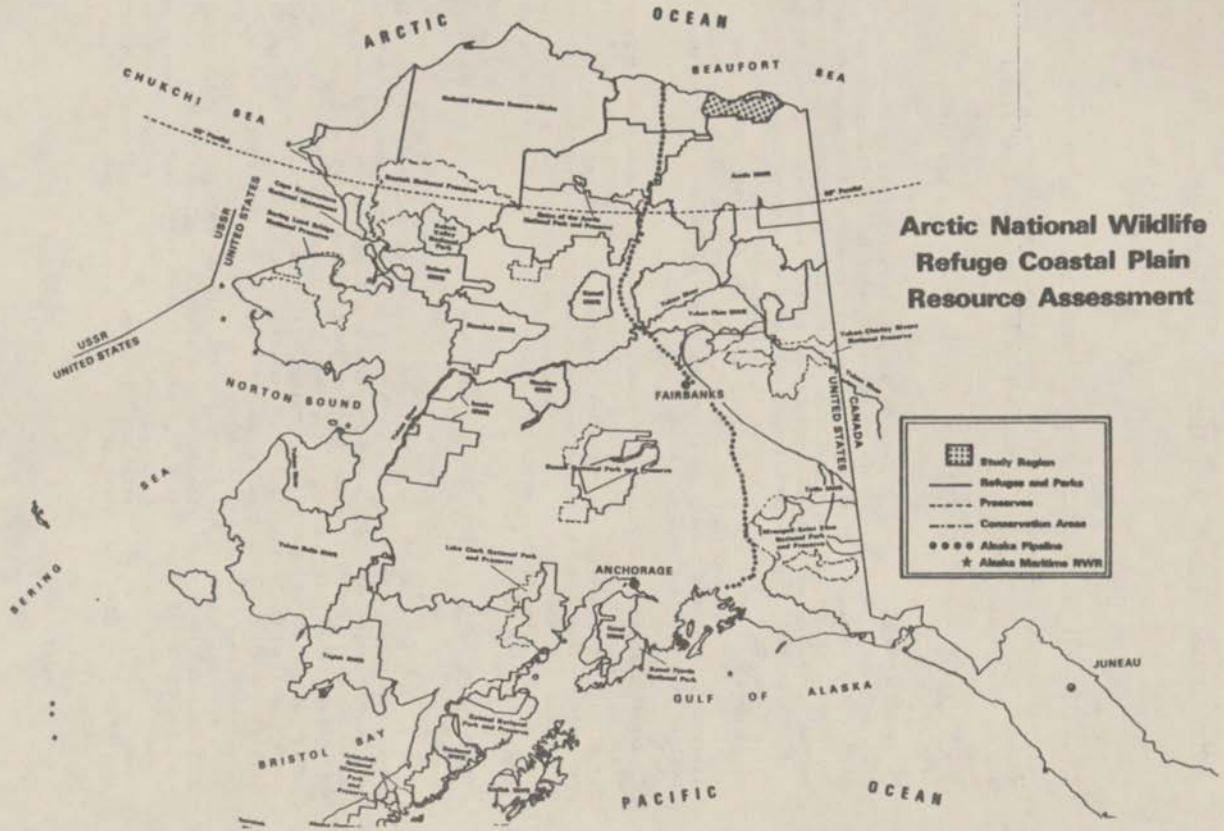
Unless this study is accomplished, the Service will be unable to develop the information needed to adequately support the regulations governing seismic exploration in the study area required by Section 1002(d). Thus, these regulations may be more restrictive to insure protection of the environment. An overly conservative approach will make this issue even more controversial.

See location map on following page.

Object Classification Distribution

The object class detail for the $300,000 increase is as follows:

Item	$
Permanent positions	$53,900
Lapse	-0
Permanent positions	53,900
Positions other than permanent	30,000
Total compensation	83,900
Personnel benefits	29,800
Travel and transporation of persons	5,000
Other services	150,000
Supplies and materials	16,300
Equipment	15,000
Total	$300,000


ARCTIC OCEAN
BEAUFORT SEA
CHUKCHI SEA
USSR
UNITED STATES
USSR
UNITED STATES
NORTON SOUND
FAIRBANKS
UNITED STATES
CANADA
BERING SEA
ANCHORAGE
JUNEAU
GULF OF ALASKA
BRISTOL BAY
PACIFIC OCEAN
Arctic National Wildlife
Refuge Coastal Plain
Resource Assessment
Study Region
Refuges and Parks
Preserves
Conservation Areas
Alaska Pipeline
Alaska Maritime NWR

FWS-87

Increase for 1982	1982 Base	1982 Estimate	Increase
$	43,058	43,814	+756
(FTP)	(906)	(906)	(+0)

New Refuge O&M, Contiguous 48 States. $756,000, no positions.

All staffing requirements listed for the following new refuges and one addition to an existing refuge will be accommodated by transfers of ceilings from within the Service's base for Refuges.

Fox River NWR. Marquette County, Wisconsin. $56,000, no positions.
(New Refuge)

In 1979, 641 acres of this 2,000 acre project were acquired in fee title along the Fox River. The project area contains 10 distinct plant communities ranging from upland forest and grasslands to low prairie, and shallow and deep marshes. Fox River is a nesting and migration area important to greater sandhill cranes, herons, waterfowl and 100 other species of birds. Twenty-six species of mammals and 15 species of reptiles and amphibians have been seen on the area. At least 17 known historic sites including effigy mounds, village sites and burial mound groups occur within the proposed area. The exceptionally high wildlife values of the area and imminent destruction of this type habitat elsewhere for agricultural and housing developments by private owners prompted establishment of the Fox River NWR.

A part-time maintenance worker is needed. Funding is necessary for initial start up costs, including protection of lands by fencing and posting, filling of ditches, environmental restoration (clearing old building sites and seeding to native grasses) and to manage the lands for the primary purposes for which the refuge was established. Funds will also be necessary for a pick-up truck, lesser items of equipment, materials, and supplies. The refuge will be administered from the Horicon NWR.

Mathews Brake NWR. Leflore County, Mississipppi. $60,000, no positions.
(New Refuge)

The 4,000 acre Mathews Brake area provides excellent wintering waterfowl habitat as well as significant wood duck production habitat. Approximately 800 acres are in open water and 2,000 acres in shrub and wooded swamps. The remaining 1,200 acres are primarily bottomland hardwood habitat that floods annually. This area, as all other Delta areas, faces the threat of being drained and converted to other uses. This new refuge will require little, if any, development unless water characteristics are altered. Preservation is required to provide adequate wintering and production habitat for waterfowl. Initial acquisition in 1980 provided the core unit (800 acres) in fee title, around which easement interests are planned to complete the refuge. Overall administration will be through Hillside NWR for efficiency of operation. Staffing will require a full-time GS-7 refuge manager and a part-time maintenance worker. Funds will be used for initial equipment needs, including a light truck, radios, boat, motor, trailer and several smaller items. Funding will also be required for initial supplies and materials, as well as planning, inventories, and posting.

Bogue Chitto NWR, St. Tammany and Washington Parishes, Louisiana; Pearl River County Mississippi. $190,000, 3 positions.
(New Refuge)
This 18,500 acre area is scheduled for acquisition during FY 1981 with funds provided through a FY 1981 Congressional add-on. Service management and protection of the area will preserve and enhance the flora and fauna of this unusual backwater ecosystem. It's faunal diversity is proclaimed by the State's leading naturalists as the most diverse in Louisiana. Timber management will be directed toward improvement of existing habitat for wildlife. Commercial harvests and timber stand improvement will help attain desired habitat diversity and optimum wildlife populations. Management and protection will preserve the many natural bayous and islands and the hydrological integrity of the area. The refuge staff will include three permanent full-time employees (a GS-9 assistant refuge manager,a GS-5 assistant refuge manager and a GS-5 biological technician) and a permanent part-time GS-3 clerk. Equipment needs include boats, motors and trailers, trucks, two-way radios, and lesser items.

Bon Secour NWR, Baldwin and Mobile Counties, Alabama. $125,000, 1 position.
(New Refuge).

The 5,900 acre project, scheduled for acquisition during FY 1981 with funds provided through a FY 1981 Congressional add-on, is currently under Service control through a lease agreement with The Nature Conservancy. Management to date has been boundary posting and limited protection accomplished by staff assigned to the Mississippi Sandhill Crane NWR, about 40 miles away. The uniqueness of the refuge lies in the everincreasing rarity of pristine barrier beaches and associated habitats along the Gulf Coast. The refuge is a major landfall and staging area for migratory birds, primarily passerines and raptors, during their trans-gulf migrations. Staffing requirements will include one assistant manager and a part-time maintenance worker. Administration and management support initially will be from Mississippi Sandhill Crane NWR. Funding will provide support equipment such as 4-wheel drive light trucks, boats, motors, trailers, radios, and miscellaneous materials and supplies.

Banks Lake NWR, Lanier and Lowndes Counties, Georgia. $130,000, 1 position.
(New Refuge)

The 12,840 acres projected for refuge purposes includes about 3,500 acres proposed for acquisition and 9,340 proposed for transfer from the U.S. Forest Service. The 3,500 acres are under Service control through a lease agreement with The Nature Conservancy. Transfer of Forest Service lands is expected early in 1981 to complete the refuge project.

The Banks Lake/Grand Bay area is important for a variety of birds and is one of the larger fresh water lake and swamp systems in the Georgia coastal plain. The open water, marshes, and hardwood swamps are important as migration stops and wintering areas for mallards, scaup, ringnecks and teal.

The sandhill crane occurs in the fall and winter and possibly nests there. Shore and wading birds are abundant. Ospreys nest in the tall cypress stands of Banks Lake and the area is also suitable nesting habitat for bald eagles. Staffing would initially include one full-time maintenance worker and a part-time laborer with additional biological and administrative assistance provided by Okefenokee NWR. Funding would provide boats, motors, trailers, trucks, two-way radios, and miscellaneous supplies, and allow accomplishment of boundary posting, wildlife surveys and protection.

Overflow NWR. Ashley County, Arkansas. $125,000, two positions
(New Refuge)

This newly-established refuge consists of 9,719 acres of bottomland hardwood, 460 acres of cropland, 481 acres of open water and 40 acres of pine upland. Preservation and management of Overflow Refuge is a part of the larger program to preserve the remaining bottomland hardwoods that have been identified as significantly important to wintering mallards and wood ducks. Initial acquisition of 420 acres occurred in 1980, and an additional 1,650 acres will be acquired in FY 1981 from The Nature Conservancy with Migratory Bird Conservation Account funds. Additional acreage will be acquired early in 1982. Initial staffing will require a GS-7 refuge manager and one biological technician. Equipment needs include vehicles, radios, boat and motor, trailer and other smaller equipment items. Funding will also be used for initial supplies and materials, as well as planning, inventories and boundary posting.

Anahuac NWR. Chambers County, Texas. $70,000, no positions
(Refuge Addition)

In FY 1981 1,100 acres are being added to this refuge in fee title. In FY 1982 another 2,100 acres will be added in fee title and an additional 3,000 acres will be added under lease. The area includes both coastal marsh and upland, and provides high quality wintering habitat for geese and puddle ducks. Funding is required for maintenance and rehabilitation of fences, roads and water control structures, and supervision of cooperative farming, prescribed marsh burning, boundary posting, and protection. A part-time maintenance worker is needed.

Object Classification Distribution

The object class detail for the $756,000 increase is as follows:

Item	$
Travel and transportation of persons	$15,000
Transportation of things	29,000
Communications, utilities, and other rent	32,000
Other services	81,000
Supplies and materials	320,000
Equipment	279,000
Total	$756,000

Increase for 1982	1982 Base	1982 Estimate	Increase
$	43,058	45,749	+2,691
(FTP)	(906)	(906)	(0)

Refuge O&M - Existing Refuges $2,691,000, no positions.

During the past ten years the National Wildlife Refuge System has grown from approximately 29 million acres to over 88 million acres in FY 82. Resource Management appropriations have not increased sufficiently to accomodate these additional responsibilities for wildlife resource protection and management. Funding is required to (1) protect the land base and existing physical facilities from vandalism and other unauthorized uses; (2) maintain facilities; (3)

enable initial habitat management; (4) protect wildlife resources; and (5) permit some types of economic uses which may enhance wildlife management objectives.

Typical migratory bird activities on refuges include waterfowl surveys and banding, habitat enhancement and maintenance of dikes and water control structures. A wide variety of habitat types are managed on refuges for the benefit of waterfowl and other migratory bird resources. Some are planted to agricultural crops to provide food, some are grazed to manage vegetation for goose browsing, and some are prescribed burned to optimize nesting vegetation. Numerous management studies are conducted to help determine objectives.

Rising costs of materials, supplies and labor over the past several years has prevented timely maintenance of habitat management facilities such as water control structures, dikes, irrigation and pumping systems as well as support facilities, such as buildings, roads, fences and equipment. The cumulative result has been a gradual deterioration of the condition of facilities, even to the point of becoming inoperable or significantly reduced in operational and functional capacity. The management of wildlife habitat and associated wildlife benefits has been adversely impacted, causing a loss in achievements which took years to attain at considerable expense. Funding is needed for minor rehabilitation and/or replacement of facilities necessary for the attainment of long-range wildlife objectives. In addition, the Bicentennial Land Heritage Program provided many new facilities which now need operating and maintenance funds in order to keep them at optimum operating efficiency and to realize the maximum life expectancy and usefulness.

The Service has a substantial investment (over $1.5 billion) in refuge facilities and equipment. In order to prevent deterioration and to keep the facilities and equipment operating at a suitable level, it is necessary to schedule regular maintenance. Examples of this work include painting buildings according to a planned schedule, maintaining and replacing vehicles and heavy equipment, and grading and graveling roads as needed.

In the past the Service has lacked the resources to adequately maintain facilities and equipment to attain life expectancy and maintain operational effectiveness. Prolonged deferment of maintenance resulted in a signigicant backlog of facility rehabilitation needs on wildlife refuges. Recent rehabilitation and construction efforts on refuges have moderately reduced the backlog but have also added new facilities which will increase the Service's maintenance requirements.

Increased operation and maintenance funding will be used to improve effectiveness, promote occupational safety and provide refuge visitors with a safe, wholesome environment.

Refuge	Funds ($000)
Alabama	
Choctaw	4
Eufaula	12
Wheeler	30
Hawaii	
Hawaiian and Pacific Island Refuges	30

Alaska	
Alaska Maritime*	12
Yukon Delta*	31
Izembek	12
*(Existing prior to ANILCA under different designations)	
Arizona	
Cibola	15
Havasu	12
Imperial	15
Arkansas	
Big Lake	7
Holla Bend	12
Wapanocca	12
California	
Kern	55
Klamath Basin Refuges	42
Merced	15
Sacramento	53
Colusa	21
Sutter	18
San Luis	26
Colorado	
Arapaho	17
Browns Park	17
Monte Vista	24
Delaware	
Bombay Hook	21
Prime Hook	12
Florida	
Chassahowitzka	8
Hobe Sound	5
J.N. "Ding" Darling	20
Lake Woodruff	9
Merritt Island	29
Pelican Island	3
Georgia	
Georgia Coastal Complex	41
Minnesota	
Agassiz	9
Benson Wetland Management	30
Big Stone	6
Fergus Falls Wetland Management District	30
Litchfield Wetland Management District	30
Minnesota Valley	3
Idaho	
Deer Flat	12
Kootenai	7
Southeast Idaho Refuge Complex	40
Illinois	
Calhoun	12
Chautauqua	4
Crab Orchard	50
Mark Twain	3
Savanna District	15
Indiana	
Muscatatuck	26
Iowa	
DeSoto	50
Lansing District	20
Louisa	12
Union Slough	12
Kansas	
Flint Hills	12
Kirwin	7
Quivira	20
Louisiana	
Catahoula	12
Delta	7
Lacassine	6
Maine	
Moosehorn	35
Maryland	
Blackwater	26
Eastern Neck	12
Glen L. Martin	7
Massachusetts	
Parker River	40
Michigan	
Seney	10
Shiawassee	15
New York	
Iroquois	21
Montezuma	49
Target Rock	15
North Carolina	
Mattamuskeet	30
Pea Island	20
Pee Dee	12
Pungo	20

Refuge	Funds ($000)
Minnesota Wetlands Complex	12
Morris Wetland Management District	22
Rice Lake	12
Sherburne	30
Tamarac	12
Upper Mississippi River Complex	3
Mississippi	
Hillside	27
Yazoo	7
Missouri	
Clarence Cannon	12
Mingo	12
Squaw Creek	12
Swan Lake	3
Montana	
Benton Lake	60
Medicine Lake	12
Northwest Montana Wetland Management District	12
Nebraska	
Crescent Lake	12
Fort Niobrara	18
Hastings Wetland Management District	21
New Jersey	
Brigantine	30
Great Swamp	5
New Mexico	
Bitter Lake	12
Bosque del Apache	10
Maxwell	6
Tennessee	
Cross Creeks	12
Hatchie	21
Reelfoot	20
Tennessee	26
Texas	
Aransas	54
Laguna Atascosa	29
McFaddin	29
Muleshoe	12
Santa Ana	21

Refuge	Funds ($000)
North Dakota	
Arrowwood	20
Audubon	25
Des Lacs	21
Devils Lake Wetland Management District	21
J. Clark Salyer	21
Kulm Wetland Management District	21
Tewaukon	22
Upper Souris	17
Ohio	
Ottawa	17
Oregon	
Malheur	17
Umatilla	18
William L. Finley	18
Pennsylvania	
Erie	20
Tinicum	12
Puerto Rico	
Caribbean Islands	9
South Carolina	
Cape Romain	18
Santee	25
South Dakota	
Lacreek	18
Lake Andes	21
Madison Wetland Management District	21
Sand Lake	21
Waubay	21
Washington	
Columbia	17
Nisqually	21
Ridgefield	25
Toppenish	12
Turnbull	17
Willapa	6
Wisconsin	
Horicon	3
Necedah	12
Cassville District	18
La Crosse District	18

Refuge	Funds ($000)	Refuge	Funds ($000)
Vermont		Winona District	18
Missisquoi	15	Trempealeau	3
Virginia		TOTAL	2,691
Back Bay	21		
Mackay Island	12		
Chincoteague	43		
Mason Neck	12		
Presquile	21		

Object Classification Distribution

The object class detail for the $2,691,000 increase is as follows:

Item	$
Other services *	380,000
Supplies and materials	2,311,000
Total	$2,691,000

*Includes contracts for repair of buildings, equipment, and facilities.

Increases for 1982	1982 Base	1982 Estimate	Increases
$	0	146	+146
(FTP)	(0)	(0)	(0)

Water Rights $146,000, no positions.

This is a need to document and quantify Federal reserved water rights. The quantification program will require a 10 year time frame for a State review of reserved and nonreserved water rights and filing of claims. This work would prevent the loss of significant but unquantified waterfowl maintenance, waterfowl production, and other migratory bird maintenance outputs over the long-term. To protect these water rights the Service needs to develop assessment techniques, train technical personnel, and coordinate the activities with other agencies. These funds will permit the initial work to protect refuges from the loss of many of their water rights and the loss of ability to manipulate levels within impoundments.

Funds will be used as follows:

Item	$000
-Training of technical personnel	$ 15
-Travel and coordination with other agencies	10
-Establishing gauging facilities at national wildlife refuges in Washington, Oregon, Montana, North Dakota, South Dakota, Utah, and Wyoming.	115
-Records search to prove water rights	6
Total	$146

Object Classification Distribution

The object class detail for the $146,000 increase is as follows:

Item	$
Travel and transportation of persons (includes training)	$ 25,000
Other services	121,000
Total	$146,000

Migratory Bird Law Enforcement

16 U.S.C. 668 - Bald Eagle Act of 1940

This Act provides for protection of the bald eagle and the golden eagle by regulating the taking, possession, and commerce in such birds.

16 U.S.C. 703 - 711 - Migratory Bird Treaty Act

This Act establishes the Federal responsibility for protection of the international migratory bird resource. The Act provides for enforcement authority for the regulations controlling the taking, selling, transporting, and importing of migratory birds, their nests, eggs, parts, or products.

16 U.S.C. 718 - Migratory Bird Hunting and Conservation Stamp Act

This Act, commonly referred to as the "Duck Stamp Act", requires waterfowl hunters 16 years of age or older to possess a valid Federal waterfowl hunting stamp.

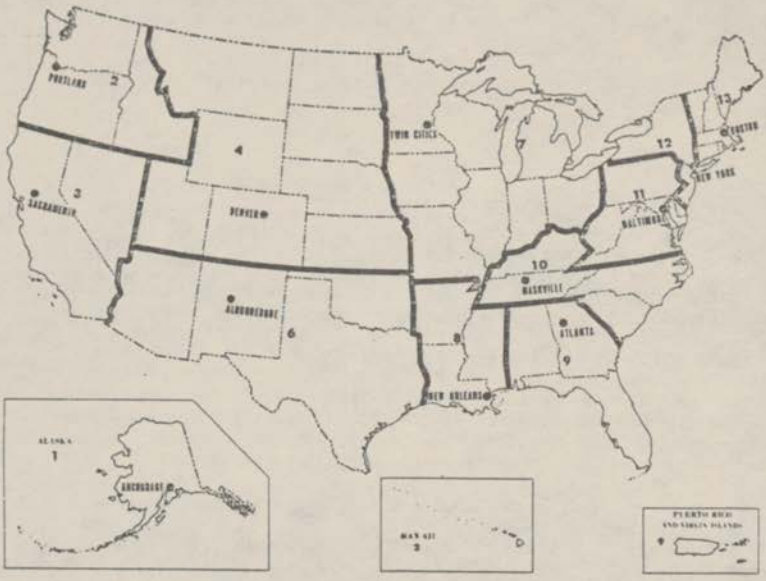
Objectives: To enhance legitimate use and enjoyment of migratory birds; to inform citizens of various laws and regulations; to detect, investigate, apprehend, and refer for prosecution those who disregard protective laws and regulations.

Base Program: The Service law enforcement effort is directed through 12 District Offices, as shown on the next page, and 142 field stations located throughout the United States. These offices provide information on migratory bird regulations to the public through correspondence and public presentations.

The following are examples of law enforcement accomplishments in FY 1980. FWS Special Agents conducted an extensive undercover operation (over 100 investigations) and subsequently served four arrest warrants and 34 search warrants on 30 individuals suspected of large-scale commercialization of migratory birds in Indiana, Illinois, and Wisconsin. Upon serving their search warrants, agents seized almost 800 migratory birds along with other protected wildlife, records, files and receipts.

During October/November 1979, the Service sent a 15-20 member Special Agent Task Force to Wisconsin during the Horicon National Wildlife Refuge goose season, resulting in approximately 500 citations being issued. Most of these were for failing to comply with the bird tagging system designed to prevent overharvesting.

LAW ENFORCEMENT DISTRICT OFFICES



An annual Task Force, consisting of 4 to 6 Special Agents, spent parts of October and November, 1979 on special assignment to protect the canvasback duck. This species currently has a low population status and half of the U.S. population concentrates in a 100-mile area on the Mississippi in the States of Minnesota, Iowa, and Wisconsin during the early portion of the waterfowl hunting season. Over 100 apprehensions were made, half of which involved illegal taking of canvasbacks. Two Special Agents, working undercover in the southwest over the course of a year, made 20 cases on commercialization of raptor feathers. Many golden and bald eagles as well as other smaller raptors are illegally killed each year for their feathers.

Eight Special Agents were involved in a special Texas white-wing dove Task Force effort during August/September, 1979 enforcing the domestic laws and checking hunters coming across the border from Mexico. Violations included overlimit hunting, smuggling of birds, shooting hour violations, and lack of a State license or white-wing dove stamp. White-wing dove hunting is a major commercial activity, which contributes significantly to the local economy. An enforcement presence in the area is desirable to regulate the harvest.

Law enforcement efforts have concentrated on species whose populations are low, such as canvasback, and redhead ducks, and eagles, hawks, and owls. Commercialization and easement compliance were stressed. Baiting and closed season hunting were the biggest problems. Many of the major convictions involved possession and sale of protected species and were the results of standard investigations of migratory bird permit applications.

Investigations

	1980	1981	1982
Pending at start of FY	978	4,435	5,000
Opened	14,385	14,500	14,600
Closed	13,928	13,935	14,400
Pending at end of FY	4,435	5,000	5,200

Increases for 1982	1982 Base	1982 Estimate	Increase
$	6,985	7,923	+938
(FTP)	(132)	(132)	(0)

Law Enforcement $938,000, no positions.

Increased funding for law enforcement will be used to offset continually escalating costs of operation and purchase of equipment. New dollars for increased travel (which is essential for an effective wildlife law enforcement program) will permit approximately 500 more investigations to be processed than will be possible in FY 1981. The shortage of storage space for seized wildlife will be partially alleviated. Forensic support will be strengthened to establish a capability that will provide field agents with expert advice on evidence collection and handling; and provide a reliable means of obtaining accurate and reliable species-specific identifications of wildlife parts and products seized as evidence. Emphasis will also be placed on investigating the illegal taking of raptors and the importation of illegal or injurious wildlife.

The most common needs of special agents are as follows:

Replacement of vehicles, boats, and radios, increased travel, rental of evidence storage facilities, and miscellaneous supplies and materials.

The following table displays a summary of the total increases.

Item	($000)
Vehicles (replacement of 30 vehicles)	$248
Boats, motors, and trailers (replacement and initial purchase of 15)	156
Radios (largely replacements)	65
Miscellaneous equipment (cameras, binoculars, weapons, office equipment)	60
Supplies and materials	154
Travel	131
Evidence storage	14
Maintenance of vehicles and equipment	30
Undercover operations	30
Forensic support	50
TOTAL	$938

Allocations will be made as follows:

Law Enforcement Office	Funds ($000)
Anchorage, AK	$ 29
Portland, OR	70
Sacremento, CA	93
Denver, Co	150
Albuquerque, NM	23
Twin Cities, MN	98
New Orleans, LA	76
Atlanta, GA	55
Nashville, TN	77
Baltimore, MD	78
New York, NY	100
Boston, MA	39
Washington, DC	50
TOTAL	$938

Object Classification Distribution

The object class detail for the $938,000 increase is as follows:

Item	$
Travel and transportation of persons	$131,000
Transportation of things	5,000
Communications, utilities, and other rent	14,000
Printing and reproduction	3,000
Supplies and materials	154,000
Equipment	529,000
Other Services	102,000
TOTAL	$938,000

Migratory Bird Research

Authorization: 16 U.S.C. 742a - 742j - The Fish and Wildlife Act of 1956.

Among other things, the Act directs a program of continuing research, extension and information services on fish and wildlife matters at national as well as international levels.

16 U.S.C. 715 -715d - Migratory Bird Conservation Act.

This Act authorizes the Secretary of the Interior to conduct investigations and publish documents related to North American birds.

Objectives: To conduct research on migratory birds which will provide techniques for preserving and managing habitat; population information needed for development of sound harvest regulations; biological and ecological information

necessary for proper management of non-game birds; methods for assessing the impact of different types of land use and development on populations; and data for increasing public understanding of the resource and habitat requirements.

Base Program: Migratory bird research provides managers with basic biological information about migratory bird numbers, population dynamics, ecological relationships, and habitat requirements. This information allows for the establishment of prudent hunting regulations, description of critical habitat, identification of populations in danger of becoming "threatened", development of optimum land use management programs, reduction of non-hunting mortality, assessment of environmental impacts, adequate mitigation of habitat losses, and increased appreciation of the migratory bird resource.

Research is conducted in the following five major areas.

The first area is related to monitoring the waterfowl population status and assessing impacts of proposed or experimental hunting regulations. Most of these studies are conducted at the Migratory Bird and Habitat Research Laboratory at Laurel, Maryland. Studies on population status include development of improved census techniques, especially for some of the less abundant and more difficult to census waterfowl species. Research also provides information on factors affecting migratory bird productivity and mortality. This knowledge of population dynamics is necessary for the evaluation of experimental hunting regulations such as the hunting zones in Louisiana. Long term studies, such as the assessment of mallard and black duck productivity and survival, provide the information needed to understand the effects of interactions between environmental factors and hunting regulations on population status.

Studies of waterfowl ecology, habitat requirements, and effects of various habitat manipulations comprise the second major area of research. These efforts are particularly directed at increasing wildlife productivity on national wildlife refuges and other Federal and State wildlife areas. Waterfowl ecology and habitat studies are conducted by the Migratory Bird and Habitat Research Laboratory (for the eastern United States) and the Northern Prairie Wildlife Research Center at Jamestown, North Dakota (for the central and western part of the United States). Major studies are currently being conducted on dabbling and diving ducks in prairie breeding areas, black ducks in northeastern areas, canvasback wintering areas along the east coast, and waterfowl wintering concentrations in the California Central Valley areas and in the Mississippi Delta bottomland hardwood's. In addition, studies are underway to determine how to improve the quality of wetland and upland habitat through more intensive management in those regions of the country where agricultural development continues to eliminate wildlife habitat.

The third area of research relates to studies on migratory shore and upland game birds. The majority of the studies conducted in this area are contracted through the Accelerated Research Program on Migratory Shore and Upland Game Birds. The Service and the States cooperate in this program through a subcommittee of the International Association of Fish and Wildlife Agencies. This program is administered through the Migratory Bird and Habitat Research Laboratory at Laurel, Maryland. Major research emphasis is on population of mourning doves, woodcock, and sandhill cranes.

Studies on non-game birds represent a fourth major area of research. Primary emphasis is directed at identifying species likely to become threatened. These studies involve monitoring population trends, improving survey methods, and

identifying key habitats. Special attention in developing or improving survey methods is given to migratory birds such as raptors and shore birds which are not adequately monitored by present surveys. In addition, the national breeding bird survey is being evaluated and improved with the incorporation of habitat factors which are important for the interpretation of population trends.

Research responsibilities for ecological studies of non-game birds are assigned on the basis of biogeographical areas. The Migratory Bird and Habitat Laboratory conducts studies along the east coast, in eastern deciduous forests, and on northern prairies and plains. The Denver Wildlife Research Center conducts research programs in western habitats. The National Fish and Wildlife Laboratory is responsible for studies in the arid southwest and along the Gulf coast. Non-game studies include projects such as determination of ecological requirements for shore birds in the Mid-Atlantic coast and North Dakota, raptors in western riparian habitat, urban wildlife, marine bird investigations, and assessments of the impact of transmission line corridors on non-game bird populations. Systematic and distribution investigations and scientific specimen maintenance of the national bird collection are supervised by the National Fish and Wildlife Laboratory, Washington, D.C.

The fifth research area includes wildlife health and specialized field techniques development. Important migratory bird diseases are diagnosed and studied by the National Wildlife Research Laboratory at Madison, Wisconsin. The effort to reduce losses of migratory birds to disease involves prevention, diagnosis, control, and research. The response to disease outbreaks involves prompt field investigation, rapid laboratory diagnosis, and initiation of proper control measures to prevent the spread of disease. In addition, field investigation training is provided to refuge biologists, technical assistance is provided to law enforcement agents, disease prevention and health care practices are recommended to research laboratories, and management recommendations to reduce the likelihood of disease outbreaks are made to refuge managers. Research on the causes, diagnosis, control, and prevention of migratory bird diseases include studies on avian cholera (particularly in California and Nebraska), botulism, and non-hunting mortality among Canada geese in the Mississippi Valley flock. Use of specialized techniques such as telemetry and satellite imagery are being developed to provide more efficient and effective means of monitoring habitat conditions and migratory bird populations.

Workload factors indicative of the migratory bird research program are as follows:

Number of research studies	FY 1980	FY 1981	FY 1982
Waterfowl Population Status	28	28	28
Waterfowl Ecology and Habitat	35	33	33
Migratory Shore and Upland Game Birds			
Non-game	13	11	11
Techniques Development and Wildlife Health	38 12	42 16	44 16
TOTAL	126	130	132

Increase for 1982	1982 Base	1982 Estimate	Increase
$	6,718	6,996	+278
(FTP)	(113)	(113)	(0)

Marine Birds $278,000, no positions.

Marine Birds constitute a valuable national and international resource about which relatively little is known. There are over 100 North American and Pacific species of marine and shorebirds for which the Service has responsibility under the Migratory Bird Treaty Act and the recent treaties with Japan and the USSR. As research planning has progressed, the magnitude of information gaps on marine birds inhabiting the diverse and long coast of Alaska and widespread U.S. possessions and Trust Territories in the Pacific has become even more apparent. Even the basic ability to reasonably census several species and an understanding of distribution, food habits and habitat usage is limited. Information on normal population fluctuations needed to interpret the significance of any man-caused population changes is not available. The accelerating oil drilling and transport activities in Alaska and the increasing population and development pressures in the Pacific adds importance to this research.

The initial funding in FY 81 will permit (1) gradual development of techniques to census hard-to-count species (such as those which nest in crevices and burrows), (2) the establishment of long-term reproductive ecology studies of seabird colonies on the Alaskan Semidi Islands - to understand factors affecting productivity and thus to distinguish normal population fluctuations from detrimental man-caused or environmental population changes, (3) an assessment of shorebird habitat in Prince William Sound - one of the areas which may be impacted by oil pollution, (4) the compilation of limited existing information on marine birds in the Pacific, and (5) an understanding of fall and winter distribution of marine birds in the waters surrounding Alaska.

Funding allocated in FY 82 for marine bird research will permit (1) studies on marine bird food habits and nutrient relationships - information important for assessment of potential competition for forage fish between marine bird and the commercial fishing industry, (2) the added assessment of shorebird habitat along the Alaska peninsula, particularly the dynamics of post-breeding foraging and habitat usage by shorebirds especially in areas likely to be impacted by oil drilling and transport, (3) the collection of information on distribution and abundance of marine birds and endemic species from those areas of U.S. Possessions and Trust Territories with very limited or no biological information, especially the Northern Marianas, (4) the study of reproductive ecology of two additional colonies reflecting the longitudinal and species difference occurring along the Alaska coast, (5) the assessment of the impact of increased recreational and transportation activities and other human disturbances on marine bird nesting colonies on the west coast.

Object Class Distribution

The object class detail for the $278,000 increase is as follows:

Item	$
Travel and transportation of persons	$ 22,000
Other services	235,000
Supplies and materials	21,000
TOTAL	$278,000

74-939 O—80——58

Migratory Bird Management

Authorization:
16 U.S.C. 715 - 715d - Migratory Bird Conservation Act

This Act authorizes the Secretary of the Interior to cooperate with local authorities in wildlife conservation and to conduct investigations related to North American birds.

16 U.S.C. 703 - 711 - Migratory Bird Treaty Act

This Act establishes the Federal responsibility for protection of the international migratory bird resource. The Act provides for regulations to control taking, selling, transporting, and importing migratory birds, their nests, eggs, parts or products.

The Alaska National Interest Lands Conservation Act. Public Law 96-487. This Act, of December 2, 1980, provides for the designation and conservation of certain public lands in Alaska, including the designation of units of the National Park, National Wildlife Refuge, National Forest, and National Wilderness Preservation Systems. It establishes 9 new and enlarges 7 existing national wildlife refuges in Alaska, as well as creating new units in other national conservation systems; directs specific studies of fish and wildlife resources in several regions of Alaska; establishes subsistence use of renewable resources as the priority consumptive use on public lands in a program to be conducted by the State of Alaska with reimbursement from the Federal Government.

Objectives: To provide overall national direction and coordination of the Program; to carry out international commitments resulting from treaties and agreements; to administer jointly with Canada the North American bird banding activity; to collect annual data on the status and use of migratory birds; to develop annual hunting regulations for migratory game birds; and to coordinate migratory bird habitat protection activities.

Base Program: Migratory bird management provides national and international direction and coordination of migratory bird management activities. Most of the work involves cooperative efforts with States, other Federal agencies, private individuals and organizations, and foreign countries under international treaties and agreements. Functions include gathering and providing information on the status and use of migratory birds, developing annual hunting regulations and guiding the Service's migratory bird habitat protection effort.

Ten major inventories are conducted annually to systematically monitor bird populations, harvests, and changes in habitat conditions on important production and wintering areas. These include United States and Canadian surveys of duck breeding populations, production, and habitat conditions; periodic fall and spring surveys to determine numbers and distribution of migratory game birds; the annual winter survey of waterfowl to determine their distribution in relation to habitat; mail surveys of hunters to determine the harvest of waterfowl; and spring surveys to monitor the status of breeding mourning doves and woodcock. These surveys provide the basic information on population trends and are used to establish annual regulations permitting harvests of migratory game bird populations.

The Service maintains the national Bird Banding Laboratory at Laurel, Maryland. In addition to providing a centralized repository for bird banding data, the

Laboratory also provides guidelines to bird banders, processes banding data in support of research and management activities, and controls the bird banding permit system.

Administration of the North American bird banding program is a cooperative effort by the Service and the Canadian Wildlife Service. The States and Provinces provide essential field support and input into the establishment and achievement of migratory bird banding objectives. The purpose of banding and otherwise marking migratory birds is to learn facts about their geographic and chronologic distribution, havest rates, and mortality and survival rates.

Distribution of the harvest rates can be determined through recovery of bands from birds shot by hunters. Banding of non-game birds helps to determine facts about their life history, and to aids in monitoring population trends, and in determining seasonal distribution.

The banding and color marking of lesser snow geese on Arctic breeding grounds is an example of a major cooperative undertaking by the Service, the States, Federal and Provincial governments in Canada, and in the Soviet Union. Snow geese nest in the Arctic and migrate to various wintering areas. The distribution, annual harvest, and mortality and survival rates must be understood before cooperative international management recommendations can be developed. Banding helps provide this essential information.

Emphasis in migratory bird management in FY 1981 includes issuance of a Disease Contingency Plan, initiation of a National Waterfowl Management Plan, development of population management plans for several species of waterfowl and sandhill cranes in the Central and Pacific Flyways, implementation of the US-USSR Migratory Bird Treaty, implementation of a cooperative management plan for Mississippi Valley Population Canada geese, continuation of the non-toxic shot program to reduce lead poisoning losses of waterfowl, efforts to amend bilateral migratory bird treaties to allow subsistence hunting in Alaska, continuation of meeting with Canadian and Mexican officials to coordinate cooperative wildlife management programs and updating the Migratory Bird Program Management Document.

Federal falconry regulations have been adopted by 41 states. Regulations requiring the use of non-toxic shot for waterfowl hunting in specific areas were cooperatively established and enforced either wholly or in part in 36 states.

In FY 1982, the following will receive emphasis:

1) Surveys and censuses of subsistence uses in Alaska.

2) Evaluation of using stabilized basic duck hunting regulations for five year period (with minor annual adjustments) versus former method of annually changing basic regulations.

3) Development of a list of vulnerable non-game birds.

4) Development of overall flyway management plans.

5) Collection of increased amount of waterfowl hunting information via mail surveys.

Workload factors indicative of the mangement program are as follows:

Surveys	1980	1981	1982
Waterfowl breeding ground survey (aircraft hours)	1,400	1,400	1,400
Periodic waterfowl surveys (aircraft hours)	775	750	750
Midwinter waterfowl survey			
Aircraft hours	1,100	1,100	1,100
Auto miles	46,000	46,000	46,000
Sandhill crane inventory (aircraft hours)	50	50	50
Waterfowl productivity survey (observation hours)	150	150	150
Mourning dove call-count (routes)	1,000	1,000	1,000
Woodcock singing ground survey (routs)	1,000	1,000	1,000
Harvest surveys:			
Subsistence uses - Alaska	--	4	6
Waterfowl questionnaires received	50,000	50,000	65,000
Duck wings collected	72,000	72,000	94,000
Goose tail fans collected	8,000	8,000	10,000
Crane questionnaires received	10,000	10,000	10,000
Woodcock wings received	17,000	17,000	17,000
Banding			
Master Permits	2,100	2,125	2,200
Bands issues	1,975,000	2,000,000	2,000,000
Game birds banded	431,000	430,000	495,000
Non-game birds banded	900,000	915,000	930,000
Band recoveries	62,000	63,000	70,000

Increase for 1982	1982 Base	1982 Estimate	Increase
$	206	306	+100
(FTP)	(0)	(0)	(0)

Surveys and Censuses of Subsistence Resources in Alaska $100,000, no positions.

Title VIII of the Alaska National Interest Lands Conservation Act provides that nonwasteful subsistence be the priority consumptive use of fish and wildlife and other renewable resources on the public lands in Alaska. All land use decisions, including access and development, must consider the impacts on subsistence. In addition, allocation of resources among competing users, subsistence, commercial and sport - must be based on sound principles of wildlife management to assure the continued viability of fish and wildlife populations. The Fish and Wildlife Service will utilize funding as proposed in three programs-Migratory Birds ($100,000), Mammals and Non-Migratory Birds, ($200,000; 1 position), and Fishery Resources ($300,000; 1 position). A system of surveys and censuses of subsistence uses and resources will be established in cooperation with the State of Alaska and other Federal agencies. Existing data will be examined to verify the accuracy of the information and to identify significant gaps or problem areas. To the extent that information is not

obtained by State or other Federal land managers, subsistence users will be interviewed to determine their needs, customary harvest, and season and places of use. Where necessary to fill data voids, fish and wildlife populations will be surveyed throughout the year to ascertain natural factors that affect viability and to identify habitat requirements.

The Service will conduct some of these studies utilizing its own personnel, but will also rely on information and data gathered by the local Native groups, subsistence advisory councils, and by the Alaska Department of Fish and Game. The data gathered will be shared among all land managers for use in making decisions regarding subsistence and other fish and wildlife matters.

Potential conflicts over resource allocation are already becoming apparent in many areas. Subsistence and recreational users often seek the same resource, and commercial fishermen compete with both groups for salmon. Economic factors including fees for hunting and fishing licenses and guide fees vie against the cultural values of subsistence as well as the high cost of food in rural communities.

Subsistence census and survey work in the Migratory Bird Program will focus additional attention on four species whose numbers appear to have been already affected by subsistence taking - the white-fronted, emperor, and cackling geese, and the black brant on the Yukon-Kuskokwim Delta. Those species are particularly vulnerable to subsistence use (egging) in the spring of the year due to their habit of laying only one clutch of eggs each year. Other problem areas are suspected, however, and more will probably come to light as more survey work is accomplished.

The highest priority tasks will be to determine the magnitude of the harvest of each species, whether the harvest rates are increasing, and the impacts of the take on each species. Once the impacts are known, any necessary alternative strategies for dealing with problems can be developed in a timely fashion in cooperation with the State and, if necessary, other Federal land managing agencies.

The work described above will require close cooperation between the Service and the Alaska Department of Fish and Game. It is anticipated that the State will accomplish some of the surveys under contract. Field work by Service personnel will require extensive travel by light aircraft and some travel by boat and snowmobile.

Object Classification Distribution

The object class detail for the increase is as follows:

Item	$
Positions other than permanent	$22,500
Personnel benefits	8,000
Travel and transportation of persons	2,000
Other services (Includes aircraft rentals)	42,500
Supplies and materials	15,000
Equipment	10,000
Total	$100,000

EXHIBIT 8

Justification of Program and Performance

Activity: Wildlife Resources
Subactivity: Mammals and Non-Migratory Birds

(Dollar amounts in thousands)

		1981 Appropriation Enacted to Date	FY 1982 Base	FY 1982 Est.	Inc. (+) or Dec. (-)
Mammals & Non-Migratory Birds Refuges	$	7,913	8,630	12,733	+4,103
	(FTP)	(167)	(167)	(195)	(+28)
Mammals & Non-Migratory Birds Law Enforcement	$	2,761	3,070	3,697	+627
	(FTP)	(72)	(72)	(72)	(+0)
Mammals & Non-Migratory Birds Research	$	3,312	3,540	3,867	+327
	(FTP)	(53)	(53)	(55)	(+2)
Mammals & Non-Migratory Birds Wildlife Assistance	$	1,326	1,470	1,670	200
	(FTP)	(33)	(33)	(34)	(+1)
(Common Program Services)		(1,635)	(2,212)	(2,256)	(44)
Total Requirements	$	15,312	16,710	21,967	+5,257
	(FTP)	(320)	(325)	(356)	(31)

Mammals and Non-Migratory Birds Refuges

Authorization: 16 U.S.C. 742a - 742j - Fish and Wildlife Act of 1956. The Act of August 8, 1956, as amended, establishes a comprehensive national fish and wildlife policy. It authorizes the Secretary of the Interior to take steps "required for the development, management, advancement, conservation, and protection of wildlife resources through research, acquisition of refuge lands, development of existing facilities, and other means."

16 U.S.C. 668dd - 668ee - National Wildlife Refuge System Administration Act of 1966.

This Act constitutes an "Organic Act" for the National Wildlife Refuge System by providing guidelines and directives for administration and management of all areas in the system, including "wildlife refuges, areas for the protection and conservation of fish and wildlife that are threatened with extinction, wildlife ranges, game ranges, wildlife management areas, or waterfowl production areas."

The Alaska National Interest Lands Conservation Act. Public Law 96-487. This Act, of December 2, 1980, provides for the designation and conservation of certain public lands in Alaska, including the designation of units of the

National Park, National Wildlife Refuge, National Forest, and National Wilderness Preservation Systems. It establishes 9 new and enlarges 7 existing national wildlife refuges in Alaska, as well as creating new units in other national conservation systems; directs specific studies of fish and wildlife resources in several regions of Alaska; establishes subsistence use of renewable resources as the priority consumptive use on public lands in a program to be conducted by the State of Alaska with reimbursement from the Federal Government.

Objectives: The Mammals and Non-Migratory Birds Program provides funds and personnel to manage lands of the National Wildlife Refuge System to attain a diversity of native wildlife species at optimum population levels. These species, including mammals, non-migratory birds, reptiles, amphibians, and crustaceans, may then be made available to the public for recreational uses such as hunting, photography, educational enrichment, subsistence harvest, and for esthetic enjoyment.

Base Program: Although most of the nation's refuges were established primarily for migratory birds, specific big game species or endangered species, almost all of the 404 refuges and 19 wetland management districts encompassing almost 89 million acres have mammal and non-migratory bird values. The 19 refuges categorized as mammals and non-migratory bird areas are among the largest in the refuge system. The following examples illustrate this point.

Area	Acreage	Principal Wildlife Species
Cabeza Prieta National Wildlife Refuge	860,000	desert mule deer, Sonora pronghorn antelope, desert big-horn sheep, javelina
Charles M. Russell National Wildlife Refuge	855,000	elk, mule deer, white-tailed deer, Rocky Mountain big-horn sheep, coyote
Desert National Wildlife Range	1,600,000	desert big-horn sheep, mule deer, mountain lion
Arctic National Wildlife Refuge	18,054,624	Dall sheep, caribou, grizzly bear, polar bear, timber wolf, musk ox, wolverine

The Alaska National Interest Lands Conservation Act (ANILCA) added 56 million acres to the Refuge System and modified the boundaries or designations of the established refuges. There are now 76,058,931 acres of refuges in the state of Alaska alone. Most of these areas contain substantial numbers of important wildlife species such as brown bear, caribou, moose, wolf, grizzly bear, wolverine, marten and lynx.

The resource management program on national wildlife refuges is described in the Migratory Bird Program justification and is not repeated here. The practices discussed are beneficial to mammal and non-migratory bird resources as well as migratory birds.

Among the workload factors common to both the Migratory Birds and the Mammals and Non-Migratory Birds functions, the following are most pertinent to mammals and non-migratory birds.

National Wildlife Refuges	1980	1981	1982
Acres of forests managed	2,410,000	2,412,000	2,412,000*
Acres of grasslands managed	2,435,000	2,438,000	2,438,000*
Acres of new Alaska refuges	53,720,000	53,720,000	53,720,000*

*Some workload factors for new Alaska refuges have not been identified to date.

Proposed Increase: Refuge O&M-Existing Refuges ($1,145,000 no positions) - In FY 1982, the Service proposes an increase of $1,145,000 to provide increased operation and maintenance funds for the National Wildlife Refuge System.

During the past ten years the National Wildlife Refuge System has grown from approximately 29 million acres to the presently existing 88,745,744 acres. Funding is required to protect wildlife resources and the land base from unauthorized uses; initiate habitat management; protect physical facilities from vandalism and permit some types of economic uses which may enhance the wildlife management objectives of the area.

Typical MNB activities on refuges include providing watering holes for desert bighorn sheep, maintaining a herd of Tule elk under fenced conditions, managing herds of buffalo at four separate refuges and monitoring populations of walrus, musk ox and polar bears. The Service also performs necessary surveys of resident populations such as grouse, moose, and deer to ensure proper management which ultimately benefits the public which uses the areas.

Rising costs of materials, supplies and labor over the past several years has prevented timely maintenance of habitat management facilities such as water control structures, dikes, irrigation and pumping systems as well as support facilities, such as buildings, roads, fences and equipment. The attainment of long-range wildlife objectives are not possible. The Bicenntennial Land Heritage Program (BLHP) beginning in FY 1977 partially relieved some of the more serious problems by adding O&M funding and providing major rehab and/or replacement of facilities. Also BLHP provided for many new facilities which now need operating and maintenance funds. Therefore, support is now needed to maintain these new facilities in order to keep them at optimum operating efficency and to realize the maximum life expectancy and usefulness.

The Service has a substantial investment (over $1.5 billion) in refuge facilities and equipment. In order to prevent deterioration and to keep the facilities and equipment operating at a suitable level, it is necessary to schedule regular maintenance. Examples of this work would include painting buildings according to a planned schedule, replacing vehicles at standard mileage intervals, graveling roads as needed, repairing buildings, servicing water control structures and repairing fences.

In the past the Service has lacked the resources to adequately maintain facilities and equipment to attain life expectancy and maintain operational effectiveness. Prolonged deferment of maintenance resulted in a significant backlog of facility rehabitation needs on wildlife refuges.

Increased operation and maintenance funding will improve effectiveness, promote occupational safety and provide refuge visitors with a safe, wholesome environment. Stations receiving funding from this proposal are listed as follows:

State	Refuge	Funds ($000)
Alaska	Alaska Maritime (Aleutians Islands Unit)	10
	Yukon Delta	15
	Arctic	30
	Kenai	45
	Kodiak	10
Arizona	Cabeza Prieta	30
	Kofa	20
Arkansas	Felsenthal	10
	White River	15
California	San Francisco Bay	10
	San Luis	5
Colorado	Browns Park	2
Delaware	Bombay Hook	10
	Prime Hook	10
Florida	National Key Deer	10
	St. Marks	10
	St. Vincent	6
Georgia	Okefenokee	15
	Piedmont	15
Hawaii	Hawaiian and Pacific Islands Complex	15
Illinois	Chautauqua	2
	Crab Orchard	10
	Mark Twain	5
	Upper Mississippi River	10
Indiana	Muscatatuck	10
Iowa	De Soto	10
	Mark Twain	5
	Union Slough	10
	Upper Mississippi River	10
Kansas	Kirwin	2
	Quivira	2
Louisiana	Upper Ouachita	10
	Sabine	10
Maryland	Blackwater	10
	Eastern Neck	10
Massachusetts	Great Meadows	10

Michigan	Seney	10
	Shiawassee	5
Minnesota	Agassiz	10
	Big Stone	5
	Minnesota Valley	2
	Morris Wetland Management District	5
	Detroit Lakes Wetland Management District	10
	Fergus Falls Wetland Management District	5
	Litchfield Wetland Management District	10
	Rice Lake	10
	Sherburne	10
	Tamarac	10
Mississippi	Mississippi Sandhill Crane	20
	Noxubee	10
Missouri	Clarence Cannon	5
	Mingo	10
	Squaw Creek	10
	Swan Lake	10
Montana	Charles M. Russell	48
	National Bison Range	25
Nebraska	Crescent Lake	2
	Fort Niobrara	10
	Kearney Wetland Management District	2
Nevada	Desert	45
	Sheldon	45
New Jersey	Brigantine	7
	Great Swamp	10
New Mexico	San Andres	10
	Sevilleta	10
New York	Iroquois	10
	Montezuma	3
North Carolina	Pee Dee	10
North Dakota	Arrowwood	5
	Des Lacs	5
	Devils Lake Wetland Management District	6
	J. Clark Salyer	5
	Upper Souris	5
Ohio	Ottawa	10
Oklahoma	Wichita Mountains	20
Pennsylvania	Erie	2
South Carolina	Carolina Sandhills	10

South Dakota	Lacreek	2
	Lake Andes	2
	Madison Wetland Management District	2
	Sand lake	2
	Waubay	2
Tennessee	Hatchie	10
Texas	Aransas	15
	Rio Grande Valley	20
Utah	Fish Springs	4
	Ouray	6
Vermont	Missisquoi	10
Virginia	Back Bay	10
	Chincoteague	10
	Great Dismal Swamp	10
	Mackay Island	10
	Mason Neck	10
	Presquile	10
Washington	Columbian White-Tailed Deer	10
	Little Pend Orielle	10
	Nisqually	10
Wisconsin	Horicon	5
	Necedah	10
	Upper Mississippi River	
	Cassville District	10
	La Crosse District	10
	Winona District	10
	Trempealeau	5
Wyoming	National Elk Refuge	45
	Seedskadee	4
	TOTAL	$1,145,000

Object Class Distribution

The object class detail for the $1,145,000 increase is as follows:

	1982 Estimate
Travel and transportation of things	45,000
Printing and reproduction	1,000
Supplies and material	899,000
Equipment	200,000
Total	1,145,000

Proposed Increase: Alaska Refuge O&M ($2,158,000; 20 positions). The basic justification for this increase for the MNB portion of new refuges in Alaska is set forth under the same heading in the Migratory Bird Program. In the interest of brevity and clarity, it will not be repeated here.

Specific management activities to be funded under the MNB program include: aerial inventories of wildlife populations, monitoring animal health conditions, conducting surveys of habitat, fire management and control, banding, tagging or color marking individual animals to obtain information for management improvement. Validating mining claims, issuing permits and managing access are also involved. An important aspect of management in Alaska is to maintain constant liaison with native organizations, other Federal land management agencies and the Alaska Fish and Game Department.

For ease of reference, the funding and positions table for Alaska refuges is reported here in its entirety.

Funds/Positions

Stations	Mammals and Non-Migratory Bird Program	Migratory Bird Program	Total
Alaska Maritime	387/2	500/3	887/5
Alaska Peninsula	63/0	120/3	183/3
Arctic	140/2	57/1	197/3
Becharof	120/1	29/1	149/2
Innoko	102/1	156/1	258/2
Izembek	--	--	--
Kanuti	111/1	142/1	253/2
Kenai	170/2	--	170/2
Kodiak	102/0	--	102/0
Koyukuk	172/1	130/2	302/3
Nowitna	76/1	70/1	146/2
Selawik	59/1	155/2	214/3
Tetlin	116/1	147/1	263/2
Togiak	41/1	61/1	102/2
Yukon Delta	177/2	770/4	947/6
Yukon Flats	170/2	350/2	520/4
Regional Office	152/2	90/2	242/4
Totals	2158/20	2777/25	4935/45

Object Class Distribution

The object class detail for the $2,158,000 increase is as follows:

	1982 Estimate
Permanent Positions (20)	700,000
Lapse	-70,000
Permanent Positions	630,000
Positions other than permanent	80,000
Total Compensation	710,000
Personnel Benefits	252,000
Travel and transportation of things	190,000
Printing and reproduction	1,000
Supplies and material	488,000
Equipment	517,000
Total	2,158,000

Proposed Increase: Management of Subsistence Uses on Refuges in Alaska ($400,000; 6 positions). Title XIII of P.L. 96-487 establishes a statutory policy of preference for the taking of fish and wildlife and other renewable resources of federal lands in Alaska for non-wasteful subsistence use. Refuges in Alaska will be heavily utilized for subsistence purposes. Residents of over 145 villages, more than 25,000 people, located within or adjacent to the 16 refuges established by the Act have traditionally used refuge habitat for subsistence purposes and will continue to do so. Under provision of Title VIII, the Service is responsible for assuring that preference is given to subsistence uses of renewable resources on refuges, particularly fish and wildlife, while protecting them from overuse or habitat degradation. These funds and positions are focused where subsistence use is concentrated, where fish and wildlife population problems affecting subsistence resources have been identified or are suspected, where apparent conflicts are associated with access for subsistence purposes, or where competition for limited resources between subsistence and sport hunting or other users is known or expected in the near term. A subsistence program cannot be effectively implemented on national wildlife refuges in Alaska by fiat and a massive law enforcement effort. Rather it must be undertaken in a cooperative mode with sufficient personnel resources to deal directly with users on a timely basis.

Determining the magnitude of wildlife harvest by subistence and recreational users will be the highest priority task. Some surveys will be contracted to the state of Alaska. Field work by Service personnel will require extensive travel in remote areas under adverse weather conditions.

Object Class Distribution

The object class detail for the $400,000 increase is as follows:

	1982 Estimate
Permanent Positions (6)	210,000
Lapse	21,000
Permanent Positions	189,000
Positions other than permanent	50,000
Total Compensation	239,000
Personnel Benefits	84,000
Travel and transportation of things	11,000
Printing and reproduction	1,000
Supplies and material	20,000
Equipment	45,000
Total	400,000

Proposed Increase: Arctic National Wildlife Refuge Coastal Plain Resource Assessment ($400,000; 2 positions). The Alaska National Interest Lands Conservation Act (ANILCA), directed the Service to conduct a study of the Coastal Plain (1.4 million acres) of the Arctic NWR to determine wildlife populations; map habitats and determine their carrying capacity; assess impacts on human activities and analyze the potential impacts of oil and gas exploration on wildlife and on the culture and life style of affected Native and other people. This information is vitally needed to adequately protect all of the surface resources involved. .

These initial baseline studies must be completed by June 2, 1982, in compliance with ANILCA and as the basis for development of seismic exploration guidelines. The total resource assessment will require at least five years to complete.

Object Class Distribution

The object class detail for the $400,000 increase is as follows:

	1982 Estimate
Permanent Positions (2)	70,000
Lapse	-7,000
Permanent Positions	63,000
Positions other than permanent	45,000
Total Compensation	108,000
Personnel Benefits	38,000
Travel and transportation of things	60,000
Printing and reproduction	1,000
Supplies and material	153,000
Equipment	40,000
Total	400,000

Mammals and Non-Migratory Bird Law Enforcement

Authorization: 18 U.S.C. 42-44- The Lacey Act of 1900.
The Lacey Act of May 25, 1900, as amended, provides authority to the Secretary of the Interior to "regulate the introduction of American or foreign birds or animals into new locations, and to collect and publish information on wild birds." The Lacey Act also prohibits the transportation and importation of wildlife taken in violation of State, Federal, and foreign laws.

16 U.S.C. 1361, 1362, 1372-1384, 1401-1407 - The Marine Mammal Protection Act of 1972.

Approved October 21, 1972, this Act establishes a Federal responsibility for conservation of marine mammals, with management vested in the Department of the Interior for sea otter, walrus, polar bear, dugong and manatee.

16 U.S.C. 742j-1 - The Airborne Hunting Act.

Section 13 of the Fish and Wildlife Act of 1956 is commonly referred to as the Airborne Hunting Act or Shooting from Aircraft Act and prohibits taking or harassing wildlife from aircraft except for certain specified reasons, including protection of wildlife, livestock, and human health or safety as authorized by a Federal or State-issued license or permit.

Objectives: The special mission of Law Enforcement is to provide for the protection of domestic and certain foreign wildlife species. This is accomplished by drafting, publishing, and enforcing regulations necessary to implement the laws which authorize the Service to engage in wildlife protection.

Base Program: The Service enforces federal wildlife laws relating to species within the Mammals and Non-Migratory Birds Program, under the authorities listed above. Enforcement personnel inform citizens of the various laws and regulations to enhance legitimate use and enjoyment of wildlife and develop a deterrent to those who disregard the regulations by detecting, investigating, apprehending and referring for prosecution, violators of the laws and regulations. Such controls assure opportunities for future generations to utilize and enjoy

a diversity of wildlife. Since various segments of the public have a variety of interests, all species are considered important, but the species most often exploited are big game animals having high trophy values, such as the polar bear, Alaskan brown bear, and bighorn sheep.

The Service cooperates with state fish and wildlife agencies, U.S. Customs, and foreign governments in enforcement activites. Approximately $460,000 of effort annually is devoted to enforcement of marine mammal regulations. The Service has increased inspection of imports and exports of live wildlife and wildlife parts and products to aid in the protection of both national and international wildlife resources. Inspections are largely restricted to designated ports of entry. To improve cooperation with other countries in law enforcement activities, foreign liaison has been established and maintained.

Examples of law enforcement accomplishments in FY 1980 are as follows: A known trafficker in illegal wildlife and two other individuals were recently convicted of charges stemming from the illegal importation of several hundred birds. The conviction included eight felony counts on such violations as conspiracy, false documentation, theft of birds that were known to be infected with Newcastle disease from a quarantine station.

A reptile dealer was indicated on seven counts of Lacey Act and other violations. Nearly 1,000 reptiles--snakes, crocodilians, and lizards--were illegally taken and imported into the United States. The dealer was convicted and sentenced.

A recent bird-smuggling investigation resulted in the sentencing of ten individuals. Two principals smuggled approximately five hundred parrots on at least eight separate occasions from interior Mexico across the Rio Grande River on an inner tube into Texas. These birds were destined for pet shops in the San Antonio and Houston area.

	Actual	Estimated	
	1980	1981	1982
Lacey Act cases	876	900	950
Marine Mammal Protection Act cases	168	155	170
Airborne Hunting Act cases	39	45	55

Proposed Increase: Law Enforcement ($528,000/0): In FY 1982, the Service proposes an increase of $528,000 to intensify efforts in dealing with international wildlife crime and toward enforcing provisions of the Marine Mammal Protection Act, the Lacey Act, and the Airborne Hunting Act. The increase will bolster law enforcement efforts in general, permitting more responsiveness to the State's request for assistance and allowing replacement of equipment on a more timely schedule.

Increased funding for law enforcement will be used to pay operating costs and maintenance or purchase of both new and replacement equipment such as radio paraphernalia, vehicles, and boats. Investigations have had to be curtailed because of lack of operating costs. With these additional funds, it is estimated that 200 more investigations will be conducted in FY 1982 than was possible in FY 1981. Travel and gasoline costs have greatly escalated. Old equipment needs to be repaired or replaced - sometimes with more highly sophisticated and costly equipment. Funds for storage for seized wildlife and office space are needed.

Forensic support will be strengthened to establish a capability that will provide field agents with expert advice on evidence collection and handling. Undercover operations, which are highly costly, will be increased in order to concentrate on highly destructive commercial activities.

Increased funding for law enforcement will help prevent the illegal taking of wildlife such as raptors and marine mammals the importation of illegal or injurious wildlife, illegal hunting from aircraft, and improve conviction on illegal activities under the Lacey Act, Airborne Hunting Act, and Marine Mammals Act.

The District Special Agent in Charge offices are funded as follows:

Location	Funds
Anchorage, AK	$ 60,000
Portland, OR	71,000
Sacramento, CA	78,000
Albuquerque, NM	78,000
Twin Cities, MN	20,000
New Orleans, LA	20,000
Atlanta, GA	72,000
New York, NY	79,000
Wash. Office - LE	50,000
	$528,000

Object Class Distribution

The object class detail for the $528,000 increase is as follows:

	1982 Estimate
Positions other than permanent	155,000
Total Compensation	155,000
Personnel Benefits	39,000
Travel and transportation of things	80,000
Printing and reproduction	2,000
Supplies and material	162,000
Equipment	90,000
Total	528,000

Proposed Increase: Alaska Walrus Protection ($99,000/0) - In FY 1982 the Service proposes to intensify efforts to aid in preventing walrus ivory and polar bear hide trade near Kotzebue, Alaska. It is necessary to control commercial efforts in these products to prevent exploitation of this wildlife resource. The situation is complicated by alleged involvement with the narcotics trade.

This operation will require detailing Special Agents from other parts of the country to conduct aerial, boat and ground patrol and surveillance. Rental of airplanes and boats and other expenses associated with this operation are substantial due to the extensively remote and difficult terrain involved.

Object Class Distribution

The object class detail for the $99,000 increase is as follows:

	1982 Estimate
Positions other than permanent	10,000
Total Compensation	10,000
Personnel Benefits	4,000
Travel and transportation of persons	64,000
Printing and reproduction	-
Supplies and material	15,000
Equipment	6,000
Total	99,000

Mammals and Non-Migratory Birds Research

Authorization: 16 U.S.C. 742a - 742j - The Fish and Wildlife Act of 1956. The Act directs a program of continuing research, extension and information services on fish and wildlife matters at national as well as international levels.

16 U.S.C. 1380, 1381 - The Marine Mammal Protection Act of 1972.

The Act authorizes research on marine mammals. An amendment approved on July 10, 1978, extends appropriation authorizations for fiscal years 1979-81. In FY 1981, $2.1 million is authorized for research.

Objectives: The basic objectives of Research in the Mammals and Non-Migratory Bird Program concern the development and understanding of functional relationships of wildlife species and their ecosystems. The knowledge is needed to develop and assess management techniques. The Marine Mammal Protection Act requires research to determine optimum sustainable population levels for each species entrusted to the Service and to acquire an understanding of the marine ecosystems of which they are a part.

Base Program: The Service conducts a broad program of research in the Mammals and Non-migratory Birds Program. The National Fish and Wildlife Laboratory, Washington, D.C., and the Denver Wildlife Research Center perform most of this research, with limited work being conducted at the National Wildlife Health Laboratory, Madison, Wisconsin. The research effort is varied, with a significant part being related to the Marine Mammal Protection Act and the remainder being involved principally with studies to determine ecological relationships of wildlife species, including population status, habitat requirements, and systematic studies. Major efforts are devoted to investigations of the impact of various land use practices upon the wildlife community. These studies include impacts of off-road vehicles on wildlife and habitats, effects of forest management practices on wildlife, particularly non-game species, impacts of grazing on wildlife and their habitats, and studies of the overall impact of human development.

Work at the National Wildlife Health Laboratory has three major thrusts. Support is provided for the Southeastern Wildlife Disease Study at the University of Georgia to investigate various disease problems related to wildlife populations in that area. Diagnostic services are provided at the Laboratory to determine the causative agent in diseased wildlife species. Studies are being conducted to determine the role of brucellosis in elk populations, particularly

74-939 O—80——59

at the National Elk Refuge, Wyoming. These studies are in cooperation with on-going research at the Denver Wildlife Research Center and the Wyoming Game and Fish Department.

The National Fish and Wildlife Laboratory leads in conducting the Service's marine mammal research program. Research is underway to determine population status of polar bears and Alaskan sea otters. Community studies of the sea otter are determining the role of this species in the near-shore ecosystem, and are attempting to assess quantitatively and qualitatively the inter-relationships of this species with other important components of this community.

Polar bear research is directed toward determination of population status and distinct breeding populations. Satellite telemetry is being utilized as a special technique in this effort.

Other activities of the National Fish and Wildlife Laboratory involve assessment of the impact of forest management on national wildlife refuges, (White River NWR, Arkansas); studies of the impacts of grazing on national wildlife refuges, (Kofa NWR, Arizona), and cooperative studies with the Government of Mexico, particularly as they relate to the development of previously undisturbed areas of Baja California. These studies are significant in that they involve habitats similar to many in the United States which have already been severely impacted by man's activities. Findings can be directly utilized in developing appropriate management regimes for these fragile habitat types in the United States.

Studies being conducted at the Denver Wildlife Research Center are similar to many of the National Fish and Wildlife Laboratory, but are conducted in different habitat types. Studies at the Sheldon National Wildlife Refuge have developed baseline data which will be used to determine the relationship of cattle grazing to non-game bird and mammal populations. Other studies in national forests of the Rocky Mountain region are determining relationships of certain timber harvest practices on wildlife, and are assessing relationships of watershed management plans on the wildlife resource. Studies are underway to determine the status of wildlife species suspected to be declining in the Southwestern United States. Other studies are directed towards assisting the U.S. Forest Service in planning management of aspen timberlands for the purpose of enhancing wildlife habitats. Still other studies, now nearly completed, have documented the impact of chemical sage brush control on wildlife populations. Such studies could have a profound influence upon future land management practices.

The Denver Wildlife Research Center is continuing studies at the Kenai National Wildlife Refuge in Alaska. Those investigations relate to assessments of the management of moose on the Range, but also are directed toward determinations of some of the habitat and nutritional requirements of this exceedingly important big game species. This research is being conducted in close cooperation with the Alaska Department of Game and Fish. Studies are continuing to determine important habitat requirements of the Porcupine caribou herd, an international resource shared with Canada.

The above-listed research programs being conducted in the Mammals and Non-Migratory Birds Program are designed to enhance our understanding of wildlife populations and to refine management techniques to benefit this resource. Sound land use practices depend upon a solid informational base.

In FY 1982, the Service will:

1. Continue research on the effects of forest managemen azing practices on wildlife;
2. Work with the National Aeronautics and Space Admini in development of satellite tracking technology for marine mammals
3. Continue injurious wildlife research.

The following workload factors are indicated in the Mamma d Non-Migratory Birds Research function:

	1980	1981	1982
Research work units	45	46	44
Animal disease diagnoses	285	285	285
Biological samples processed (elk brucellosis study)	260	250	250

The research work units include projects pursuant to nine treaties and international agreements and five cooperative assistance agreements. The Service is involved in cooperative wildlife research studies with 11 foreign countries.

Proposed Increase: Barren Ground Caribou Study ($327,00; 2 positions). The barren ground caribou are an international resource of considerable magnitude. The herd of over 100,000 animals migrates between Canada and the United States and a treaty is being developed to protect this resource. The herd is important to many people both for subsistence and recreational hunting. Baseline and long-term studies are needed to develop an understanding of the herd's requirements and how potential development may affect them. Such a study will expedite the prudent development of Alaska's natural resources.

Object Class Distribution

The object class detail for the $327,000 increase is as follows:

	1982 Estimate
Permanent Positions (2)	70,000
Lapse	-7,000
Permanent Positions	63,000
Positions other than permanent	20,000
Total Compensation	83,000
Peronnel Benefits	29,000
Travel and transportation of persons	35,000
Printing and reproduction	1,000
Supplies and material	162,000
Equipment	17,000
Total	327,000

Mammals and Non-Migratory Birds Wildlife Assistance

Authorization: 16 U.S.C. 742 - The Fish and Wildlife Act of 1956. The Act of August 8, 1956, authorizes a program of planning, development, maintenance and coordination of fish and wildlife restoration, rehabilitation and public recreation of Department of Defense (DOD), Department of Energy (DOE), National Aeronautics and Space Administration (NASA), Forest Service an Bureau of Land Management lands.

16 U.S.C. 670 a-f - Sikes Act - The Act authorizes the Service to provide technical assistance to DOD, DOE, and NASA. The Act authorizes the appropriation to the Secretary of the Interior not to exceed $3,000,000 for each of the fiscal years ending September 30, 1979, September 30, 1980, and September 30, 1981, to carry out such functions and responsibilities as he may have under cooperative plans to which he is a party. Since Congress must reauthorize the Act for FY 82, it is assumed there will be no changes in current funding and ceiling levels.

16 U.S. C. 661-667 - Fish and Wildlife Coordination Act of 1934.
This Act authorizes the Secretary of Interior to provide assistance to and coordinate with Federal, State, public and private agencies and organizations in the development, protection, rearing and stocking of fish and willdife and their habitat and to make surveys and investigations of fish and wildlife in the public domain.

16 U.S.C. 1361, 1362, 1372-1384, 1401-1407 - Marine Mammal Protection Act of 1972.
The Act establishes Federal jurisdiction overall marine mammals and placed the management responsibility for sea otter, marine otter, walrus, polar bear, dugong, and manatee with the Department of Interior. In 1978, the Act was amended authorizing appropriations for grants to States to help them develop and implement programs for protecting and managing marine mammals within their individual territorial jurisdiction. The Act authorizes $876,000 for management and protection, $2,100,000 for research and $400,000 for grants to states in FY 1981. The current authorization for the Marine Mammals Act expires September 30, 1981. Reauthorization hearings will be held in FY 1981.

Objectives: The mission of the Wildlife Assistance Function in the Mammal and Non-Migratory Bird Program is to provide to other federal and state agencies, organizations and individuals professional assistance which will enable them to design and carry out sound wildlife management programs.

Base Program: The Service's Wildlife Assistance Function provides professional consultation and guidance in wildlife matters to other agencies, groups, and individuals. Service personnel assist in coordinating and developing wildlife management programs for other land-holding federal, state, and private agencies, including Indians and Eskimos, and for individuals.

Liaison is maintained with agencies whose primary mission is land and resource management, i.e., the National Park Service, the Forest Service, the Soil Conservation Service, the Agricultural Stabilization and Conservation Service, the Bureau of Land Management, the Bureau of Indian Affairs, Indian tribes and the states.

The Service provides wildlife management assistance and guidance to other federal and state agencies, especially to those agencies which influence land use but whose primary mission is not land and wildlife resource management, i.e., the Department of Defense, the Department of Transportation, Housing and Urban Development, Department of Energy, and the National Aeronautics and Space Administration. The Department of Defense is assisted in developing concepts, plans, and approaches to fully and wisely use the total wildlife resources of military lands as stipulated in the Sikes Act. Under the authority of the Sikes Act, Service biologists have provided the sole technical expertise in fish and wildlife management or have supplemented work of state fish and game agencies on

military lands. They also provide the necessary liaison between the state agencies and the military. The main purpose of wildlife assistance on military installations is to help in the preparation of long-range plans for the management of wildlife resources, and where appropriate, to provide recreational hunting and nature appreciation experiences for military personnel and the general public.

Much Department of Defense land has valuable wildlife potential while other areas are, or could be, important to the preservation of the nation's threatened and endangered animals.

An agreement between the Departments of Defense and Interior provides for Service assistance in the management of fish and wildlife resources on military installations. The benefit of this assistance is best measured in terms of the many thousands of acres of land that are placed under long-range wildlife management for the benefit of game and non-game species, and for use by the general public.

The Department of Defense has identified military installations which are suitable for more intensive fish and wildlife management programs. Continued funding in FY 1982 will allow the Service to provide planning assistance to the Department of Defense to initiate, intensify, or review wildlife management on these installations. There remains a continuing need to further assess wildlife populations on these lands, and the FY 82 funding level will enable Service biologists to continue to assist military personnel in developing and updating management plans and cooperative agreements, as well as helping to conduct wildlife surveys and censuses, and providing on-site consultation regarding habitat renovation.

FY 1982 funds will be allocated for wildlife assistance to military installations in the following states:

Region 1 - California and Hawaii	$ 35,000
Region 2 - Arizona, New Mexico, Texas, Oklahoma	40,000
Region 3 - Michigan, Wisconsin, Ohio, Indiana, Illinois, Iowa, Missouri, Minnesota	45,000
Region 4 - Florida, Georgia, South Carolina, North Carolina, Alabama, Louisiana, Mississippi, Kentucky, Arkansas Tennessee	63,000
Region 5 - New York, New Hampshire, Massachusetts, Maine, Virginia, Maryland	45,000
Region 6 - Kansas, Colorado, Utah, Wyoming	43,000
Region 7 - Alaska	30,000
Total	$301,000

The Service effort will be coordinated closely with military effort and will provide assistance to installations based on priorities determined by wildlife resource needs and funding and manpower constraints. Funds provide for vehicle operation, personnel salaries, and travel expenses.

The Service assists the Bureau of Indian Affairs and Indian Tribes throughout the Nation by providing professional wildlife management expertise to encourage and enable the recipients to carry out progressive resource management activities. This is accomplished by offering technical assistance and support in order to develop comprehensive wildlife management plans.

Over 52 million acres of land are under the control of approximately 100 Indian Tribes. In many instances, key habitat for big game, upland game and endangered or threatened species is found on Indian lands. Proper management of the wildlife resources residing on these lands is important to the national missions and goals of the Service.

This office coordinates the Service's Marine Mammal Protection Act activities which involve Federal management and grants to States for development and implementation of marine mammal protection and management programs. Funding for grants, authorized by section 109 of the Marine Mammal Protection Act, was received initially in FY 1979 in the amount of $400,000. The same amount was made available from FY 80 and FY 81. States or commonwealths which may request grants include Alaska, California, Florida, Oregon, Puerto Rico, and Washington.

Within its management function, Wildlife Management (1) coordinates all marine mammal activities within the Service and all Service marine mammal activities with State and other Federal agencies, notably with the National Marine Fisheries Service, the Animal and Plant Health Inspection Service, and especially with the Marine Mammal Commission; (2) processes State requests to waive the moratorium and return management to State control; (3) monitors State programs for species whose management has been returned to the State; (4) coordinates Washington Office review and processing of State requests for grants to develop and implement marine mammal management programs involving planning, research, censusing, habitat acquisition and improvement, or law enforcement; (5) coordinates in-house review of research and public display permit applications; (6) prepares or reviews marine mammal program plans; (7) coordinates, prepares, or reviews environmental assessments and impact statements, and report annually to the Congress and the public on the status and population stocks (as required by the Act), the Marine Mammal Commission, and other interested parties; and (8) coordinates and/or identifies Fish and Wildlife Service marine mammal concerns as related to the Marine Sanctuaries Act and Outer Continental Shelf activities, as required.

The following workload factors are indicated in the mammal and non-migratory birds wildlife assistance function.

	1980	1981	1982
Consultations (Individual visits to provide assistance)			
Sikes Act	600	600	600
Indian Assistance	280	300	325
Marine Mammals			
National and State meetings and workshops	8	8	8
Regulations prepared/ reviewed	5	5	5
Research and public display permits reviewed	15	15	15
State grant applications processed	5	5	5
Environmental assessments/ impact statements prepared/ reviewed.	8	10	10

Proposed Increase: Surveys and Censuses of Subsistence Resources in Alaska ($200,000; 1 position). The basic justification for this increase is set forth under the same title in the Migratory Bird Program budget and will not be repeated here.

Subsistence census and survey work in the Mammals and Non-Migratory Bird Program will focus on animals and birds important to the residents of Alaska for food. This includes caribou, moose, Dall Sheep and ptarmigan. This will be done in conjunction with State Game and Fish personnel, native organizations and others. The number and distribution of these animals is extremely important to avoid conflicts between user groups. An equitable management plan will have to be developed which will assure an adequate population of these birds and animals and still meet the needs of the user groups.

Object Class Distribution

The object class detail for the $200,000 increase is as follows:

	1982 Estimate
Permament Positions (1)	40,000
Lapse	-4,000
Permanent Positions	36,000
Positions other than permanent	30,000
Total Compensation	66,000
Personnel Benefits	23,000
Travel and transportation of persons	25,000
Printing and reproduction	1,000
Supplies and material	68,000
Equipment	17,000
Total	200,000

EXHIBIT 8

Justification of Program and Performance

Activity: Wildlife Resources
Subactivity: Animal Damage Control

(Dollar amounts in thousands)

		1981 Appropriation Enacted to Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Animal Damage Control Operations	($)	12,905	13,468	13,468	
	(FTP)	(141)	(141)	(141)	
Animal Damage Control Research	($)	4,533	4,732	4,732	
	(FTP)	(107)	(107)	(107)	
Common Program Services	($)	(1,862)	(1,869)	(1,869)	
Total Requirements	($)	17,438	18,200	18,200	
	(FTP)	(248)	(248)	(248)	

Animal Damage Control Operations

Authorization: 7 U.S.C. 426-426b, Animal Damage Control Act of March 2, 1931 which authorizes the Secretary of the Interior to control wildlife harmful to human interests.

16 U.S.C. 703-711, Migratory Bird Treaty Act of 1918, as amended, which gives the Secretary of the Interior primary management authority for migratory birds.

Objectives: Assist in protecting the wildlife resource by providing national leadership in the control of conflicts between wildlife and man by: (1) encouraging only ecologically sound, socially acceptable wildlife damage control activities; and (2) assisting others to reduce or prevent man/wildlife conflicts.

Base Program: Animal Damage Control Operations includes both direct and extension damage control assistance to other Federal agencies, States, counties and municipalities, and to private individuals and organizations.

In direct assistance, the Service actually conducts or supervises the damage control activities. In extension assistance, the Service provides others the information needed to effectively and safely conduct damage control activities. The Service uses the extension approach whenever those requesting assistance can adequately resolve the conflict and protect the environment through their own efforts.

The Service analyzes the biological, social, and economic factors involved in man/wildlife conflicts before taking or recommending damage control action. In this analysis, equal attention is given to resolving the conflict and to protecting the environment.

The Service conducts operations in accordance with cooperative agreements between the Service and the appropriate State agency so as not to preempt prerogatives of the States to manage resident wildlife species.

The Service cooperates with the Federal Extension Service; State wildlife, agricultural, and health departments; other governmental agencies; and private entities to provide animal damage control assistance. The Service does not compete with other agencies or commercial pest control firms when they can provide comparable services and when wildlife values are adequately protected.

Resident Wildlife - The Service's major resident wildlife damage control thrust is direct assistance for the reduction of predation on livestock, mainly by coyotes, in the western United States. The Service will continue to control predator damages to livestock in a manner which is the most humane and selective possible and which does not adversely affect the wildlife resource or the environment. The Service will expend about 90% of the Animal Damage Control Program's operations funds on resident wildlife damage control in FY 1982.

In 1982 the Service will maintain the current level of control on predator damage in the West. This will be done while increasing the use of extension techniques and implementing more selective and non-lethal techniques which should be available by then.

During the current year the Program will: 1) expand the extension portion of the control program in accordance with the recent Secretarial decision on predator damage control, and 2) determine the coyote population index in the 17 western states and other states that provide assistance in conducting the survey.

Migratory Birds - The Service's major bird damage control thrusts are direct and extension assistance to protect public health and safety, livestock, agricultural crops, and residential and industrial facilities. The Service will expend about 10% of the Animal Damage Control Program's operations funds on migratory bird damage control in FY 1982.

In 1982 the Service will continue to emphasize reducing bird/aircraft strike risks at airports. The Service and the Federal Aviation Administration recently identified approximately 150 high hazard airports. The Service intends to engage in cooperative efforts with the FAA to reduce bird/aircraft strike hazards at those sites. Approximately half of those sites should be in the process of implementing acceptable bird control programs in 1982.

In the current year the Program is: 1) carrying out a non-lethal transplant program for golden eagle depredations control in the southwest, 2) working more closely with the Federal Aviation Agency to eliminate persistent bird/aircraft hazards, 3) accelerating efforts to reduce blackbird damage to crops in Arkansas and Louisiana, and (4) nuisance blackbird roosts in Tennessee and Kentucky.

Workload Factors	1980	1981	1982
1. Resident wildlife			
a) Direct control projects	35,000	33,000	33,000
b) Extension control projects	85,000	88,000	88,000

2. Migratory bird

a) Direct control projects	1,000	1,000	1,000
b) Extension control projects	13,000	13,000	13,000

Animal Damage Control Research

Authorization: 7 U.S.C. 426-426b, Animal Damage Control Act of March 2, 1931 which authorizes the Secretary of the Interior to conduct research on man/wildlife conflicts.

16 U.S.C. 703-711, Migratory Bird Treaty Act of 1918, as amended, which gives the Secretary of the Interior primary research and management authority for migratory birds.

Objectives: (1) Develop standard wildlife damage assessment techniques; (2) develop techniques that will allow the effective, selective, humane and ecologically sound resolution of animal damage problems; and (3) assess the impact of new or existing damage control methods on target species and the environment.

Base Program: The current animal damage control research effort falls into three categories: (1) problem definition (damage assessment), (2) damage control methods development, and (3) damage control related ecology and behavior.

Problem Definition - The Service conducts research to develop standard methods for measuring wildlife caused damages and to evaluate the significance and extent of such damage. The Service expends about 15% of the Animal Damage Control Program's research funds on problem definition.

Damage Control Methods Development - The Service conducts research to develop both chemical and non-chemical wildlife damage control methods. Research on chemicals is designed to maintain existing Environmental Protection Agency registrations for animal damage control use patterns and to develop new, more effective, selective, and safe animal damage control use patterns for registration by the Environmental Protection Agency. Research on non-chemical wildlife damage control methods includes studies on the effectiveness of habitat manipulation and crop cultural practices to prevent damages. The Service expends about 45% of the Animal Damage Control Program's research funds on methods development.

Damage Control Related Ecology and Behavior - The Service monitors wildlife populations which may be affected by animal damage control activities and assesses the wildlife impacts of all its proposed animal damage control techniques. This assures that approved damage control methods will effectively reduce damages without significantly reducing native wildlife populations or otherwise adversely impacting the environment. The Service also studies the ecology and the behavioral characteristics of species which frequently conflict with man's interests, so that sound management programs can be developed. This research can lead to entirely new systems of controlling wildlife caused damages. The Service expends about 40% of the Animal Damage Control Program's research funds on damage control related ecology and behavioral research.

During 1982 the Research effort will be directed toward predator activities to develop selective and environmentally benign toxicants and use patterns as well as non-capture, non-lethal control methods.

Workload Factors:	1980	1981	1982
Research projects/work units	18/178	20/185	20/185

Increased research emphasis beginning in FY 1981 on improved selective lethal control methods will include studies of capture techniques; intensified search for safe effective toxicants and other chemicals useful in reducing losses; studies of new improved applications of existing control techniques; and collection of data needed to register such tools, emphasizing assessment of secondary and non-target hazards.

A major objective for research will be increased efforts to measure effectiveness and impacts of the operational animal damage control program, including damage assessment, control method applications of behavioral and ecological studies, and improved predator population assessment methods. This information will be used by the Service to focus coyote control efforts where damage is high and to use control methods which are the most efficient, effective and selective.

A 5-year plan for predator research is under development which will enable the Service to precisely focus its research effort in addressing these new thrusts and emphases.

EXHIBIT 8

Justification of Program and ce

Activity: Wildlife Resources
Subactivity: Interpretation and Recreation

(Dollar amounts in thousands)

		1981 Appropriation Enacted to Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Interpretation and Recreation Wildlife Refuges	$	12,651	13,369	13,287	-82
	(FTP)	(236)	(236)	(236)	(0)
Interpretation and Recreation Fish Hatcheries	$	876	926	926	-
	(FTP)	(14)	(14)	(14)	-
(Common Program Services)	$	(1,441)	(1,460)	(1,459)	(-1)
Total Requirements	$	13,527	14,295	14,213	-82
	(FTP)	(250)	(250)	(250)	(0)

WILDLIFE REFUGES

Authorization: 16 U.S.C. 460k-460k-4 Recreational Use of Fish and Wildlife Areas. This authorization, commonly known as the Refuge Recreation Act of 1962, authorizes the Secretary of the Interior to administer refuges, hatcheries and other conservation areas for recreational use when such uses do not interfere with the primary purposes for which these areas were established. It also provides for public use fees and permits, and penalties for violation of regulations.

16 U.S.C. 470-470b, 470c-470n, as amended in 1973, 1976 and 1980. This Act commonly known as the National Historic Preservation Act of 1966, and its amendments direct Federal agencies to preserve, restore, and maintain the historic and cultural environment of the Nation. The Fish and Wildlife Service must survey, inventory, and nominate all significant historic and archeological resources under its jurisdiction to the National Register of Historic Places, and manage and maintain all such resources or potentially eligible resources.

16 U.S.C. 470 aa-11 - The Archeological Resources Protection Act of 1979, provides a comprehensive framework for protecting archeological resources on Federal land. It requires a permit be obtained for examination of such resources; the Service must develop its own permitting program.

16 U.S.C. 469a, Archaeological and Historic Preservation Act of 1974. This Act authorizes the Secretary of the Interior or bureaus to undertake recovery, protection, and preservation of historic and archeological data that would otherwise be lost as a result of Federal construction or other federally aided activities.

Objectives: To comply with the Recreational Use of Fish and Wildlife Areas Act of 1962 and various other regulatory measures which provide opportunities for the visiting public to enjoy a wholesome wildlife resource related recreational and educational experience on refuge lands and wildlife research areas. This objective is achieved by: (a) protecting and maintaining the Nation's historic, cultural, designated natural areas and objects on Service land for public benefit; (b) encouraging environmental understanding by making Service resources available for educational purposes; (c) developing and implementing educational programs for use as management tools for meeting fish and wildlife resource objectives; (d) promoting a conservation ethic by providing an enjoyable and informative visitor experience through interpretive programs on Service lands; and (e) providing high quality recreational benefits for the public which are compatible with fish and wildlife and their habitats.

Base Program: National wildlife refuges receive the major portion of Interpretation and Recreation funding since they provide facilities to accommodate approximately 90% of the visiting public to Service lands. A total of 404 refuges were under Service management on January 1, 1981, and 187 of these receive funding from the Interpretation and Recreation Program to carry out activities leading to the accomplishment of program objectives.

To date, all archeological and historic surveys conducted on Service lands, have been funded as project-specific studies with construction funds or through the provisions of the Alaska Native Claims Settlement Act. In FY 1980, survey costs from these funding sources totaled $320,000. No non-project related monies have been available for surveys and only minimal funds will be available in FY 1982 for construction projects.

Environmental education is designed to encourage a better public understanding of our natural resources by making Service lands available for educational and scientific purposes. This is achieved by providing "outdoor classroom" study areas for use by schools for formal environmental education activities concerning fish and wildlife, wildlands ecology, and man's role in his environment; by making Service lands available for scientific studies; and by preserving outstanding ecological, natural and scenic areas on Service lands through the protection of wilderness areas, natural landmarks, and scenic rivers.

In 1980 refuges provided approximately 490 miles of trails, including boardwalks, for visitor use and enjoyment of wildlife resources through both conducted and self guided tours. Also provided were 158 observation towers from which visitors could view wildlife concentrations and habitat. In addition, education programs, auto tour routes, slide and film presentations, exhibits, demonstrations and other interpretive programs were provided to the visiting public. These are the primary means for creating public awareness and understanding of the value of fish and wildlife resources and their habitats as well as general ecological and environmental principles.

For the most part the Service's legal responsibilities for recreation uses are discretionary rather than mandatory. The the Refuge Recreation Act is the single most important law governing public use on Service lands. Generally, it authorizes public recreation as a use of refuges, hatcheries and research areas when it is not inconsistent with the primary purpose for which a particular area was established. The Service has no mandated responsibilities for directly providing recreational opportunities on non-Service lands but does have certain responsibilities for protection and management of fish and wildlife which are utilized for recreational purposes.

The National Wildlife Refuge System provides high quality fish and wildlife related recreational activities. These activities include such things as fishing, hunting and wildlife observation. Recreational uses that are not fish and wildlife related are provided only when these uses are not in conflict with the Refuge Recreation Act as previously stated, and when such activities are adequately funded. These uses include camping, back packing, picnicking, swimming, boating, hiking, and other similar activities not requiring the presence of fish or wildlife.

Various forms of information media are used to increase public awareness and sensitivity to the multitude of actions impacting on the natural environment. These media include news releases at the station level, and area and regional offices, which provide such information as regulations, activities occurring at a particular site, refuge information leaflets, bird lists, interpretive leaflets, fees and rental rates, resource availability, and time and date of special events. This type of information is distributed through newspaper articles, radio, television, leaflets, and publications. Approximately $100,000 will be used to pay publication costs in 1981. In addition, the production and distribution of films, film clips, slide tape programs and special appearances before public and private groups and organizations are provided on subjects dealing with fish and wildlife resources. In FY 1981, approximately 850,000 public contacts relating to fish and wildlife information will be provided to the public.

The National Wildlife Refuge System maintains 302 improved recreation areas on highly visited refuges which provide for wildlife oriented and non-wildlife oriented recreation. The following tables show the expected visitor participation in various activities in fiscal years 1980-1982.

Examples of Public Use Activities

Interpretation and Recreation
(Participants in thousands)

	FY-1980	FY-1981	FY-1982
Environmental Education (Outdoor Classrooms)			
Student Participation	128	135	135
Wildlife Oriented Recreation			
Fishing	5,700	5,900	5,900
Hunting	868	875	885
Wildlife Observation	12,300	12,700	12,900
Total	18,868	19,475	19,685
Non-Wildlife Oriented Recreation			
Camping	470	468	465
Picnicking	1,032	1,030	1,030
Swimming	520	520	520
Boating	780	778	776
Total	2,802	2,796	2,791

Trails
(Numbers)

Wildlife Trails	610	625	630
Wildlife Tour Routes	1,055	1,075	1,085
Total	1,665	1,700	1,715

Shown below are the number of visitors to refuges over the past 10 years and the estimate for FY 1981 and FY 1982.

Visitors
(In millions)

Fiscal Year	No.
70	17.9
71	19.2
72	20.2
73	19.7
74	22.4
75	24.1
76	27.1*
77	26.5
78	25.7
79	25.5
80	26.5
81	27.0
82	27.5

* Includes transition quarter

The following workload factors are indicated in the Refuge System.

Activity Hours
(000's)

	1980	1981	1982
Interpretation	4,650	4,900	5,100
Environmental Education	850	880	890
Wildlife Recreation	52,000	54,000	55,000
Non-Wildlife Recreation	14,900	14,300	14,100
Totals	72,400	74,080	75,090

Acres Surveyed
(in 000's)

	1980	1981	1982
Archeological and Historical Survey	32	14	7.5

Net Decrease for 1982:	1982 Base	1982 Est.	Decrease
$	13,369	13,287	-82
FTP	(236)	(236)	0

New Refuges in Alaska - (Current 0; increase +43) - The increase of $43,000 will be used to improve the quality of the I&R program in Alaska on the Yukon Flats and Becharof National Wildlife Refuges.

Becharof National Wildlife Refuge, AK - $23,000 I&R: The Becharof NWR encompasses a unique ecosystem that supports a major salmon fishery, provides key habitat for and populations of brown bears and other nationally significant wildlife, and represents the magnificent volcanic and glacial features of the Alaska Penninsula.

Yukon Flats National Wildlife Refuge, AK - $23,000 I&R - This refuge exemplifies major scientific and cultural values associated with the eminent fish and wildlife resources of the largest and most productive of Alaska's flood-plain valleys. The area contributes significant populations of several species of waterfowl to all four of the continental fly-ways, including 10-15 percent of the relatively rare North American breeding population of canvasback ducks. Important populations of furbearers and other wildlife are present. The area supports a subsistence culture.

These funds will be used to:

1. Collect base data on public use activities for Becharof NWR and Yukon Flats NWR.

2. Utilize the collected base data to develop a public use plan for each refuge.

3. Develop an environmental education program and materials and implement such program on each refuge.

4. Develop an interpretative program for Becharof.

5. Bring commercial hunting and fishing operation into compliance with refuge regulations.

Object Class Distribution

The object class detail for the $37,000 increase for the subactivity is as follows:

Title	$
Positions other than permanent	30,500
Personnel benefits	3,500
Other services	3,000
Supplies and materials	4,500
Equipment	1,500
Total	$43,000

Development and Operation of Recreational Facilities - (Current $250; Decrease -125). Prior to FY 1981, the Service maintained disbursing authority for user fees collected at outdoor recreation sites and facilities.

Revenues derived from this account were used to: (1) repay field stations for fee collection costs; (2) help defray operational and maintenance costs of the activities and facilities generating recreation fees; (3) upgrade existing facilities to make them eligible for fee collection; (4) upgrade the quality of existing public use facilities; and (5) expand public use benefits where fees may or may not be collected.

In FY 1981, the account for recreational user fees was eliminated by the Congress and $250,000 was transferred to the Interpretation and Recreation Program to be utilized by those field stations participating in the fee program.

Since there will be a reduction of $125,000 in 1982 related to the Recreation program, the Service will not be able to expand and upgrade public use facilities and provide start up funding for new stations as in the past. The remaining funds will be used primarily to offset the cost of fee collections and defray operation and maintenance costs of existing facilities.

Object Class Distribution

The object class detail for the $125,000 decrease for the activity is as follows:

Title	$
Position other than permanent	50,000
Other personnel compensation	2,500
Total personnel compensation	52,500
Personnel benefits	5,000
Communication, utilities and rent	2,500
Other Services	11,250
Supplies and Materials	35,000
Equipment	11,250
Land and Structure	7,500
	125,000

FISH HATCHERIES

Authorization: 16 U.S.C. 460k-460k-4 Recreational Use of Fish and Wildlife Areas. This authorization, commonly known as the Refuge Recreation Act of 1962, authorizes the Secretary of the Interior to administer refuges, hatcheries and other conservation areas for recreational use when such uses do not interfere with the primary purposes for which these areas were established. It also provides for public use fees and permits, and penalties for violation of regulations.

Objectives: To comply with the Recreational Use of Fish and Wildlife Areas Act of 1962 and various other regulatory measures which provide opportunities for the visiting public to enjoy an educational and wholesome recreational experience on fishery resource and fishery research areas managed by the Service. This is achieved by (a) providing an opportunity for the public to visit fishery resource facilities and becoming aware of the natural and scientific elements of fish production; (b) encouraging the importance of managing fish resources through environmental practices to sustain fish populations and maintaining

74-939 O—80——60

the quality of water in streams and impoundments for their survival; (c) promoting conservation principles by providing an enjoyable and informative visitor experience through interpretative and educational programs on fish facilities; (d) providing high quality recreational benefits through fishing programs and other activities for public enjoyment on Service lands where the benefits are compatible with fish and their habitat; (e) providing an environmental education program for the purpose of solving problems concerning the nation's fish and wildlife resources; (f) providing information on energy conservation opportunities to the public via demonstration.

Base program: Fish facilities consist primarily of 89 national fish hatcheries, 11 research facilities, the National Fisheries Center, and the National Aquarium in Washington, D.C. A total of 66 of these facilities receive funding from the Interpretation and Recreation Program.

Public use programs on fish facilities are generally informal and unstructured and limited to interpretive and educational programs. There are 21 aquariums open to the public. In addition, visitors are provided with demonstrations and other presentations concerning the work of the hatchery. Visiting groups are given opportunities to become acquainted with hatchery operations.

The following workload factors are indicated in the fish facilities.

	Activity Hours (000's)		
	1980	1981	1982
Interpretation	200	200	200
Environmental Education	20	20	20
Wildlife Recreation	700	680	700
Non-Wildlife Recreation	475	470	468
Fish and Wildlife Information (units of effort)	150	150	150

The number of visitors to fish facilities are shown for the past five year period and the estimate for fiscal year 1980 through 1982.

1975 - 2,187,962
1976*- 2,616,518
1977 - 2,451,015
1978 - 2,501,000
1979 - 2,400,000
1980 - 2,300,000
1981 - 2,200,000
1982 - 2,300,000

*Includes transition quarter

Justification of Program and Performance

Exhibit 8 (cont.)

Activity: Fishery Resources
Subactivity: Fishery Resources

(Dollar Amounts in Thousands)

		FY 1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Fishery Research	$	11,475	12,394	13,294	+900
	(FTP)	(262)	(262)	(262)	(0)
Fishery Assistance	$	5,771	6,154	11,048	+4,894
	(FTP)	(116)	(116)	(134)	(+18)
Fish Hatcheries	$	22,113	24,004	26,863	+2,859
	(FTP)	(447)	(447)	(447)	(0)
Fishery Law Enforcement	$	157	157	257	+100
	(FTP)	(1)	(1)	(1)	(0)
(Common Program Services)	$	(4,139)	(4,912)	(4,994)	(82)
Total Requirements	$	39,516	42,709	51,462	+8,753
	(FTP)	(826)	(826)	(844)	(+18)

FISHERY RESEARCH

Authorization: 16 U.S.C. 661-666, Fish and Wildlife Coordination Act - Authorizes assistance to Federal, State, and other agencies in development, protection, rearing, and stocking of fish and wildlife and controlling losses thereof.

16 U.S.C. 742a-742j, Fish and Wildlife Act of 1956 - Directs the Secretary of the Interior to provide continuing research, extension, and information services, and to take any necessary steps to develop, manage, protect, and conserve fishery and wildlife resources, including research. 16 U.S.C. 931-939, Great Lakes Fishery Act of 1956 - Implements the Convention on Great Lakes Fisheries between the United States and Canada.

16 U.S.C. 778-778c, Fish-Rice Rotation Farming Program Act of March 15, 1958 - Authorizes the Secretary of the Interior to establish experimental stations for research and experimentation.

Objective: To collect, collate, and interpret diverse information on fish species, populations, and habitats in order to provide information, methodology and materials to assist fishery managers in decisions about protection, enhancement and utilization of resources. Research will address specific needs of the Service and, when feasible, respond to the needs of other Federal agencies, Indian tribes, State agencies, and international groups.

Exhibit 8 (cont.)

Base Program: To assist in attaining Fishery Resources Program goals and objectives, the Service operates 12 major laboratories and 25 field stations where an intensive research effort involving 85 projects and 280 subordinate work units is carried out. Research is conducted in fish husbandry and fish ecology.

Fish husbandry/aquaculture research produces research and development information for timely transfer to user groups so they can raise quality fish in the most effective and cost-efficient manner. The user groups are comprised of Federal, State and commercial entities which produce fish to enhance naturally occurring sport and commercial fisheries (including 89 units of the National Fish Hatchery System operated by the Service), provide a source of protein for human consumption, or meet other purposes (e.g., live bait, aquarium display, etc.). The disciplines within this major research field are fish health, fish nutrition, fish genetics, fish culture technology, chemical and drug registration, and technical assistance.

Fish ecology research is basically concerned with understanding the effects of man-made and natural environmental changes on fish populations and their habitats, developing capabilities for predicting impacts of changes resulting from management or from land and water development decisions or actions, and calculating a "total allowable catch" for Great Lakes fish stocks subject to litigation. In the Fish and Wildlife Service, studies in this field can be divided into three areas: fish population dynamics and assessment, fish population ecology, and fish control methods.

Fishery research accomplishments in the past fiscal year were wide and varied. The National Fishery Research Laboratory at LaCrosse, Wisconsin, continued in its activities to fulfill registration requirements for chemicals used in fisheries work and to develop other fishery management tools to resolve resource management problems. Use of the fish toxicant rotenone was successfully defended and its reregistration with EPA is progressing. FDA requirements for registration of formalin for fishery use have virtually been met. Progress continues on the development of other compounds including methods of detection and analysis in fish tissues, water and surrounding environment. In addition, ecological studies were conducted for selected problems identified by the Service's operational units.

The Great Lakes Fishery Laboratory conducts fishery assessment, ecology and contaminant studies of principal fish species and their forage base in all of the five Great Lakes. The Laboratory provided stock assessment reports for lake trout, whitefish, chubs, and lake herring for 1980 for Indian Treaty-ceded waters of the State of Michigan. Total allowable catches were recommended for 1980 as a basis for Federal regulations on Treaty fishing. The Laboratory also prepared at 3,500 page "Atlas of Spawning and Nursery Areas of the Great Lakes Fishes" describing known historically important and currently used spawning and nursery grounds of the Great Lakes fishes.

The National Fisheries Center at Leetown, West Virginia, administers five National laboratories involved in research on fish health, nutrition, genetics, and cultural technology; an experimental hatchery; and a training academy. Some of the major accomplishments in the last fiscal year included:

Exhibit 8 (cont.)

- The National Fisheries Center hosted workshops on sturgeon and striped bass to transfer information on cultural techniques and to define existing problem areas which require additional research. Over 115 Federal, State, and academic researchers attended the two workshops.

- The National Fish Health Research Laboratory developed techniques for concentrating bacteria from fecal samples for florescent antibody tests. This new method improved detection sensitivity 10 to 100 times over standard techniques and was successfully applied to several serious health problems in cultured fish.

- The Tunison Laboratory of Fish Nutrition determined that the addition of clay to trout feeds improved feed efficiency and growth rate. Additional experiments are underway to reduce the high cost of fish feeds without compromising growth and survival.

- The Southeastern Fish Cultural Laboratory continued research to improve fish cultural techniques. With new techniques, catfish in continuously aerated ponds are showing increased growth rates as compared to conventional cultural techniques.

- The Fish Farming Experimental Station continued research, development, and extension activities to the Federal hatchery operations as well as commercial fish producers. The Laboratory processed 354 fish disease cases, inspections, and inquiries, plus 3,790 contacts concerning information on fish farming. Research was initiated on differentiating bighead carp/grass carp triploid hybrids from the parent species. The hybrid carp can be used as a management tool for aquatic vegetation control.

- The National Fishery Research and Development Laboratory was formally dedicated in 1980. Research conducted at the Wellsboro, Pennsylvania, facility has shown that walleye fingerlings grow better in cylindrical up-welling rearing units than in rectangular tubs and that the optimum water temperature for rearing tiger muskies is approximately 22° C.

- A total of 2,910 man-days of fisheries training was provided by the Fisheries Academy in 21 training courses at Leetown and other selected sites throughout the nation. Training was provided to Federal, state, international, and private individuals on fish husbandry and fish management practices.

Major responsibilities of the Seattle National Fishery Research Center are to identify and quantify factors limiting the distribution/abundance of fish populations in freshwater and estuarine environments, and to develop methods for more efficient use of hatchery reared juveniles to supplement populations of anadromous fishes. Achievements in FY 80 included an estuarine ecology study on the outmigration of two species of juvenile salmon, completion of a survey of VEN disease in fishes of Puget Sound, and identifying and locating spawning and nursery areas of salmon in the Kenai River area of Alaska.

The National Reservoir Research Program (NRRP) conducts research on major Federally-owned reservoirs of 500 or more surface acres. The NRRP has the lead in data analysis and write-up of the Lake Barkley, Kentucky, cove sampling evaluation. The study was conducted cooperatively by more than 400

Exhibit 8 (cont.)

biologists from 40 States, Federal and private agencies and was the largest evaluation of the rotenone population sampling method undertaken to date. In a study on factors which influence the success of rainbow trout populations in cold tailwaters, the survival, food habits, movements, and angler harvest of rainbow trout were determined in the Beaver Reservoir tailwaters (Arkansas). Marked trout from the Greers Ferry National Fish Hatchery stocked during the summer of 1980 were used for the study.

The Gainesville National Fishery Research Laboratory was established in fiscal year 1978 to conduct research on impacts and potential uses of exotic fish species. Under sponsorship of the Gainesville Laboratory an "Atlas of North American Freshwater Fishes" was published by the Fish and Wildlife Service and the North Carolina State Natural History Museum. The 825 page atlas contains species accounts on 777 species of native and exotic fish found in the fresh, brackish and coastal waters of North America. Each account provides a distribution map and an illustration of the species and information on its systematics, type, locality, distribution, habitat, abundance, size, and general biology.

Output/Work Load Factors

	FY 1980	FY 1981	FY 1982
Research Projects	85	85	85
Research Work Units	280	280	280
Man-days of training provided	2910	3330	3330
Scientific Publications	70	70	70

Changes for FY 1982

		1982 Base	1982 Estimate	Inc. (+) or Dec. (-)
Fishery Research	$000	12,394	13,294	+900
	(FTP)	(262)	(262)	(0)

The proposed increase for the Fishery Research subprogram includes $900,000 for operations and maintenance at seven research laboratories.

The Fishery Resources Program has been hard hit in recent years by inflationary increases in basic field facility operational costs. The funding base for the overall fishery program has increased by 75 percent from $20.7 million in 1972 to $36.2 milion in 1980. However, much of this increase has been related to specific program increases such as increased hatchery production for the anadromous salmonid fishery of the Pacific Northwest. During the same period, the Consumer Price Index has risen by 101 percent from 125.3 in 1972 to 251.7 in 1980 (September). Allowing for this inflationary effect,

there has, in fact, been a decrease in actual purchasing power. In effect, an expanded program is being conducted with a decreased funding base.

Efforts have been made to offset the impacts of these cost increases on operations of fishery research facilities by increasing efficiency, combining operations where possible, eliminating lower priority activities, and deferring equipment replacement. However, cost increases of 50-100% in such things as utilities, fuel, scientific supplies and equipment have left many stations inadequately funded to utilize existing facility capabilities with full effectiveness. Rapidly increasing energy costs have had particular impact on research laboratories which require significant pumping and/or heating of water in order to carry out fish research studies. In some cases, it has been necessary to delay needed cyclical maintenance in order to utilize maintenance funding to meet basic operating costs.

In FY 1982, the Service proposes to increase the Fishery Research subprogram by $900,000, of which $826,000 will be used to address operational funding problems at research laboratories and to provide operational funding for several new facilities, and $74,000 to increase the cyclical maintenance base. This funding will be allocated to laboratories as follows:

State/Station		Funding ($000) Operations	Cycl. Maint.
AL	Southeastern Fish Cultural Laboratory, Marion, Alabama	$135.0	$ —
AR	Fish Farming Experimental Laboratory, Stuttgart, Arkansas	135.0	—
FL	National Fisheries Research Laboratory, Gainesville, Florida	175.0	—
MI	Great Lakes Fishery Laboratory, Ann Arbor, Michigan	117.0	55.0
WA	National Fisheries Research Center, Seattle, Washington	55.0	13.0
WI	National Fishery Research Laboratory, LaCrosse, Wisconsin (and Warm Springs Field Station, GA)	151.0	6.0
WV	National Fisheries Center, Leetown, West Virginia	58.0	-
	TOTALS	$826.0	$74.0

Exhibit 8 (cont.)

This funding will greatly enhance the efficiency of field laboratory functions. It will allow continued progress toward specific research objectives and continued delivery of technical services and information to the laboratories' broad and diverse user clientele.

The additional funding at the Southeastern Fish Cultural Laboratory (Marion) and the Fish Farming Experimental Laboratory (Stuttgart) would be used to addresss the continuing needs of the public and private warmwater fish farming community. Requests from private fish farmers for technical assistance relating to such things as disease diagnosis and prevention, fish nutrition, cultural techniques, etc., far exceed the existing capability of these stations. With additional funding the technical assistance capability at Stuttgart would be maintained and the research capability at Marion in warmwater fish nutrition and cultural methods would be continued.

At the Marion laboratory, costs of utilities, fuel, supplies, travel and custodial maintenance have increased about $33,000 since 1978. A portion of the increase is attributable to inflation and the remainder due to new facilities (tank pad system with 32 450-gallon experimental tanks, a silo cultural system, and a new water distribution system to the ponds). These increases have been absorbed by deferring purchase of new or replacement of scientific equipment and by a reduction in the work effort. A new laboratory building will be operating in FY 1982 which will again increase utility usage significantly. The requested $135,000 increase in FY 1982 is to allow the purchase of scientific equipment ($115,000), to offset operational costs of the new laboratory ($10,000), to purchase office, library and scientific supplies ($5,000), and to supply fish feeds ($5,000). Without the requested increase in funds at Marion, several research projects would have to be terminated or reduced. These include development of energy efficient methods for controlling temperature, oxygen tension, pumping, sterilization, and filtration in intensive culture systems; utilizing filtration in intensive culture systems; utilizing filtration by-products as an organic source for lower aquatic forms; improving or designing fish husbandry hardware; and evaluation of warmwater fishes for intensive culture applications.

At the Stuttgart Laboratory, costs of utilities, fuel, supplies, travel and custodial maintenance have increased by about $60,000 since 1978. Inflationary costs have contributed to this increase as well as the operations of new or expanded facilities (renovation of the wet laboratory, an experimental feed manufacturing facility, and renovation of all experimental ponds). These increased costs have been absorbed by deferring purchase of supplies for offices, the library, and the scientific laboratories; by severely curtailing travel to scientific meetings; and by reducing the use of experimental ponds for scientific studies. The requested increase of $135,000 is to provide for the purchase of replacement and new scientific equipment ($108,000), operations of the renovated experimental ponds ($12,000), purchase of fish feeds ($10,000), and purchase of office, library and scientific supplies ($5,000). Research on breeding techniques and genetics of warmwater fishes and on control methodology for fish parasites, such as the anchor parasite, would be discontinued at Stuttgart without an increase in funds.

Exhibit 8 (cont.)

The National Fishery Research Laboratory at Gainesville, Florida, was established in 1979 to examine the impacts on native species of exotic fish species introduced into U.S. waters. To date, staffing has been limited to the Director and clerical assistance, and research has been limited to contract studies relating to inventorying and monitoring of exotic introductions. Proposed funding will be used to initiate custodial operations ($25,000) of the partially completed laboratory building (Phase One construction funded FY 1981) and to initiate on-site research projects to determine the impact of newly-introduced exotic species on native fish and to evaluate potential beneficial characteristics of desirable exotic species ($150,000). Personnel ceilings to initiate on-site research will be reallocated from other activities within the Research subprogram where ongoing work can be continued on a contract basis.

The Great Lakes Fishery Laboratory serves as a central repository and coordinator of fishery resource management information for all the agencies involved in management of the Great Lakes. Expanding responsibilities for the laboratory, particularly in the area of assessing disputed stocks of fish and providing technical management advice relating to Indian treaty fishing rights (Department of Justice) have left the laboratory hard pressed to meet other ongoing research objectives. Also, increasing costs have forced a reduction in vessel operations, hampering the assessment effort. Without additional funding, critical investigations on abundance and distribution of fish stocks in the Great Lakes will be reduced resulting in a compromise in the quality of resource data provided to the courts and resource managers. The operations increase of $117,000 will be principlally used for operations of five large vessels ($46,000 for fuel, $30,000 for supplies and $20,000 for overtime payments to the crew). The remaining $21,000 is for operations of small boats used in fishery ecology research.

The Seattle National Fishery Research Center is extensively involved in research on disease and physiology of West Coast anadromous salmonids. This work can significantly increase the potential survival of hatchery maintained anadromous runs. Without increased funding, the laboratory will be forced to eliminate studies on rapid detection methods for viruses affecting anadromous salmonids and field tests of a new method for rapid detection of bacterial kidney disease. These diseases are presently thought to be significant limiting factors in the long term survival of hatchery-produced anadromous fish. Also, development of a manual for detection and control of gas supersaturation in hatchery and natural water systems will be terminated. The operations increase of $55,000 is needed to cover higher utility costs ($23,000), for general and scientific supplies ($17,000), and for custodial maintenance ($15,000).

The LaCrosse Laboratory and Warm Springs Field Station are primarily concerned with research to register chemicals used in fishery management, and develop selective fish population control methods. The operations increase ($151,000) will be used to meet increased utility costs at LaCrosse ($88,000) and Warm Springs ($9,000); purchase of new equipment ($23,000); operations of new experimental ponds ($21,000); and to meet increased fish food costs ($10,000).

Exhibit 8 (cont.)

Proposed funding for Leetown National Fishery Center ($58,000) would be used primarily to meet increased operational costs of several new and recently renovated facilities (National Fish Health Research Laboratory, Fisheries Academy, old laboratory building). Funds will be used for utilities, supplies, materials, and equipment associated with the operation of these facilities. A lack of additional funding will necessitate a cut-back in research on the detection and control of fish diseases and a reduction in service employee participation in fish cultural training activities.

Object Classification Description

The object class detail for the $900,000 increase is as follows:

	Estimated Cost
Personnel Compensation	$110,000
Travel and Transportation of Persons	25,000
Transportation of Things	51,000
Rent, Communications, and Utilities	174,000
Other Services	175,000
Supplies and Materials	97,000
Equipment	268,000
Total Obligations	$ 900,000

FISHERY ASSISTANCE

Authorization: 16 U.S.C. 661-666, Fish and Wildlife Coordination Act (Described under Fishery Research).

16 U.S.C. 742a-72j, Fish and Wildlife Act of 1956 (Described under Fishery Research).

16 U.S.C. 931-939, Great Lakes Fishery Act of 1956 (Described under Fishery Research).

16 U.S.C. 670a-670, Sikes Act - Provides for cooperation by the Departments of the Interior, Defense, and Agriculture with State agencies in planning, development, and maintenance of fish and wildlife resoures on military and other Federal lands throughout the United States.

P.L. 96-487, Alaska National Interest Lands Conservation Act of 1980. Establishes 9 new and enlarges 7 existing national wildlife refuges in Alaska, as well as creating new units in other national conservation systems. Directs specific studies of fish and wildlife resources in several regions of Alaska. Establishes subsistence use of renewable resources as the priority consumptive use on public lands in a program to be conducted by the State of Alaska with reimbursement from the Federal government.

Objectives: To provide cooperative assistance in fishery resource management for Federal, State, and Indian waters where such effort is needed or mandated to manage, conserve, and perpetuate fishery resources of importance to the national interest and mission of the Service.

Exhibit 8 (cont.)

Base Program: The Fish and Wildlife Service maintains an extensive cadre of trained fishery biologists to provide expertise for management of fishery resources on lands where the Federal Government is responsible for this activity. Cooperative agreements for technical assistance in fishery resource management on Federal areas are negotiated between the Service and other Federal agencies, and with State agencies when appropriate. The agreements specify responsiblities, authorities, restrictions, and other conditions essential to fulfillment of management objectives. Agreements reflect fish resource needs and lay out priorities in meeting these needs.

Service fishery assistance biologists are located at 35 field stations nationwide. In 1982, technical assistance in fishery management will be provided at over 400 locations including national wildlife refuges, Department of Defense installations, national forests, national parks, Veterans' Administration facilities, Indian reservations, and off-reservation Indian treaty rights areas. Hatchery-reared fish are stocked annually in areas for which management agreements have been negotiated. The total assistance effort affects 4.4 million acres of ponds and lakes and over 40 thousand miles of streams, and provides 12.6 million angler days of fishing annually.

A major fishery assistance activity is to provide technical assistance for the management of fishery resources on military lands as authorized and directed by the Sikes Act. This is accomplished through development of cooperative agreements between the Department of Defense, Fish and Wildlife Service, and the appropriate State fishery agency, outlining the management objectives for each military reservation and the responsibilities and contributions of each agency. In 1979 (the latest year information is compiled), the Fish and Wildlife Service provided assistance to 32 Air Force bases, 66 Army bases and 30 Navy and Marine bases. In 1980, the Service, for the first time, received an appropriation ($222,000) specifically for fishery related Sikes Act activities. This is being utilized to develop and/or update fishery management plans on military reservations, evaluate anadromous fish runs on military reservations in Washington and Alaska, and evaluate a number of on-going trout stocking programs on military bases.

Fishery assistance projects on coastal anadromous fisheries are conducted to collect information on spawning and habitat requirements. Technical assistance and management activities also involve the Great Lakes and inland fishery resources, which constitute a major portion of the Nation's recreational fisheries. Technical assistance and resource management is furnished, as required, to Indian tribes or the Bureau of Indian Affairs to implement resource management programs associated with Indian fishing rights claims on the Columbia River and Puget Sound in Washington, the Klamath River in California, and the Great Lakes.

Some significant highlights of the Fishery Assistance subprogram in FY 1980 were as follows:

- Studies and subsequent modifications on two of the four Marble Bluff Fishway facilities (Nevada) greatly improved the passage of Cui-ui suckers from Pyramid Lake to the Truckee River. During 1980, the ladders provided access to spawning areas for 4,978 Cui-ui suckers and 42 Lahontan cutthroat trout. Both species are important to the local Indian community.

Exhibit 8 (cont.)

- The Colorado River Fishery Investigations Project (Salt Lake City, Utah) increased knowledge of the habitat requirements of fish species in the Colorado River. This will greatly assist the Service, other Federal agencies, and the States in evaluating both the positive and negative impacts of water development projects on the Colorado River and in managing the fish resources for the best public benefit.

- The State-Federal cooperative efforts to restore Atlantic salmon to Maine rivers broke all existing records in 1980. The rod catch of 837 in the Penobscot River far surpassed the previous record of 354 set in 1926. A rod catch of 190 salmon for the Dennys River established a new record there also. As the fiscal year ended, the trap catch on the Penobscot had reached 2,490 pushing the total run on Maine's largest salmon river to well over 3,000. Fifteen years ago, there was no salmon run in the Penobscot.

- The Panama City, Florida, Fishery Assistance Office and the Welaka National Fish Hatchery, Florida, attained a "first" with the Gulf race of striped bass. Wild broodstock of this race were captured, identified, and transported from the Apalachicola River system to the hatchery (approximately 280 miles). The fish were spawned and sufficient fingerlings produced for both future hatchery broodstock and some stocking as part of restoration efforts.

Output/Work Load Factors

	FY 1980	FY 1981	FY 1982
Management Areas Served	410	415	463
Acres of Water (000)	1.5	1.8	4.4
Man-Days of Fishing (Millions)	9.5	9.5	12.6

Changes for FY 1982

(Dollar Amounts in Thousands)

		1982 Base	1982 Estimate	Inc. (+) or Dec. (-)
Fisheries Assistance	$000	6,154	11,048	+4,894
	(FTP)	(116)	(134)	(+18)

Increases for the Fishery Assistance subprogram address two primary management needs: $206,000 is included for O&M at existing field stations, and $5,688,000 is included for management of fish resources in Alaska. A decrease results from deferral of funding for fishery assessment work performed by the State of Washington under terms of the Boldt Decision.

Exhibit 8 (cont.)

FISHERY ASSESSMENT IN BOLDT MANAGEMENT AREA (-$1,000,000/ 0 FTP)

In FY 1981 Congress added $1.0 million to the President's budget request to assist the Washington State Department of Game in carrying out fishery assessment activities in the Puget Sound area required under provisions of the Boldt decision. New legislation, the Salmon and Steelhead Conservation and Management Act of 1980 (Public Law 96-561, December 22, 1980), embraces both the Boldt Case Area and the Columbia River drainage. A Salmon and Steelhead Advisory Commission is to be established within 90 days of enactment of the legislation and a comprehensive management report is to be submitted to the Secretary of Commerce and the Congress within 15 months of establishment of the Commission. Pending decisions on implementation of this Act, a funding request to continue assistance for the Washington Department of Game in FY 1982 for assessment work under the Boldt decision has been deferred.

FISHERY MANAGEMENT OPERATIONS AT EXISTING STATIONS (+$206,000/ 0 FTP)

Fishery assistance activities of the Service are hampered in many areas by a simple lack of sufficient funding to provide adequate basic field equipment and supplies for the field biologists. In many instances, the Service is unable to respond in a timely fashion to resource problems or to provide requested fishery management advice or assistance to other Federal agencies in a timely manner. This often results in negative impacts on the fishery resources that could be avoided or prevented if the problems could be defined and analyzed as soon as they became apparent. To address this need, the Service proposes an increase of $206,000 for needs of the Fishery Assistance Subprogram for such things as vehicles, supplies, fishery gear, and scientific instruments needed by fishery assistance biologists to meet basic field management commitments.

The major single use of the proposed increase would be replacement of obsolete and wornout equipment. Many of the vehicles assigned to Fishery Assistance stations are 8-12 years old and have been driven in excess of 100,000 miles. In addition, many are low gas mileage, fuel-inefficient vehicles. Approximately $89,000 will be used to initiate a program of replacement of these vehicles and to replace other wornout equipment such as boats, outboard motors, etc. The remaining $117,000 will be used for a combination of travel, transportation, supplies, and materials. Cyclical maintenance is not considered in regard to fishery assistance stations because most stations utilize rental office and storage facilities. In most cases the Service is not responsible for cyclical maintenance.

Funding will be distributed to field stations approximately as follows:

State/Stations		Funding ($000)
FL	Panama City	$25.0
MI	Jackson	$20.0

Exhibit 8 (cont.)

State/Stations		Funding ($000)
NH	Laconia	$26.0
SC	Charleston	$43.0
TN	Gatlinburg	$16.0
	Norris	12.0
UT	Colorado River Studies	$64.0
	TOTAL	$206.0

Proposed funding for Panama City, Florida, would be used primarily for investigations related to gulf coast striped bass and other anadromous fish. The Gulf Coast Striped Bass populations have declined substantially in recent years, and the Panama City station is playing a key role in a State/Federal effort to investigate and restore the Striped Bass runs to Gulf coast rivers. Funds will be used to upgrade and replace field equipment (boats, motors, fishing gear) used in field investigations.

The Laconia, New Hampshire, station plays a primary coordinating role in the development of basin-wide comprehensive management plans for the cooperative effort to restore the Atlantic salmon in New England rivers. Requested funding will be used for travel, supplies, and materials needed to carry out this coordination function and to upgrade field investigation equipment.

The Charleston, South Carolina, station is a new fishery assistance station established to coordinate Atlantic coast striped bass management activities and conduct management investigation on projects relating to striped bass and other anadromous species. Funds will be utilized for vehicles and field equipment involved in this work.

The Colorado River studies are coordinated by a Service Team of biologists based in Salt Lake City, Utah. These studies are concerned with the long term impacts of stocking of non-native species (Rainbow-trout) in the Colorado river basin, the effect on native species, and related impacts of large water development projects. This is a multi-agency effort that will provide information needed for pending legal litigation relating to water use and development in the Colorado River basin. Funds will be used for vehicles, equipment, supplies and materials needed to carry out these investigations.

Requested increases for the remaining stations, Jackson ($20,000), Gatlinburg ($16,000), and Norris ($12,000), will be used for vehicles, equipment, and supplies needed for field management operations.

Exhibit 8 (cont.)

Object Classification Description

The object class detail for the $206,000 increase is as follows:

Travel and Transportation of Persons	$20,000
Transportation of Things	5,000
Rent, Communications, and Utilities	10,000
Other Services	10,000
Supplies and Materials	72,000
Equipment	89,000
Total Obligations	$206,000

FISHERY MANAGEMENT ON SERVICE LANDS IN ALASKA (+$938,000/ 12 FTP)

The Alaska National Interest Lands Conservation Act added 53.7 million acres to the National Wildlife Refuge System in Alaska. The nine new refuges and seven expanded units contain significant fishery resources, including all five species of Pacific salmon which contribute to subsistence, sport, and commercial fisheries. Other species within the refuge units are locally important and include northern pike, Arctic grayling, lake trout, whitefish, sheefish, and Arctic char. Local populations of some species, such as the Dolly Varden (trout) of the Tanana River drainage in Tetlin refuge, may be of unique scientific interest.

These fishery resources are receiving increasing pressure from land use changes and contaminants associated with oil and gas exploration and development and mining as well as from subsistence, sport, and commercial harvest. In some areas, negative impacts from these pressures are evidenced by decreasing populations. In other areas, data regarding these fishery resource are insufficient to predict trends or impacts on populations. The 16 refuges in Alaska created by the Act and Service strategy for managing them are described in the justification for the Migratory Bird Program. That information is not repeated here in the interest of brevity.

The Service proposes a funding increase of $938,000 in FY 1982 for fishery management work on Service managed lands. This will provide for baseline resource survey work, evaluation of habitat, assessment of resource use, and development of resource management plans. As stewards of fish populations occurring on the newly established refuge lands, the Fish and Wildlife Service's basic responsibility is to maintain the quality of aquatic systems for all forms of fish life: resident and anadromous, commercially and biologically important, game and non-game species. The Service's approach for carrying out these responsibilities will be a cooperative venture with the State, adjacent Federal land managers and other adjacent landowners.

Funding and positions will be utilized in the field approximately as follows:

Exhibit 8 (cont.)

New Refuges		Funding	Positions
Alaska Peninsula Refuge		$ 31,000	1
Becharof Refuge		50,000	1
Innoko Refuge		46,000	1
Kanuti Refuge		17,000	0
Koyukuk Refuge		18,000	0
Nowitna Refuge		83,000	1
Selawik Refuge		15,000	0
Tetlin Refuge		7,000	0
Yukon Flats Refuge		57,000	1
	Subtotal	$324,000	5
Expanded Refuges			
Alaska Maritime Refuge		$ 39,000	1
Arctic Refuge		22,000	1
Kodiak Refuge		68,000	1
Togiak Refuge		110,000	2
Yukon Delta Refuge		375,000	2
	Subtotal	$614,000	7
	Total	$938,000	12

Object Classification Description

The object class detail for the $938,000 increase is as follows:

Permanent Personnel (Position Title)	(Grade)	(Numbers)	Estimated Cost
Fishery Biologist	GS-12	5	144,000
Fishery Biologist	GS-11	1	$ 23,000
Clerk	GS-5	3	38,000
Biological Technician (Fish)	GS-5	2	25,000
Fishery Biologist	GS-9	1	19,000
Positions Other Than Permanent			203,000
Personnel Benefits (includes COLA)			158,000
Less Lapse			-37,000
Total Personnel Compensation			$ 573,000
Travel and Transportation of Persons			$ 58,000
Transportation of Things			35,000
Rent, Communications, and Utilities			47,000
Other Services			93,000
Supplies and Materials			71,000
Equipment			61,000
Total Obligations			$ 938,000

Exhibit 8 (cont.)

SUBSISTENCE MANAGEMENT ON REFUGES IN ALASKA (+$150,000/ 1 FTP)

The Alaska National Interest Lands Conservation Act provides that subsistence uses be provided priority over all other consumptive uses of renewable resources on public lands. An overview of subsistence management requirements on National Wildlife Refuges is provided in the Wildlife Resources-Migratory Birds section of this document.

Most subsistence users depend on fish for a substantial portion of the protein in their diet. The new refuges, because of their proximity to rural villages and their excellent fish and wildlife habitats, will be extensively utilized for subistence purposes.

The funds in this increase will be utilized to address the managment of the subsistence fishery. For example, many Native residents have traditional fish camps on streams and lakes within refuges. In order to allow these sites to be used, special use permits will be necessary; specific provisions relative to routes of access may have to be stipulated; and refuge regulations may need to be modified to protect certain fisheries. In each of these procedures, evaluation must be made relative to the impact of the use on the viability of the resources.

All other uses of refuge lands must also be examined to determine their effect on the subsistence uses. Many of these other activities center on the water areas and thereby on the vital fishery habitats.

The types of involvement mentioned above will serve to manage existing uses and control prospective uses. However, the Fish and Wildlife Service will also meet with subsistence users to help them understand the impact of and manage their own uses of fisheries on refuge lands for subsistence purposes, as well as to understand refuge management as it affects subsistence resources. Informal, as well as formal, contacts and discussions with local residents will encourage cooperation in use of available resources and will enhance the understanding of these resources and their habitat requirements.

Object Classification Description

The object class detail for the $150,000 increase is as follows:

			Estimated Cost
Permanent Personnel			
(Position Title)	(Grade)	(Number)	
Fishery Biologist	GS 12	1	$28,000
Positions Other Than Permanent			62,000
Benefits (includes COLA)			31,500
Less Lapse			- 7,300
Total Personnel Compensation			$114,200

74-939 O—80——61

Exhibit 8 (cont.)

Travel and Transportation of Persons	$6,800
Transportation of Things	3,000
Rent, Communication, and Utilities	3,000
Printing	1,000
Other Services	10,000
Supplies	7,000
Equipment	5,000
Total Obligations	$150,000

SURVEYS AND CENSUSES OF SUBSISTENCE RESOURCES IN ALASKA (+$300,000/ 1 FTP)

The general scope and requirements for surveys and censuses of the subsistence resources are detailed in the Wildlife Resources-Migratory Birds section of this document.

The funds and position requested will be used to focus efforts on the fishery resources used for subsistence on non-Service lands. Fish constitute the bulk of protein in the diet of the subsistence user (estimates vary but range up to 90%), but subsistence use and sport harvest data are incomplete or nonexistent for many species such as whitefish, northern pike, grayling, herring, char, and others. Reliable estimates are available on the salmon catch in many areas of the State because this resource is also heavily utilized by both commercial and recreational interests.

The work will concentrate on understanding the needs of the subsistence users in terms of numbers, pounds, and kinds of fish used; substitutes used when fish are not available; the customary methods of fishing employed by various groups; and the impact each method has on fish populations.

The next several years will bring an increase in such activities as mining and mineral development and associated roads and pipelines, many of which will occur on or cross stream habitat used for fish spawning or feeding. More information must be gathered on the actual populations and requirements of the fish occurring in these areas before the potential effects of these developments on the resource and, ultimately, on subsistence users can be understood and adverse impacts avoided.

The Fish and Wildlife Service proposes to utilize the funds in this increase to work cooperatively with the State of Alaska and Native groups and other rural residents to undertake studies to enhance and broaden current information about Alaska fish resources. Included will be stream sampling operations and interviews of users of waters on all public lands to arrive at estimates of resource availablity and pressures.

The information gathered and predictions made from it will enhance the ability of resource managers to establish guidelines and manage for subsistence and other uses. The clear policy stated in the Alaska National Interest Lands Conservation Act is that subsistence use must be given preference over all other uses and may only be limited or closed if there is clear indication of serious population decline. Present information is inadequate to support such decisions in many instances. While it is not expected that extensive closures will be necessary in the near future, the work conducted in this program will help to avoid conflicts and disputes over resource allocations in coming years.

Exhibit 8 (cont.)

Object Classification Description

The object class detail for the $300,000 increase is as follows:

			Estimated Cost
Permanent Personnel			
(Position Title)	(Grade)	(Number)	
Fishery Biologist	GS 13	1	$34,000
Positions Other Than Permanent			36,000
Personnel Benefits (includes COLA)			24,500
Less Lapse			-5,500
Total Personnel Compensation			$89,000
Travel and Transportation of Persons			$25,000
Transportation of Things			14,000
Communication, Rent, Utilities			27,000
Printing			3,000
Other Services			83,000
Supplies			33,000
Equipment			26,000
Total Obligations			$300,000

REIMBURSEMENT TO STATE OF ALASKA FOR SUBSISTENCE PROGRAM (+$3,500,000/ 0 FTP)

One of the key elements in the passage of the Alaska National Interest Lands Conservation Act is the provision for the continuation of the opportunity for subsistence uses by rural Alaskans on the public lands. The administrative structure for this program as established by the Act includes the delineation of at least six subsistence regions with regional advisory councils to review, evaluate, and make recommendations on the program. Local subsistence committees also may be established.

The State of Alaska is given the option of establishing the legal framework necessary to conduct the subsistence priority program with provision for reimbursement of up to 50 percent of reasonable costs, not to exceed $5 million per fiscal year, to maintain and support the regional councils and their staff plus any local committees established. Should the State not implement an adequate framework to assure that preference is given to subsistence uses of renewable fish and wildlife resources on public lands, the Department of the Interior must assume that responsibility.

Fish constitute the greatest portion of protein harvested for subsistence purposes in most areas of Alaska. Terrestrial big game, marine mammals, migratory birds, and furbearers are also used. Conflicts between commercial, sport, and subsistence users of these fishery and wildlife resources are inevitable. The advisory council system was established by the Act to minimize such problems by using the knowledge and considering the views of as many local residents as possible during the periods when annual regulations and harvest limits are set.

Exhibit 8 (cont.)

The Fish and Wildlife Service will administer the reimbursement program for the Department through existing grant programs. Estimates by the Alaska Department of Fish and Game indicate that approximately $3,500,000 must be available for reimbursement of the Federal government's share of the State's cost to carry out these activities in FY 1982.

The funds requested are no-year appropriations in recognition of the difficulty of interfacing with State budget processes and timeframes.

Object Classification Description

The object class detail for this $3,500,000 increase is as follows:

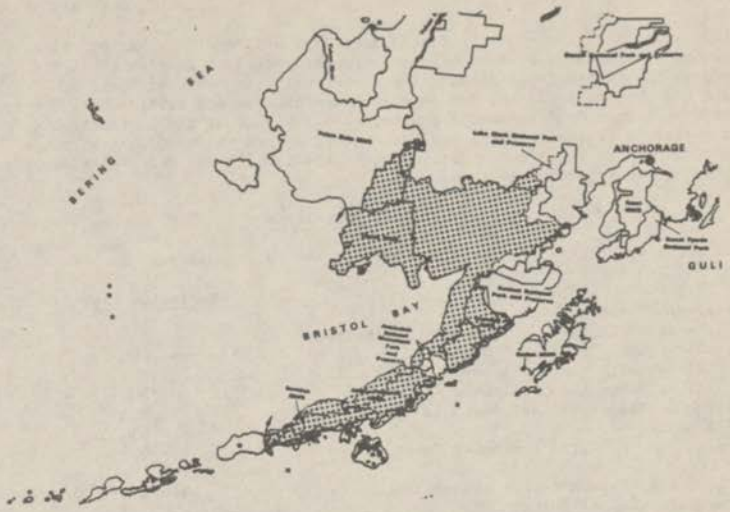
	Estimated Cost
Positions Other Than Permanent	$43,000
Personnel Benefits (Include COLA)	14,000
Less Lapse	-3,400
Total Personnel Compensation	$53,600
Travel and Transportation of Persons	25,000
Grants, Subsidies, and Contributions	3,421,400
Total Obligations	$3,500,000

BRISTOL BAY, ALASKA, STUDY (+$800,000/ 4 FTP)

The Bristol Bay Cooperative Region established in P.L. 96-487 encompasses approximately 25 million acres of State, Native and Federal lands comprising all drainages flowing into Bristol Bay except limited areas within the National Park System. Included are major rivers systems such as the Nushagak, Kvichak, Alagnak, and Naknek, and a number of major lakes including Iliamna, Becharof and Naknek. The Act directs the Department to complete a study of these lands, their resources and economic development requirements, and to prepare a comprehensive and systematic cooperative management plan by December 1983. The State of Alaska may elect to participate in the study and development of the plan, which will address such diverse concerns as transportation systems and corridors, land uses, economic development and potential land exchanges.

The Bristol Bay area produces 80 percent of the world's red salmon along with other fishery resources and is considered to be one of the most productive fishery areas in the world. Protection of these fishery resources and their habitats, as well as the associated wildlife species, is a major thrust of the legislation and the planning effort.

Exhibit 8 (cont.)



Bristol Bay Study

The study will be organized and initiated in FY 1981. Existing data are unreliable or inadequate for use in the required planning effort and the $800,000 proposed will be used for supplementing and updating this information during FY 1982 with a major emphasis on field investigations. Standard fishery and wildlife investigative techniques will not permit indepth data gathering in the timeframe allowed. These more traditional approaches will be supplemented with habitat and resource data obtained by remote sensing methods utilizing satellite imagery and aerial photography. On-the-ground surveys of representative areas will be conducted to verify the information obtained by remote sensing. All information will be available for future use by the State of Alaska, Native groups, and other land managers.

Exhibit 8 (cont.)

Specific aspects of the study in Fiscal Year 1982 will address the following: assessment of stocks of anadromous and non-anadromous fish species of significance to the recreational fishing industry; evaluation of the impact of current and potential mineral and petroleum exploration and development; determination of current and potential economic contribution of fish, wildlife, and other resources to the regional and State economy; and the coordination of resource information and its compilation and analysis with the State of Alaska, NMFS, and other Federal agencies.

Object Classification Description

The object class detail for the $800,000 increase is as follows:

			Estimated Cost
Permanent Personnel			
(Position Title)	(Grade)	(Numbers)	
Biologist	GS-12	2	$56,000
Biologist	GS-11	2	47,000
Positions other than Fulltime			109,000
Personnel Benefits (includes COLA)			74,000
Less Lapse			-17,000
Total Personnel Compensation			$269,000
Travel and Transportation of Persons			$40,000
Transportation of Things			20,000
Rent Communications, and Utilities			55,000
Other Services			266,000
Supplies and Materials			50,000
Equipment			100,000
Total Obligations			$800,000

FISH HATCHERIES

Authorization: 16 U.S.C. 661-666, Fish and Wildlife Coordination Act-(Described under Fishery Research).

16 U.S.C. 742a-472j, Fish and Wildlife Act of 1956-(Described under Fishery Research).

16 U.S.C. 670a-670o, Sikes Act-(Described under Fishery Assistance).

16 U.S.C. 931-939, Great Lakes Fishery Act of 1956-(Described under Fishery Research).

90 Stat. 2917, Water Resources Development Act of 1976. Authorized various water development activities including fish and wildlife mitigation on the Lower Snake River.

Objectives: To produce and distribute fish of the size, species, number, strain, and quality required by fishery managers to maintain, restore, and enhance inland, coastal anadromous, and Great Lakes fishery resources of the Nation for which the Federal Government is responsible by statute, cooperative agreement, judicial directive, or other mandate.

Base Program: General hatchery production goals are based on resource management needs as determined by Service biologists and cooperative agreements with various State conservation agencies and other Federal agencies calling for production of fish. Specific production requirements are determined annually by management biologists who assess the status of the resource and evaluate fishing pressure. This is done on an area-by-area, State-by-State basis, with production needs determined by State and Federal agencies, assisted by the National Marine Fisheries Service for anadromous species. These needs carry a minimum two-year lead time to allow for egg production, hatching, growth to desired size, and logistics of distribution. In addition, the National Fish Hatchery system meets high priority fishery management needs by:

- supplying fish for scientific studies.
- maintaining broodstocks to provide fish eggs for Federal fish cultural programs.
- acting as a liaison between research laboratories and production hatcheries and developing fish culture technology through fish cultural development centers.
- participating in the Service's fish cultural training program.
- conducting fish health activities (disease diagnosis, prevention, etc.) through the hatchery biologist program.

Eighty-nine hatcheries and three special facilities are located throughout the country and provide forty species of fish for stocking international waters and waters on Federal, Indian and State lands. Highlights of 1980 fish production activities include:

- In Fiscal Year 1980, approximately 7.1 million fish were stocked in the Great Lakes; 2.8 million in coastal tributaries of the Atlantic Ocean; 64.2 million in coastal tributaries of the Pacific Ocean; and 87.2 million in inland reservoirs, lakes, and streams.
- The National Broodstock Program provides fish species and strains necessary to meet fishery management objectives in the natural environment as well as the hatchery environment. In FY 1980, 38 national fish hatcheries located in five regions produced approximately 216 million eggs from 16 species of anadromous and non-anadromous fish to provide for fishery programs on a nationwide basis.

- More than 4.7 million eggs and fish of specific genetic background were supplied by hatcheries to Federal, State, and university laboratories in Fiscal Year 1980 to support research efforts in such areas as environmental contamination, cancer research, and human physiology.

Five fish cultural development centers operated by the National Fish Hatchery System are located in:

- Abernathy, Washington
- San Marcos, Texas
- Spearfish, South Dakota
- Bozeman, Montana
- Lamar, Pennsylvania

These centers conduct studies utilizing laboratory research results in the development of new and economical fish cultural techniques for field operations. During Fiscal Year 1980, efforts included:

- Continued evaluation and monitoring of water filtration systems to improve and measure water quality so that effluent from hatcheries meets Environmental Protection Agency and State water quality standards.

- Fish food studies to assure that protein, fat, and carbohydrate levels meet growth demands at the least cost. Emphasis was placed on cool water and anadromous species.

- Publishing results of studies on the nutritional, pathological, physiological, and behavioral aspects of fish culture in 28 scientific and technical articles.

- Formulation of a comprehensive instructional text in fish culture entitled "Fish Hatchery Management".

- Participation in Service training activities involving fish culture and fish health.

Production and output from the National Fish Hatchery System is projected to be as follows:

Output/Work Load Factors

	1980	1981	1982
Pounds fish distributed (millions)	6.2	6.3	6.7
Number fish distributed (millions)	161.3	163.0	167.0
Development center investigations	81	81	81
Technical assistance cases (disease diagnosis)	385	423	423

Exhibit 8 (cont.)

Changes for FY 1982

		1982 Base	1982 Estimate	Inc. (+) or Dec. (-)
Fish Hatcheries	$000	24,004	26,863	+2,859
	(FTP)	(447)	(447)	(0)

Proposed increase for the Fish Hatchery subprogram in FY 1982 includes funding for two major items: $2,152,000 for operations and maintenance of facilities, and $707,000 for operation of new mitigation facilities under the Lower Snake River Compensation Plan.

OPERATIONS AND MAINTENANCE OF FACILITIES (+$2,152/ 0 FTP)

The Fishery Program, particularly the National Fish Hatchery System, has been hard hit in recent years by inflationary increases in operational costs. Such things as fish food, equipment, electrical power (pumping of water), and utilities have in many instances, about doubled in cost. In FY 1972, for example, the food cost per pound of fish produced was $0.17; in FY 1979 the cost had increased to $0.33 per pound. The funding base for the overall fishery program has increased by 73 percent from $20.7 million in 1972 to $35.8 million in 1980. However, most of this increase has been related to specific program increases, such as increased hatchery production for the anadromous salmonid fishery of the Pacific Northwest, for operations of new stations and for pay act costs. During the same period of time, the Consumer Price Index has risen by 101 percent from 125.3 in 1972 to 251.7 in 1980 (September). Considering this inflationary effect, an expanded program is being conducted with a decreased funding base in terms of purchasing power. The impacts have been particularly severe at existing older facilities.

This funding pinch has reached the point where a number of hatcheries can no longer accomplish production goals with present budgetary constraints, and many others are operating at less than optimum level. In FY 1981, the Service has been forced to allocate about $800,000 of the fishery program cyclical maintenance base to operations in order to meet priority production commitments. Many hatcheries will still be unable to fully meet production requirements because of inadequate operational funding.

In its consideration of the FY 1980 budget, Congress expressed concern about the lack of sufficient O&M funding for the National Fish Hatchery System. The Committees specially directed that the Service "present a more realistic assessment of hatchery operating needs" in future budget requests and that "there should be no diminution of fish production and distribution of the fish hatchery program" without Congressional review and approval. Similar concerns have been expressed by the Subcommittees at other times.

The Service proposes an increase in 1982 of $2,152,000 for the fish hatchery O&M base. This increase will be distributed to a large number of hatcheries throughout the country for basic operational needs such as fish food, utilities,

Exhibit 8 (cont.)

equipment, supplies and materials, etc. It will help assure that basic fish production commitments can continue to be met and return a number of hatcheries to a more efficient operating level. Because the increase will largely offset past cost increases, the effect will be principally to maintain current output levels rather than substantially increase those levels. Of the total increase, $1,701,000 will be for operations, and $451,000 for cyclical maintenance. This increase would be allocated to the field in FY 1982 approximately as follows:

National Fish Hatcheries

State/Station		Funding ($000) Oper.	Cycl Mnt
AR	Mammoth Springs	5.0	
AZ	Alchesay - Williams Creek	38.0	12.0
	Willow Beach	30.0	50.0
CO	Ft. Morgan Fish Disease Center	9.0	
	Hotchkiss	31.0	
	Leadville	51.0*	
	Denver Engineering Center (pollution abatement planning)	50.0	
FL	Welaka	14.0	
GA	Chattahoochee Forest	43.0	
KS	Cedar Bluff	14.0	
KY	Wolf Creek	90.0	
LA	Natchitoches		18.0
MA	North Attleboro	9.0	13.0
	Berkshire (Conn. River salmon facility)	50.0	
ME	Craig Brook	19.0	19.0
	Green Lake		31.0
MI	Pendills Creek - Hiawatha Forest		16.0
MN	New London	34.0	
MO	Neosho	36.0	
MS	Meridian		11.0
MT	Bozeman Fish Cultural Development Center	31.0	
	Ennis	27.0	18.0

Exhibit 8 (cont.)

State/Station		Funding ($000) Oper.	Cycl Mnt
MT	Miles City	9.0	
	Creston		27.0
ND	Garrison Dam	23.0	45.0
	Valley City.	14.0	
NE	Crawford	9.0	
NH	Berlin	20.0*	8.0
	Nashua	8.0	4.0
	Nashua (Litchfield salmon facility)	15.0	
NM	Dexter	24.0	
	Mescalero	30.0	
OH	Hebron	31.0	
	Senecaville	31.0	
OK	Tishomingo	44.0	4.0
OR	Warm Springs	25.0	
PA	Allegheny	12.0	
SC	Orangeburg (Bears Bluff)	20.0*	
	Walhalla	27.0	
SD	Gavins Point	23.0	
	Spearfish Fishery Center	94.0	
TN	Dale Hollow	40.0	
	Erwin		6.0
TX	Inks Dam	62.0*	
	San Marcos Fish Gultural Development Center	36.0	
	Uvalde	42.0	
UT	Jones Hole	59.0	
VA	Harrison Lake	11.0	12.0
	Paint Bank	10.0	38.0
	Wytheville	15.0	
VT	Pittsford	5.0	19.0
	White River	15.0	
WA	Abernathy Fish Cultural Development Center	43.0	25.0

Exhibit 8 (cont.)

State/Station		Funding ($000) Oper.	Cycl Mnt
WA	Makah	128.0	
	Quilcene	20.0*	
	Leavenworth	60.0	
	Winthrop		10.0
WI	Lake Mills	27.0	
	Genoa	30.0*	10.0
WV	Bowden	16.0	19.0
	White Sulphur Springs	11.0	
WY	Jackson	22.0	29.0
	Saratoga	9.0	7.0
	TOTAL	$1,701.0	$451.0

Approximately $361,000 will be directed toward meeting rapidly escalating utilities costs, particularly at those hatcheries where significant pumping of water is required. The cost of energy (electrical power) at some hatcheries has increased 50-100% in the last several years.

Inadequate funding has forced the delay of scheduled vehicle and equipment replacement. This leads to higher operating/vehicle maintenance costs and an inability to meet fish distribution and stocking objectives as equipment and trucks continue to wear out. The Service proposes to use approximately $376,000 for vehicle and equipment replacement, with the first priority being replacement and/or upgrading of fish distribution trucks and related equipment.

The capital value of facilities within the National Fish Hatchery system is about $500 million. The annual cyclical maintenance funding base is about $2.6 million, or slightly more than 1/2 of one percent of capital value. This level of funding has been inadequate to meet long-term cyclical maintenance needs, resulting in the gradual deterioration of many facilities and accumulation of a considerable major rehabilitation backlog. Also, new facilities are continually being added to the system while the purchasing power of the fund is constantly being eroded by inflation. The additional $451,000 for cyclical maintenance will increase the fish hatchery cyclical maintenance base to about $3.1 million. Although not adequate to totally meet the need, it will serve to partially alleviate the cyclical maintenance shortage. The balance of the proposed increase, $964,000, will be used for (a) travel and transportation (including fish distribution), fish food, and other supplies, materials at existing stations ($+576,000), (b) initial or expanded operations at new stations or facilities ($+218,000, for Berkshire, MA, Nashua, NH, Warm Springs, OR and Makah, WA), (c) planning of pollution abatement facilities at various locations ($+50,000) and (d) engineering review and update of development programs to obtain more precise construction requirements and cost estimates ($+120,000, or $20,000 to be used initially at each of the stations marked with an asterisk).

This increase will allow for optimum use of existing facilities at these stations and provide limited additional production of approximately 200,000 pounds of fish.

Object Classification Description

The object class detail for the $2,152,000 increase is as follows:

Travel and Transportation of Persons	$50,000
Transportation of Things	40,000
Communications, Utilities, and Rent	386,000
Other Services	550,000
Supplies and Materials	750,000
Equipment	376,000
Total Obligations	$2,152,000

LOWER SNAKE RIVER COMPENSATION PLAN (+$707,000/ 0 PFT)

The Snake River system was one of the outstanding river systems in the United States for production of anadromous salmonids. In the past, anadromous fish from the Snake River system contributed substantially to the large commercial, sport and Indian fisheries in the Columbia River system and the Pacific Ocean fisheries from California to Alaska.

In 1945, Congress authorized construction of four dams on the Lower Snake River. The first dam was completed in 1961, and the fourth in 1975. Major salmon and steelhead losses were predicted, but compensation was assured. Nevertheless, by 1977, fisheries compensation had not been provided, and direct dam-related losses to Northwest fisheries had mounted to a conservative value of $35 million annually, as estimated by the fishery management agencies in the northwest. Major summer and fall chinook salmon runs, spring chinook salmon and summer steelhead were reduced to a fraction of their former abundance.

To compensate for the massive fishery losses, Congress authorized the Lower Snake River Fish and Wildlife Compensation Plan (LSRCP) in the Water Resources Development Act of 1976 (90 Stat. 2917). This $58 million plan is to provide hatchery capacity to rear 9,160,000 fall chinook, 6,750,000 spring and summer chinook, and 11,020,000 steelhead smolts annually. Construction of hatchery facilities is to be carried out by the Army Corps of Engineers. Operation and maintenance funds for the hatcheries and associated satellite facilities (located in Idaho, Oregon, and Washington) were to be provided through future appropriations to one of the Federal fishery agencies. An interdepartmental agreement has been signed which provides that the Fish and Wildlife Service will budget for and administer O&M funds for these facilities. In many cases, the actual facilities will be operated by the States under contracts with the Service. Completion of mitigation facilities under this Plan will require additional O&M funding increases in future years.

The FY 1980 Fish and Wildlife Service appropriation included $222,000 for initial LSRCP O&M funding; an additional $186,000 was appropriated in FY 1981. These funds are being utilized to initiate LSRCP fish production at Hagerman and McCall hatcheries in Idaho and to set up a broodstock and egg collection program on the Lower Snake River. In FY 1982, Lookingglass Hatchery (Oregon) and Lyons Ferry Hatchery (Washington) will become operational, and production will be expanded at the Hagerman NFH and McCall Hatchery (Idaho), expanding fish production by approximately 200,000 pounds. The Service proposes an increase of $707,000 for these new and expanded operations for the Lower Snake River Compensation Plan. Funding will be used at these stations in FY 1982 as follows:

State/Station	Funds ($000)
Idaho	
Hagerman NFH	149.0
McCall Hatchery*	20.0
Oregon	
Lookingglass Hatchery*	206.0
Washington	
Lyons Ferry Hatchery*	327.0
Fall Chinook Egg Bank**	5.0
TOTAL	$707.0

*To be operated by the State under contract with the Fish and Wildlife Service.
**Cooperative egg collection program to provide salmon eggs for the LSRCP

Object Classsification Description

The object class detail for the $ 707,000 increase is as follows:

Travel and Transportation of Persons	$10,000
Transportation of Things	15,000
Communications, Utilities, and Rent	9,000
Other Services	553,000*
Supplies and Materials	75,000
Equipment	45,000
Total Obligations	$707,000

* For contracts with States for operation of LSRCP mitigation hatcheries.

Exhibit 8 (cont.)

LAW ENFORCEMENT

Authorization: 16 U.S.C. 851-856, Black Bass Act. - Prohibits importation or transportation in interstate or foreign commerce of black bass and other fish in violation of foreign, State, or other law, or purchase of such fish.

18 U.S.C. 42, Lacy Act - Section 42 prohibits importation of wild vertebrates and other animals declared by the Secretary of the Interior to be injurious to man, agriculture, wildlife resources, etc., except under certain circumstances and pursuant to regulations.

18 U.S.C. 3054, - Authorizes designated Department of the Interior employees to enforce certain sections as provided for in 18 U.S.C. "General Criminal Provisions Relating to Fish and Wildlife".

Objective: To enforce Federal and State laws pertaining to fish resources to protect the resource from unlawful exploitation or harm.

Base Program: The Fish and Wildlife Service conducts activities to enforce Federal laws pertaining to fish with primary emphasis on international, interstate, and Indian-related fishery activities. The Service also assists in enforcement of State laws pertaining to fish as determined by cooperative agreements or as directed by court mandate. The law enforcement effort centers on the commercialization of protected stocks of sport fish, with Pacific salmonids and Great Lakes trout having the highest priority. Present funding ($157,000/1 FFT) essentially represents only a token effort in terms of meeting actual resource needs.

A summary of Law Enforcement outputs is provided below:

	FY 1980	FY 1981	FY 1982
No. of Cases 1/	151	160	163

1/ Includes Black Bass Act cases funded from all Service appropriation sources.

Changes for 1982

		1982 Base	1982 Estimate	Inc. (+) or Decr. (-)
Law Enforcement	$000	157	257	+100
	(FTP)	(1)	(1)	(0)

Exhibit 8 (cont.)

INVESTIGATION OF ILLEGAL COMMERCIAL FISHING (+$100,000/ 0 FTP)

Increased funding for law enforcement will concentrate on Pacific and Atlantic anadromous and Great Lakes fishery resources. Illegal commercial activities detrimental to the Service's programs to enhance these depleted critical fishery resources will be the primary targets. One recent succussful prosecution, made as a result of intensive investigative work on the lower Columbia Basin in Washington/Oregon, involved nearly 100 tons of illegally taken salmon that had been shipped to cities throughout the U.S. Illegal operations of this magnitude can have a serious negative impact on dwindling anadromous and Great Lakes fishery resources.

The Service will use the increased funding to conduct operations in the above three areas, using both covert and overt techniques to investigate a substantial number of major commercial violators. These investigations will be supervised by a law enforcement agent headquartered in the Washington Office. Expenses connected with these operations include the establishment of covert operations, travel, purchase of information and evidence, intelligence analysis, and equipment. Funds will be used approximately as follows:

Investigative support equipment (Visual and audio recording equipment)		$10,000
Supplies and materials		10,000
Travel		25,000
Forensic support		5,000
Undercover operations		50,000
	TOTAL	$100,000

Object Class Description

The object class detail for the $100,000 increase is as follows:

Travel and Transportation of Persons		$ 24,000
Transportationn of Things		1,000
Supplies and Materials		15,000
Equipment		10,000
Undercover Payments		50,000
	TOTAL	$100,000

Exhibit 8 (cont.)

Justification of Program and Performance

Activity: Endangered Species
Subactivity: Endangered Species

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted to Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Listing	$	4,534	4,528	4,528	---
	(FTP)	(30)	(30)	(30)	(...)
Protection	$	6,062	6,283	6,283	---
	(FTP)	(104)	(104)	(104)	(...)
Consultation and Exemption	$	2,854	2,959	2,959	---
	(FTP)	(15)	(15)	(15)	(...)
Maintenance and Recovery	$	7,445	7,654	7,491	-163
	(FTP)	(75)	(75)	(75)	(...)
Cooperation with States	$	4,000	4,000	4,000	---
	(FTP)	(0)	(0)	(0)	(...)
(Common Program Services)	($)	(2,311)	(2,265)	(2,263)	(- 2)
Total Requirements	$	24,895	25,424	25,261	-163
	(FTP)	(224)	(224)	(224)	(...)

Listing

Authorization: 16 U.S.C. 1531-1543, Endangered Species Act of 1973, as amended. Appropriations authorized for FY 1982 - $27,000,000.

Objectives: To identify and list species in danger of extinction throughout all or a significant portion of their range (Endangered), and those likely to become Endangered within the foreseeable future (Threatened).

Base Program: Identifying and listing Endangered and Threatened species of plants and animals is the most basic function of the Endangered Species Program under the authority of the Act. Species must be listed before they can receive the benefits provided by the Act. Through FY 1980, 773 species have been listed, of which 705 are Endangered and 68 are Threatened.

During FY 1980, 3 mammals, 9 reptiles, 3 fishes, 5 invertebrates, and 33 plants were added to the list of Threatened and Endangered species. Another 60 animals and 5 plants are currently proposed for listing.

In order to maintain the credibility and effectiveness of the list, species listings, changes in listing status, or delistings must be supported by adequate, accurate, and current commercial and scientific data on the species status and distribution. Various types of surveys are conducted to obtain this status information. For species already extensively studied, status surveys primarily involve a thorough literature search.

74-939 O—80——62

For less-known species, actual field studies (sometimes involving the development of new survey techniques) are conducted by qualified persons to obtain data necessary for listing, change of status, or delisting. As a result of the Endangered Species Act Amendments, the status of each listed species must be formally reviewed at least once every five years.

The Endangered Species Act Amendments added several new steps to the listing process. To the maximum extent prudent, Critical Habitat must now be determined at the time a species is listed. Economic impacts must be identified and considered in Critical Habitat determinations. The Amendments also provide for more extensive contact with concerned States, local governments, and other interested parties by requiring:

1) Formal notification to local government units whose boundaries include or are adjacent to any proposed Critical Habitat;
2) Publication of the substance of a proposed listing regulation in an affected area newspaper; and
3) Public meetings and hearings, as appropriate, in each State affected by the proposed regulations.

The added requirements have strengthened the credibility and effectiveness of the Endangered species list by increasing public involvement in the listing process.

The workload table below includes those species surveys initiated through contracts or notices in the Federal Register. However, for comparison purposes, the FY 1981 survey of U.S. plants has been excluded. The decline in listed species reviews is due to completion of the required five-year reviews for those species listed under the initial Act and pre-1978 Amendments.

The anticipated workload factors are:

	1980	1981	1982
Species with surveys initiated	750	400	500
Reviews of listed species	382	190	90

Protection

Authorization: 16 U.S.C. 1531-1543, Endangered Species Act of 1973, as amended. Appropriations authorized for FY 1982 - $27,000,000.

Objectives: To provide an adequate level of protection for all species listed under the Endangered Species Act, and in Appendices to the Convention on International Trade in Endangered Species of Wild Fauna and Flora. To reduce to the lowest possible level the illegal taking, interstate transportation, importation, and exportation of such species through surveillance, issuance of permits, and the detection and prosecution of violators.

Base Program: In protecting Endangered and Threatened species, the full range of law enforcement techniques are used, including:

1) Surveillance of areas of concentration of native Endangered species to prevent taking;
2) The inspection of shipments arriving at designated, non-designated, and border ports-of-entry;
3) The investigation of known and suspected violations; and
4) The assessment of civil penalties and criminal prosecution.

Exhibit 8 (cont.)

The development and implementation of Law Enforcement Strategy Plans affords protection to species which are particularly susceptible to man's influence. Strategy plans outline species status and distributions, identify protection problems, and describe actions to be taken to address these problems. Area surveillance, to prevent unlawful taking of native Endangered species, is a technique often used in implementing Law Enforcement Strategy Plans.

Currently, 30 strategy plans are being implemented nationwide benefitting the following species: peregrine falcon; whooping crane; bald eagle; grizzly bear; Eastern timber wolf; Florida manatee; American alligator; Mississippi sandhill crane; Delmarva fox squirrel; Indiana bat; greenback cutthroat trout; Eastern cougar; and loggerhead, green, and leatherback sea turtles.

In order to control the importation/exportation of listed and Convention species, 33 Special Agents and 43 Wildlife Inspector positions are currently assigned to designated, non-designated, and border ports-of-entry. Thirty-seven inspector positions are permanently assigned to the following designated ports-of-entry:

Designated Port-of-Entry	Number of Inspectors
New York	8
Honolulu	3
Seattle	3
San Francisco	4
Los Angeles	5
Chicago	3
Miami	3
New Orleans	3
Dallas/Fort Worth	5
Total	37

In FY 1980, approximately 16,000 wildlife shipments were physically inspected to detect possible violations. In addition, approximately 4,300 investigations of possible violations were conducted. In FY 1981, an additional $165,000 was provided by the Congress for protection. These funds will be utilized again in FY 1982 for law enforcement inspections and investigations at high traffic ports-of-entry.

Protection is not limited to detection and prosecution of violations under the Act and Convention. It also involves, through the issuance of permits, the control of activities conducted by various Federal agencies and private individuals to enhance the propagation and survival of listed species. In FY 1980, approximately 2,300 permit applications for the taking, importation/exportation, or transportation in interstate commerce of species protected by the Act and/or Convention were reviewed and acted upon.

In FY 1980, only those wildlife shipments which were physically inspected were counted in the workload measuring system. Previously, those shipments which were monitored, or declared with Customs, were also counted. These changes in record-keeping, plus the current concentration on investigating large commercial shipments (rather than numerous smaller ones), are reflected in the new FY 1980-1982 workload factors below.

Exhibit 8 (cont.)

The following workload factors are anticipated under the Protection program:

	1980	1981	1982
Species protected through Strategy Plan implementation	15	18	18
Wildlife shipments physically inspected	16,000	19,000	19,000
Law Enforcement investigations	4,321	5,300	5,300
Permit applications reviewed	2,296	2,400	2,500

Consultations and Exemptions

Authorization: 16 U.S.C. 1531-1543, Endangered Species Act of 1973, as amended. Appropriations authorized for FY 1982 - $27,000,000.

Objectives: To assist Federal agencies, through interagency consultation required by Section 7 of the Act, to ensure their actions do not jeopardize the continued existence of any listed species or result in the destruction or adverse modification of Critical Habitat. To assist these agencies in using their authorities to conserve Endangered and Threatened species. In addition, to assure that all activities and programs administered by the Service further the conservation of Endangered and Threatened species.

Base Program: Service employees assist other Federal agencies in meeting their Section 7 responsibilities in three ways:

1) Through informal consultation, the Service provides information and assistance to Federal agencies, including assistance to operational programs within the Service, in planning their projects or conducting their activities to avoid conflict with listed species. This assistance takes the form of providing lists of Threatened, Endangered, and proposed species which occur in the area of a Federal construction project so that the agency can prepare a biological assessment, and also includes informal discussions and advice between Federal agencies and Service field personnel. It is conducted prior to the Service's receiving a formal written request for assistance with the goal of identifying and avoiding potential conflicts between Federal projects and listed species.

2) Formal consultation is initiated upon receipt of a written request for assistance from a Federal agency or from a Service program. Formal consultation involves an examination of agency projects and actions to determine if such actions are or are not likely to jeopardize listed species. A written Biological Opinion is always rendered by the Service upon completion of a formal consultation. When a jeopardy opinion is given, the biological opinion must suggest reasonable and prudent alternatives which, if undertaken, will avoid jeopardizing listed species or destroying Critical Habitat.

3) Conference with Federal agencies is required when proposed actions, activities, etc. are determined to likely jeopardize the continued existence of proposed species or Critical Habitats. The results of a conference are appropriately documented.

In addition to providing this type of consultation and assistance to Federal agencies, further information and support must be provided to the Secretary's staff which assists the Endangered Species Committee and the appointed Review Boards when an application for exemption from Section 7 requirements is submitted by a Federal agency subsequent to consultation. The exemption process is a provision of the Endangered Species Act Amendments of 1978.

Exhibit 8 (cont.)

The following workload factors are anticipated under the Consultation program:

	1980	1981	1982
Formal Consultations conducted	705	750	750
Informal Consultations conducted	3,010	3,200	3,250

Species Maintenance and Recovery

Authorization: 16 U.S.C. 1531-1543, Endangered Species Act of 1973, as amended. Appropriations authorized for FY 1982 - $27,000,000.

Objectives: To develop and implement recovery programs for Endangered and Threatened species. To conduct management actions and undertake research necessary to recover species to the point where they can be removed from the list, and managed by the States, other Federal agencies, or Service programs as necessary.

Base Program: The Endangered Species Act Amendments of 1978 require that recovery plans be developed and implemented for all listed species when a recovery plan will promote the conservation of the species. Recovery plans for species are developed by contacting all known sources of expertise. Services may be procured from appropriate Federal, State, public and private institutions, and other qualified individuals. For some species, a team approach is used to ensure the best possible array of expertise is brought to bear on recovery plan development. Teams are utilized for highly complex plans which often require multi-agency coordination and cooperation. For other species that may be localized or where the recognized expertise is found in one individual, recovery plans may be developed either in-house or by contract. Currently, the Service has developed 65 recovery plans for 72 Endangered and Threatened species. Forty of these plans, covering 44 species, have been approved to date.

The following 11 recovery plans were approved in FY 1980: California condor; California least tern; blunt-nosed leopard lizard; Devil's Hole pupfish; pahrump killifish; Antioch Dunes; whooping crane; West Indian manatee; Key deer; Rocky Mountain wolf; and watercress darter.

In addition, another 18 plans are in various stages of development. Of the 83 recovery plans that have been or are being developed, 68 are by recovery teams, 9 by in-house expertise, 3 by outside contract, and 3 by State or other Federal agency personnel. In the future, more recovery plans will be developed in-house and by contract since many of the species anticipated for listing are localized rather than wide-ranging.

Recovery actions include species monitoring, relocation, propagation and release research, habitat acquisition, protection and enforcement, and controlling predators and competitors. It is important, therefore, that priority recovery actions be implemented as soon as possible after being identified in order to prevent further jeopardy to the species.

Habitat acquisition, identified as being necessary for Endangered species recovery, will result in the purchase of over 7,800 acres of essential habitat for approximately $8.3 million in FY 1981, through the Land and Water Conservation Fund.

Recovery actions are implemented on both Service and non-Service lands. Approximately 250 National Wildlife Refuges and other Service field stations support use

by Endangered or Threatened species. Some refuges support many different listed species at various times of the year.

Species found on Service field stations are not always actively managed, but at a minimum, they receive basic protection from disturbance and taking. In some cases, refuges established for other purposes host listed species some time during the year. Some of these refuges, such as Aransas National Wildlife Refuge in Texas, have come to serve as critical support elements for Endangered species. Examples of species management actions taking place on Service lands are as follows:

Species	Action	Station
Whooping crane	Maintenance and protection of wintering habitat (including stopover areas) for both Wood Buffalo and Gray's Lake populations, and breeding habitat for Gray's Lake experimental and supplemental feeding population.	Aransas NWR, TX; Gray's Lake and Des Lacs NWRs, ID; Bosque del Apache NWR, NM; Monte Vista and Alamosa NWRs, CO; Quivira NWR, KA; Salt Plains NWR, OK
West Indian manatee	Protection of habitat, including regulation of boat traffic.	Merritt Island, Hobe Sound, Chassahowitzka, and J.N. "Ding" Darling NWRs, FL
Columbian white-tailed deer	Hosting major portion of remaining population.	Columbian White-tailed Deer NWR, OR and WA
Delmarva fox squirrel	Maintenance and protection of habitat.	Blackwater and Eastern Neck NWRs, MD; Chincoteague NWR, VA
Attwater's prairie chicken	Habitat manipulation to expand habitat suitable for the species.	Attwater Prairie Chicken NWR, TX
Snail darter	Propagate 20,000 to 30,000 darters for release into the wild.	Wolf Creek NFH, KY; Dale Hollow and Erwin NFHs, TN
Arctic peregrine falcon	Survey of potential nesting sites and habitat protection.	Arctic NWR, AK
Yuma clapper rail	Monitor habitat changes and rail populations on the Colorado River.	Havasu, Cibola, and Imperial NWRs, AZ
Endangered southwest fishes	Maintenance of captive stock with improved production occurring for purposes of introducing species into the wild.	Hotchkiss NFH, CO; Willow Beach NFH, AZ; Dexter NFH, NM
Aleutian Canada goose	Removing Arctic foxes from remaining islands where goose restoration is to occur. Propagate and release captive-reared birds and carry out follow-up studies to measure success. Protect wintering areas.	Aleutian Islands NWR, AK; San Luis Complex, Sacramento Complex, and Castle Rock NWRs, CA

Exhibit 8 (cont.)

Species	Action	Station
Sea turtles	Protection of nursery beaches and nests.	Merritt Island, Hobe Sound, St. Vincent, National Key Deer, and St. Marks NWRs, FL; Savannah NWR, GA; Pea Island NWR, NC; Cape Romain NWR, SC; Hawaiian Islands NWR, HI; Caribbean Is. NWRs

Examples of actions taking place on non-Service lands are as follows:

Peregrine falcon - Determining nesting success of peregrine falcons in the Northwest and Southwest; in the Northeast, assessing historical eyries as potential release sites with subsequent release activities being conducted.

Black-footed ferret - Utilizing specially trained dogs to survey prairie dog towns for the existence of black-footed ferrets; working with private landowners to encourage protection of suitable ferret habitat on private lands.

Kirtland's warbler - Controlling cowbirds on private and State lands to prevent nest parasitism in Michigan, and preventing possible disturbance of nesting warblers by the public.

Cui-ui - Propagating cui-ui for release into Pyramid Lake, Nevada; monitoring and evaluating hatchery releases for upstream passage problems in the Truckee River.

Recovery actions that require research primarily involve (1) providing answers to problems relative to carrying out Endangered and Threatened species restoration (e.g., California condor); (2) discovering propagation methods and producing captive-reared stock suitable for reintroduction into the wild (e.g., Puerto Rican parrot); and (3) administering contracts for experimental research and Endangered species surveys (e.g., whooping crane).

Endangered species research conducted during FY 1980 included the following:

1) Testing the effectiveness of antibiotic agents in feed to reduce masked bobwhite quail chick mortality;
2) Determining nesting site requirements and factors affecting nest site selection by the bald eagle in the Southwest;
3) Field testing radiotelemetry monitoring methods with Siberian and European polecats in confined prairie dog towns for application on black-footed ferrets;
4) Determining the impacts of environmental contaminants on mollusks; and
5) Developing manatee tagging and tracking technology.

Research actions are primarily implemented at the Patuxent Wildlife Research Center, Maryland, and at nine field stations: Hawaii (three), California, South Dakota, Minnesota, Arizona, Florida, and Puerto Rico.

The anticipated workload factors are:

	1980	1981	1982
Total number of species with recovery plan development initiated	103	168	198
Species with recovery plans developed	72	127	132

Exhibit 8 (cont.)

Decrease for 1982		FY 1982 Base	FY 1982 Estimate	Decrease
(Yampa River Study)	$	100	0	-100
	(FTP)	(0)	(0)	(...)

In FY 1981, the Congress provided an additional $100,000 for a study of endangered fishes on the Yampa River in Colorado. This study is expected to be completed by the end of FY 1981, and thus, funds are not required in FY 1982.

Object Classification Distribution

The object class detail for the $100,000 decrease is as follows:

Other Services	$100,000
Total	$100,000

Decrease for 1982		FY 1982 Base	FY 1982 Estimate	Decrease
(Peregrine Falcons)	$	325	100	-225
	(FTP)	(0)	(0)	(...)

A total of $225,000 was added to the Recovery program by the Congress in FY 1981, to propagate peregrine falcons for reintroduction in the east coast and Rocky Mountain areas. Given other Service and Endangered Species Program priorities, and fiscal constraints in FY 1982, continuation of the peregrine falcon propagation effort at the FY 1981 funding level was not considered of sufficient priority to be included in the Service's FY 1982 budget request. It is fully expected, however, that the FY 1981 program, together with continued funding support from private contributions and foundations, and other involved Federal agencies, will result in successful propagation and release efforts, with the likelihood that additional pairs in the wild will result. The Service does plan on continuing its support of this recovery operation in FY 1982, albeit at a reduced level within existing resources. For these reasons, the Service is not requesting a continuation of $225,000 in FY 1982 under this program.

Object Classification Distribution

The object class detail for the $225,000 decrease is as follows:

Other Services	$225,000
Total	$225,000

Increase for 1982		FY 1982 Base	FY 1982 Estimate	Increase
(All Other Species Recovery)	$	7,229	7,391	+162
	(FTP)	(75)	(75)	(...)

Species recovery is the ultimate aim of the Endangered Species Program. It is also the most difficult and costly to achieve. In FY 1982, recovery plans for over 130 species will exist, containing literally thousands of individual recovery actions ranging from habitat manipulation and protection to artificial propagation and reintroduction of species into their historic range. Accomplishing these tasks requires the full array of Service expertise, including research biologists, refuge and hatchery managers, and law enforcement agents.

The requested increase of $162,000 will fund the costs of implementing the following actions under the Recovery program:

1) Conduct habitat improvement work for the following listed species:

   - Cui-ui - Improve Pyramid Lake fishway and Lower Truckee River habitat in Nevada to enhance natural spawning of this Endangered fish ($15,000);

   - Arizona trout - Renovate Benita Creek in the White Mountain Apache Indian Reservation to make it suitable for reintroduction of this listed trout species ($5,000);

   - Watercress darter - Improve the darter's habitat in Alabama through fence and berm construction and carp removal ($30,000).

2) Provide basic operation and maintenance funding and erect fencing to protect the blunt-nosed leopard lizard at Pixley NWR, and the Lange's metalmark butterfly, Antioch Dunes evening primrose, and the Contra Costa wallflower at Antioch Dunes NWR. Both tracts are new additions to the National Wildlife Refuge System. ($30,000)

3) Determine the distribution, population trends, and limiting factors of the northern Rocky Mountain wolf, and encourage States to enact protective management measures for this species. ($20,000)

4) Develop an effective program for obtaining accurate sighting information on color-marked whooping cranes. ($5,000)

5) Synthesize research findings for the listed Colorado River fishes into a management document outlining water flow, salinity, temperature, and habitat requirements for these species, which will facilitate consultations with other Federal agencies. ($52,000)

6) Monitor the Utah population of the woundfin, and catalog water projects along the Virgin River which may affect the habitat of this species. ($5,000)

Object Classification Distribution

The object class detail for the $162,000 increase in as follows:

Transportation of Persons	6,000
Transportation of Things	2,000
Printing and Reproduction	1,000
Other Services	121,000
Supplies and Materials	32,000
Total	$162,000

Cooperation with States

Authorization: 16 U.S.C. 1531-1543, Endangered Species Act of 1973, as amended. Appropriations authorized for FY 1981 and FY 1982 - a total of $12,000,000.

Objectives: To provide grant-in-aid and other assistance for the development and implementation of State programs for the conservation of Endangered and Threatened species.

Exhibit 8 (cont.)

Base Program: Because Endangered and Threatened species are found on State and private lands, the States have an important role in the development and maintenance of a substantive program for the conservation of these species. Those States which establish and maintain an adequate and active program for the conservation of Endangered and Threatened species may enter into cooperative agreements with the Service, and become eligible for Federal grant dollars to supplement their own funds. In addition to encouraging Federal-State cooperation and providing States with funds needed to carry out Endangered species projects, this program allows the completion of these projects without an increase in Federal personnel ceilings.

A total of 38 States/territories have now entered into cooperative agreements with the Service, and two additional States and territories expect to enter into agreements during FY 1981.

The States are currently working on 151 species under the grant program. These include 63 species that are on the Federal list, and 88 that are listed by the States or are candidates for State lists. The major categories and the type of listing are shown below:

	Federally-Listed Species	State-Listed or Candidate Species	Totals
Mammals	16	23	39
Birds	11	21	32
Reptiles	12	5	17
Amphibians	3	8	11
Fishes	10	14	24
Mollusks	3	16	19
Insects	7	1	8
Plants	1	0	1
Totals	63	88	151

Those States which have entered into a cooperative agreement with the Service, and the number of species benefitting from such conservation programs, are shown below:

State/Territory	Federally-Listed	State-Listed	State/Territory	Federally-Listed	State-Listed
Alaska	5	1	Montana	2	0
Arkansas	5	5	Nebraska	4	0
California	21	26	Nevada	0	0
Colorado	7	8	New Hampshire	0	1
Connecticut	0	0	New Jersey	4	9
Delaware	2	0	New York	6	4
Florida	13	1	New Mexico	1	0
Georgia	3	1	North Carolina	4	19
Guam	0	0	Ohio	1	5
Idaho	4	1	Pennsylvania	2	0
Illinois	1	4	Rhode Island	0	0
Iowa	3	0	South Carolina	5	0
Kansas	2	0	South Dakota	2	1
Maine	1	0	Tennessee	3	2
Maryland	5	5	Utah	8	2
Massachusetts	4	2	Virginia	3	0
Michigan	5	8	Virgin Islands	5	0
Minnesota	2	0	Washington	2	9
Missouri	3	2	Wisconsin	4	5

Exhibit 8 (cont.)

Totals are not shown in the above table for the 38 States/territories due to duplicate count, with the same species being listed in more than one State. There are, however, 63 separate Federally-listed species, and 88 separate State-listed/candidate species.

Grant-in-aid projects involve all aspects of the Act, including conducting habitat and population inventories, acquiring habitats, establishing populations, protecting species and their habitats, and providing information and education to the public.

The following workload factors anticipated in this program are as follows:

	1980	1981	1982
Cooperative Agreements established	38	45	47
Number of projects/programs funded	21	49	55
Species benefitting (Federally-listed)	63	63	68

Exhibit 8 (cont.)

Justification of Program and Performance

Activity:	Administration
Subactivity:	Executive Direction

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted to Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Executive Direction	$	6,697	7,134	7,134	---
	(FTP)	(152)	(152)	(152)	(...)
Total Requirements	$	6,697	7,134	7,134	---
	(FTP)	(152)	(152)	(152)	(...)

Executive Direction

Authorization: 16 U.S.C. 742a-742j, Fish and Wildlife Act of 1956. The Act of August 8, 1956, as amended, establishes a comprehensive national fish and wildlife policy. Among other things, it authorizes the Secretary of the Interior to take steps "required for the development, management, advancement, conservation, and protection of wildlife resources through research, acquisition of refuge lands, development of existing facilities, and other means."

Objectives: Major continuing objectives of the program are: to achieve an efficient, coordinated use of the program management system and common understanding of the roles and responsibilities of all personnel within than system; to enable the Service to best meet new or changing demands upon it and its programs with appropriate modification of program, budget, or organizational structures; to establish beneficial and practical ways to enhance public appreciation and understanding of fish and wildlife and their habitats; and to improve use of respective capabilities and authorities of the Service for the stewardship of fish and wildlife, in cooperation with other Federal agencies, the States, nongovernment organizations, and international entities.

Base Program: Directorate level positions are responsible for planning, developing, and managing all operational programs. These personnel represent the Service and the interests of fish and wildlife resources to the Congress, Departmental officials, other Federal agencies, State agencies, and international organizations with varying interests in fishery, wildlife, ecological, and environmental matters. Direct funding under this activity provides for elements of the Service Directorate at the assistant director level and above, and their related staffs. In an organizational sense, the major components of the program are:

Exhibit 8 (cont.)

(Dollar Amounts in Thousands)

		FY 1981 Enacted	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Offices of the Director & National Program Managers	$	1,110	1,176	1,176	---
	(FTP)	(20)	(20)	(20)	(...)
Offices of the Regional Directors & Area Managers	$	2,916	3,109	3,109	---
	(FTP)	(69)	(69)	(69)	(...)
Washington Staff Offices	$	2,671	2,849	2,849	---
	(FTP)	(63)	(63)	(63)	(...)
Totals	$	6,697	7,134	7,134	---
	(FTP)	(152)	(152)	(152)	(...)

Offices of the Director and National Program Managers. (20 FTP positions; $1,176,000). The Director makes final decisions on Service long-term program objectives, major program policies and strategies, budget proposals, legislative proposals, the management organizational structure, and selection of personnel for directorate level positions. He exercises the line supervision over the national program managers, regional directors, and chiefs of Washington staff offices. The Deputy Director shares overall line management responsibility, and serves as an "executive officer" for day-to-day operations. The Assistant to the Deputy Director serves in a staff capacity for high-level assignments. Under the Office of the Director, $100,000 is set aside to take advantage of emerging opportunities having multi-program impacts. In FY 1980, these funds included an economic analysis contract on barrier islands, $5,000; a report on volcanic ash, consequent to the Mt. St. Helens eruptions, $21,000; a National Agricultural Lands Study, $6,850; a Career Awareness Institute for women and minorities, $12,000; and the development of an Environmental Statutes Handbook for Water Resources Planners, $12,500.

The program provides for ten professional and five support positions in the offices of the national program managers (associate directors and their deputies for Wildlife Resources, Fishery Resources, Federal Assistance, and Environment, and assistant director for Administration). The national program managers determine direction for the operational programs from the perspective of national resource problems and opportunities. Based on an analysis of responsibilities for and needs of the resources involved in each program, the national program managers establish the goals and objectives for the programs, develop assessments of dollar and manpower needs, select the most effective means for accomplishing objectives and the general rules for program conduct, assign resources to achieve expected program outputs and benefits, and monitor and evaluate program accomplishments.

Offices of the Regional Directors and Area Managers. (69 FTP positions; $3,109,000). Authority for program execution flows from the national program managers to seven regional directors and the Research Director. [The regional offices are located at Portland, OR (Region 1); Albuquerque, NM (Region 2);

Twin Cities, MN (Region 3); Atlanta, GA (Region 4); Newton Corner, MA (Region 5); Denver, CO (Region 6); and Anchorage, AK (Region 7).] The regional directors are responsible for accomplishing objectives and achieving intended results of the programs through best use of funds and manpower made available for program operations. These officials translate or convert the program directions passed down by the national program managers into specific regional objectives, work requirements, and operational guidance. As members of the Service Directorate, the regional directors participate in the process of planning national direction for Service programs, and are responsible for developing annual regionwide program budget proposals. There are 14 professional positions (regional directors and their deputies in Regions 1-7), 14 support positions (two positions per regional office), and two positions for the Hawaii administrative office. Region 8 consists of three positions (associate director, deputy, and support) for Research.

Under the regional directors, area managers supervise the work of the field stations (other than research and law enforcement) in a one-to-six State geographic area. [Area offices are located at: Sacramento, CA, Olympia, WA, and Boise, ID (for Region 1); Austin, TX and Phoenix, AZ (for Region 2); East Lansing, MI, Kansas City, MO, and St. Paul, MN (for Region 3); Jacksonville, FL, Asheville, NC, and Jackson, MS (for Region 4); Annapolis, MD, Harrisburg, PA, and Concord, NH (for Region 5); and Billings, MT, Bismarck, ND, Pierre, SD, and Salt Lake City, UT (for Region 6).] As the official nearest the operational action, the area manager is in the best position to determine how to make maximum use of field resources to achieve expected program results. The area managers are responsible to the regional directors for these results, but have leeway to develop means and methods which will work best to get the job done. The Executive Direction Program provides funds and ceilings for two positions (area manager and one support position) in each of the above named 18 area offices.

Washington Staff Offices:

Public Affairs: (19 FTP positions; $835,000). The assistant director is responsible for establishing public information policies, coordinating basic public involvement functions and policies, and executing a comprehensive national public affairs activity, including internal and external information functions.

Planning and Budget: (33 FTP positions; $1,447,000). The assistant director is responsible for developing and integrating the internal processes to support the program management system, developing policy options, clarifying issues for decisionmaking, critically reviewing program budget proposals and solidifying their implementation and evaluation, and work related to budget briefings, reviews, or hearings at Departmental or other levels.

Legislative Services: (5 FTP positions; $219,000). This office provides the Director with professional services on proposed Service legislation, preparation for Congressional oversight hearings, and development of Departmental or Administration positions on legislation impacting Service programs or environmental interests.

International Affairs: (6 FTP positions; $348,000). This office provides coordination for the Directorate of Service interests with respect to development of international agreements, coordinates implementation actions under such agreements having multi-program impact or involvement, integrates domestic and overseas components of the foreign nationals training program, and acts as Service liaison with the Department and other agencies on matters of international concern.

Exhibit 8 (cont.)

In sum, the Executive Direction Program serves both as the cornerstone for planning and building the operational programs of the Service, and as a linking mechanism for their coordination and conduct. The continuing major objectives of this program, as listed above, relate primarily to establishing, perfecting, and communicating the concepts, structure, and practice of management throughout the organization, with the purpose of achieving an environment in which effective results can be best attained from all Service operations. This concept of the program recognizes that the total array of all Service and program goals and objectives, as described in the Program and Performance statements for other activities, broadly represents a basic set of goals for Executive Direction. In that sense, accomplishment in this program is ultimately measured by the extent and manner in which effective and purposeful objectives and priorities are developed, and the specified results achieved in all operational programs.

Activity:
Subactivity: Common Program Services

(Dollar Amounts in Thousands)

Administrative Support prorated to:		1981 Currently Available	1982 Base	1982 Estimate	Inc (+) or Dec (-)
Resource Management	$	22,947	25,552	25,758	+206
	(FTP)	(261)	(261)	(265)	(+4)
Construction and Anadromous Fish	$	740	740	584	-156
	(FTP)	(10)	(10)	(10)	(...)
Migratory Bird Conservation Account	$	927	927	904	-23
	(FTP)	(9)	(9)	(9)	(...)
National Wildlife Refuge Fund	$	192	192	206	+14
	(FTP)	(1)	(1)	(1)	(...)
Miscellaneous Appropriations (Permanent)	$	1,895	1,895	2,453	+558
	(FTP)	(4)	(4)	(4)	(...)
Contributed Funds	$	35	35	35	...
	(FTP)	(2)	(2)	(2)	(...)
Transfer Appropriations:					
Land and Water Conservation Fund	$	542	542	587	+45
	(FTP)	(3)	(3)	(3)	(...)
Other	$	8	8	8	...
	(FTP)	(...)	(...)	(...)	(...)
Consolidated Working Fund	$	525	626	248	-378
	(FTP)	(6)	(6)	(6)	(-6)
Advances and Reimbursements	$	426	707	727	+20
	(FTP)	(1)	(1)	(1)	(-4)
Total Requirements	$	28,237	31,224	31,510	+286
	(FTP)	(297)	(297)	(301)	(+4)
Common Program Services:					
Administrative Services	$	12,835	13,759	13,925	+166
	(FTP)	(297)	(297)	(301)	(+4)
Related Support Services	$	15,402	17,465	17,585	+120
	(FTP)	(...)	(...)	(...)	(...)
Total Requirements	$	28,237	31,224	31,510	+286
	(FTP)	(297)	(297)	(301)	(+4)

Justification of Program and Performance

Activity: Administration
Subactivity: Common Program Services

	1981 appropriation Enacted to date	FY 1982 Base	FY 1982 Estimate	Inc.(+) or Dec.(-)
Administrative Services.....	$ 12,835	13,759	13,925	+166
(FTP)	(297)	(297)	(301)	(+4)
Related Support Services.....	$ 15,402	17,465	17,585	+120
(FTP)	(0)	(0)	(0)	(0)
Total Requirements.....	$ 28,237	31,224	31,510	+286
(FTP)	(297)	(297)	(301)	(+4)

Administrative Services

Authorization: 16 U.S.C. 742a-742j, Fish and Wildlife Act of 1956.

Objectives: To provide the full range of administrative services required by the Fish and Wildlife Service to effectively carry out its program responsibilities; to ensure that the Service's business is conducted in compliance with the laws, regulations, and policies governing its action; to improve the overall effectiveness of Service management and its subsequent evaluation by coordinating the development and implementation of standardized basic administrative practices; and to provide the Service's managers with improved techniques for evaluating their resource allocations (manpower, equipment, and facilities) in terms of achievements realized. Common program administrative services are funded through an assessment account which simplifies overall financial accounting and provides an accurate identification of administrative costs related to each function.

Base Program

Administration: The Administration and Related Support Services program provides professional administrative support to all management and operational levels of the Fish and Wildlife Service. This program interacts daily with other Service programs and offices to assist in the efficient and successful management of the operational programs. The basic administrative support activities conducted by the program are described below.

Office of Assistant Director - Administration. (2 FTP positions $140,000). This office provides overall management and direction to all aspects of the program. It includes the role of program manager and coordinator which involves day-to-day guidance plus planning, budgeting, and program evaluation for the Administration program.

74-939 O—80——63

Personnel Management and Organization. (66 FTP positions; $2,920,000). This segment of administration provides a complete personnel program for the Service, from basic recruiting through organizational management. In addition to providing routine on-going personnel services, Servicewide policies and guidelines are developed and implemented for the entire range of personnel management related activities such as pay administration, upward mobility, merit promotion, position management, troubled employee programs, merit pay and performance appraisal. This group also provides policy guidance and assistance in employer/employee relations relative to employee unions and bargaining units. It provides leadership in developing and implementing training programs, personnel management evaluations, financial disclosure procedures, and the employee suggestion program. It provides assistance to all levels of the Service on reorganization or new organizational structures, and coordinates the implementation of all organizational changes. A major thrust in FY 82 for the personnel program will be the review and evaluation of the Servicewide implementation of the Merit Pay System with particular emphasis on performance appraisal.

Contracting and General Services. (68 FTP positions; $3,281,000). This segment of the program provides the full array of administrative support related to government contracting, procurement, and general office services. It also provides leadership in the areas of space acquisition and management, tele-communications management, government quarters and property management, motor vehicle management, minority business contracting and overall contract administration. Contracting support covers the entire process, from developing pre-procurement plans through award, administration, and close-out. A major thrust in FY 82 will be the development of automated systems to improve motor vehicle and property management techniques by providing instant access to inventory data. Although the Bicentennial Land Heritage Program will end in FY 82, the nature and scope of the projects begun under this program necessitate continued contracting support until the contracts are terminated. This support may extend a year or more beyond the expiration of the program.

Safety and Security. (16 FTP positions; $864,000). Safety and security offices throughout the regions and in the Washington Office provide management and direction to all aspects health and safety programs such as industrial hygiene, safety engineering and hazardous materials handling and storage. These offices further establish procedures for the secure handling and storage of classified material and coordinate the processing of security clearances. In addition, the Service has an extensive participation in youth employment programs at field locations (Job Corps, Youth Conservation Corp and Young Adult Conservation Corp) which presents a unique challenge to the safety program and demands a considerable effort because of the age and inexperience of the enrollees. A major thrust in FY 82 will be the Servicewide implementation of an industrial hygiene program designed to identify, evaluate, and correct occupational health hazards of a chemical, biological, and/or physiological nature.

Financial and Management Systems. (88 FTP positions; $3,846,000). This segment of the program provides policy and guidance in all areas of financial management and accounting. It provides technical assistance to other program areas in developing automated information systems and develops and maintains the programs comprising the Service's automated Program and Financial Management Information Systems (PFMIS). Technical assistance includes the coordination of requests for ADP hardware and services with the Department and GSA, and maintenance of ADP programs used to interact with the Departmental Integrated Personnel/Payroll System (DIPS). Payment for the actual use of ADP (DIPS) support equipment is covered by the DIPS account in the Related Support Services subprogram. Development

of accounting procedures, accounting manuals, documentation of the accounting system, and training needed to properly implement changes in financial document input is also the responsibility of this group. The processing of all payment documents and preparation of official Service accounting reports is handled by the Denver Service Center, a part of the Financial and Management Systems Division. The FMS group provides the Service's directives management capability which includes administrative manual issuance, update and maintenance, forms control, paperwork management, records scheduling, storage and disposal, and the federal paperwork reduction program. A major thrust in FY 82 in the financial and management systems area will be the redesign of the financial segments of the PFMIS to provide more detailed financial data and to streamline the component programs of the system.

Correspondence Control Unit. (1 FTP position; $25,000). This office is responsible for monitoring the Service's highest priority mail, commonly referred to as "controlled correspondence" (White House, Congressional, Secretarial), to expedite preparation of responses. The office monitors the status of the correspondence until signed off by the appropriate official, provides weekly status reports, and serves as liaison with other Departmental controlled correspondence centers.

Offices of Chiefs, Support Services. (7 FTP positions; $651,000). These offices provide overall direction to all elements of the Administration program within the seven regional offices. This includes day-to-day guidance as well as planning, budgeting, and interpretation and implementation of objectives, goals and procedures established by the Office of the Assistant Director - Administration.

Area Offices. (18 FTP positions; $685,000). Approximately $38,000 is allocated to each of the Service's 18 Area Offices for administrative costs, primarily to fund the Administrative Officer and clerical support. Area Offices provide administrative support at a lower level than that of regional office administrative programs, but provide administrative assistance to field units which cannot effectively be provided by regional offices.

Office of Equal Opportunity. (24 FTP positions;$952,000). This office is responsible for affirmative action planning, adjudication of discrimination complaints, direction of special emphasis programs, and Equal Employment Opportunity evaluation with staff located in the Washington and regional offices.

Office of Extension Education. (6 FTP positions; $230,000). This staff is responsible for effectively involving the educational materials and scientific capability of the Service in the extension education systems administered by the Departments of Agriculture and Commerce in cooperation with Land Grant and Sea Grant universities.

Foreign Travel Account. (No FTP positions; $80,000). This account is used to fund international activities that are Servicewide in scope, rather than those which involve a single program function. These funds are used principally to finance Service participation in Area V of the US-USSR Environmental Agreement, to support Service implementation of the Western Hemisphere Convention, and to support dollar costs for U.S. travelers to Special Foreign Currency Program countries or for visitors from such countries to the U.S.

International Assignments. (1 FTP position; $85,000). The Service has assigned a full-time employee to the International Union for Conservation of Nature and Natural Resources (IUCN), as authorized under Section 8 of the Endangered Species Act. The IUCN is the foremost endangered species authority in the world, and the Service, as a member of that organization, maintains close liaison on the current status and distribution of endangered species throughout the world. The assignment of an Executive Officer to the Survival Service Commission of the IUCN provides immediate access to the most current information on endangered species, and significantly contributes to the conservation activities of that organization. The assignment greatly enhances co-operation, elimination of duplication, and coordination of joint programs in areas of interest to the Service.

Increases for FY 82	FY 82 Base	FY 82 Estimate	Increase
$ (x000)	13,759	13,925	+ 166
(FTP)	(297)	(301)	(4)

Personnel Management and Organization (Current 2,920; + 78 (2 FTP)).
The increase is necessary to support current Service plans to add a minimum of 85 FTP positions plus a number of less than permanent full-time positions to the Alaska Region during FY 82 to support the Alaska Lands legislation. These added positions will require an intensive recruitment and selection process to insure obtaining the best available talent in an array of professional disciplines and will further require on-going support from the regional personnel office for those basic routine services provided to all Fish and Wildlife Service employees including maintenance of personnel records, counseling, training, performance appraisal and payroll, among a host of others. The two personnel positions must be filled by permanent full-time employees because of the level of professionalism in all aspects of personnel management demanded by the job and because of the unique problems associated with recruiting and hiring employees in the Alaska region. It would be extremely difficult, if not impossible, to recruit skilled personnel specialists for the Anchorage Regional Office on less than full-time permanent appointments, and to do so would unacceptably increase the probability of employee turnover thus negating the Service's considerable investment in time and money to recruit, relocate and train the employees.

Contracting and General Services (Current 3,281; + 88 (2 FTP)).
This increase is necessary to provide additional logistics support to the Alaska Region resulting from increased programmatic activities as provisions of the Alaska Lands legislation are implemented. A wide range of procurement support is needed to provide services, supplies, materials and equipment to the field level activities on newly acquired refuge lands. Other required support will be space acquisition, transfers of households, and radio communication networks, all of which are handled by contracting and general services personnel. Full-time permanent employees are required in these support positions because of the sensitivity of the work involved, particularly that which concerns procurements and contract administration, and the difficulty in recruiting personnel with the required expertise on a less than full-time basis. For the Office of Contracting and General Services to function with a lower level of expertise in these positions than required would be to risk possible contracting difficulties with the private sector which can lead contract delays and lawsuits against the Service.

Object Class Distribution

The object class breakdown for the $166,000 increase is as follows:

	FY 82 Estimate
Permanent positions	93,000
Positions other than permanent	25,000
Total personnel compensation	118,000
Personnel benefits	36,000
Travel and transportation of persons	8,000
Comm, utilities and other rent	1,000
Printing and reproduction	500
Other services	1,500
Supplies and materials	1,000
	166,000

Summary of Administrative Services Estimate
($000)
(Positions in Parentheses)

	Regional Office Estimate	Washington Office Estimate	Total FY 1982 Estimate	Change from FY 1982 Base
Office of Assistant Director - Administration	---	140(2)	140(2)	0
Personnel Management and Organization.....	2,035(47)	963(21)	2,998(68)	+78(2)
Contracting and General Services	2,269(50)	1,100(20)	3,369(70)	+88(2)
Safety and Security	624(13)	240(3)	864(16)	0
Financial and Management Systems	621(15)	3,225(74)	3,846(89)	0
Controlled Correspondence Unit	---	25(1)	25(1)	0
Offices of Chiefs, Support Services	651(7)	---	651(7)	0
Area Offices	685(17)	---	685(17)	0
Office of Equal Opportunity	---(14)2/	952(10)	952(24)	0
Office of Extension Education	---	230(6)	230(6)	0
Foreign Travel Account	---	80(0)	80(0)	0
International Assignments	---	85(1)	85(1)	0
Total	6,885(163)	7,040(138)	13,925(301)	+166(4)

1/ Includes 51 FTP positions and $2,253,000 for Denver Service Center, and 23 FTP positions and $972,000 for Financial and Management Systems Division.
2/ Funded from the Washington Office, with duty stations in the field.

Related Support Services

Authorization: 16 U.S.C. 742a-742j, Fish and Wildlife Act of 1956.

Objectives: To provide an efficient mechanism for expediting payment of those services applicable to the entire Service, which cannot be readily assigned directly to a program area or function, and which are commonly funded on a clearing account basis.

Base Program: (0 FTP positions; $17,465,000). This is a clearing account established to handle payment of such items as health services, administrative printing and reproduction, FTS and local telephone service, Departmental services, automated payroll system costs, management development training, GSA space costs, postage, and teletype/facsimile service.

Increases for FY 82	FY 82 Base	FY 82 Est.	Increase
$ (x000)	17,465	17,585	+120
(FTP)	(0)	(0)	(0)

This increase is necessary to fund overhead expenses which will be incurred by the Washington Office and by the Anchorage Regional Office as a result of implementation of the Alaska National Interest Lands Conservation Act. Additional office space will be required together with warehousing and other temporary storage space (+106 total) to insure reasonable working conditions for the new personnel and permit an orderly provisioning process (the supply of vehicles, equipment and other material to field sites) to support programmatic activities. Additional Washington Office costs are anticipated for postage and telecommunications (+10 total), particularly in the early implementation stages of establishing the various programs, and regional office distributive costs which include teletype/facsimile, local telephones, printing and reproduction, library and health services and supply support (+4) will increase as the new activities are brought up to full operation.

Object Class Distribution

The object class breakdown for the $120,000 is as follows:

	FY 82 Estimate
Communications, utilities and other rent	116,000
Printing and reproduction	1,000
Other expenses	1,000
Supplies and materials	2,000
	120,000

The following table is a detailed breakdown of support services costs by individual cost element.

Related Support Services Summary
($X000)

	FY 1982 Base	FY 1982 Estimate	Inc.(+) or Dec.(-)
Employee Training	314	314	0
DIPS	314	314	0
Department Working Fund	254	254	0
Postage	1,834	1,838	+4
FTS	1,082	1,088	+6
Local Telephones	145	145	0
Facsimile (Faxforms)	60	60	0
Health Unit	10	10	0
Moving Costs/GSA	60	60	0
Space Costs	12,000	12,106	+106
Administrative Printing	70	70	0
I.D. Cards	1	1	0
Regional Distributive Costs 1/	1,321	1,325	+ 4
Total	17,465	17,585	+120

1/ Includes printing, copying, local telephones, health units, libraries, faxforms, I.D. cards, and similar distributive cost items in the seven regional offices.

Summary of Requirements by Object Class
(dollar amounts in thousands)

Appropriation: Resource Management	1982 Base			1982 Estimate			Inc. (+) Dec (-)		
	Pos	Avg No.	Amount	Pos	Avg No.	Amount	Pos	Avg No.	Amount
Object class									
11 Personnel compensation									
11.1 Permanent positions	4,330	4,265	101,176	4,415	4,347	103,734	+85	+82	2,558
11.3 Positions other than permanent ...	1,365	2,087	31,948	1,568	2,207	33,690	+203	+120	1,742
11.5 Other personnel compensation		64	5,557		64	5,430			-127
Total personnel compensation	5,695	6,416	138,681	5,983	6,618	142,854	+288	+202	4,173
Other objects									
12.1 Personnel benefits			15,694			16,730			1,036
21.0 Travel and transportation of persons			8,629			9,150			521
22.0 Transportation of things			1,850			2,400			550
23.1 Standard level user charges			11,865			11,865			...
23.2 Comm. utilities, and other rent...			10,915			11,523			608
24.0 Printing and reproduction			2,082			2,146			64
25.0 Other services			17,104			26,635			9,531
26.0 Supplies and materials			16,524			18,072			1,548
31.0 Equipment			9,909			12,822			2,913
32.0 Lands and structures			2,500			2,500			...
41.0 Grants, subsidies, and contributions			4,000			7,260			3,260
91.0 Unvouchered			100			100			...
Total requirements			239,853			264,057			24,204

The total of 4,330 base positions were lapsed based on a ½ percent end-of-month. There are 85 new positions requested for 1982.

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
RESOURCE MANAGEMENT

Program and financing (in thousands of dollars)

Identification code 14-1611-0-1-303	1980 actual	1981 estimate	1982 estimate
Program by activities:			
1. Habitat preservation	42,571	50,000	52,819
2. Wildlife resources	97,352	111,578	127,381
3. Fishery resources	34,779	41,511	51,462
4. Endangered species	19,846	27,276	25,261
5. Administration	6,360	6,973	7,134
Total, direct program 1/	200,908	237,338	264,057
Reimbursable program:			
7. Miscellaneous services, other agencies:			
(a) Habitat preservation	2,988	15,815	11,104
(b) Wildlife resources	4,328	10,384	8,931
(c) Fishery resources	5,285	8,617	6,809
(d) Endangered species	605	1,029	476
(e) Administration	14	...	..
Total, reimbursable program 2/	13,220	35,845	27,320
Total program costs, funded	214,128	273,183	291,377
Change in selected resources (undelivered orders)	9,387	...	..
10.00 Total obligations	223,515	273,183	291,377

1/ Includes capital investment as follows: 1980, $6,138; 1981, $6,766; and 1982, $7,527.
2/ Includes capital investment as follows: 1980, $340; 1981, $1,075; and 1982, $819.

(Mono cost: 31.3) (Mono cost: 5) (Mono cost: 5) (Mono cost: 4.9)

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
RESOURCE MANAGEMENT

Program and financing (in thousands of dollars)

Identification code 14-1611-0-1-303	19 80 actual	19 81 estimate	19 82 estimate
Financing:			
Offsetting collections from:			
11.00 Federal funds	-11,368	-29,644	-25,801
14.00 Non-Federal sources	-1,852	-1,892	-1,519
21.40 Unobligated balance available, start of year	-1,124	-1,851	
22.40 Unobligated balance transferred from other accounts		-4,309	
24.40 Unobligated balance available, end of year	1,851		
25.00 Unobligated balance lapsing ..	327		
Budget authority:			
39.00 Appropriation	211,349	235,487	264,057
Budget Authority			
40.00 Appropriation	211,460	225,566	264,057
41.00 Transferred to other accounts ..	-111		
43.00 Appropriation (adjusted)	211,349	225,566	264,057
44.10 Supplemental for wageboard payraises		893	
44.20 Supplemental for civilian payraises		9,028	
Relation of obligations to outlays:			
71.00 Obligations incurred, net	210,295	240,920	264,057
72.00 Obligated balance,start of year	47,413	38,025	50,457
73.40 Obligated balance transferred net		2,274	
74.00 Obligated balance, end of year.	-38,025	-50,457	-50,353
77.00 Adjustments in expired accounts	-314		
90.00 Outlays, excluding payraise supplemental	219,369	221,139	263,863
91.10 Outlays from wageboard payraises		866	30
91.20 Outlays from civilian payraise supplemental		8,757	268
(Mono cast: 21.5)	FWS-190 (Mono cast: 5)	(Mono cast: 5)	(Mono cast: 4.9)

GPO 1964-O-732-488

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
RESOURCE MANAGEMENT

Object Classification (in thousands of dollars)

Identification code 14-1611-0-1-303		1980 actual	1981 estimate	1982 estimate
	Direct obligations:			
	Personnel compensation			
11.1	Permanent positions	92,080	99,799	103,734
11.3	Positions other than permanent	24,751	31,443	33,690
11.5	Other personnel compensation.	4,577	5,469	5,430
11.9	Total personnel compensation.	121,408	136,711	142,854
	Personnel benefits			
12.1	Civilian	12,892	15,060	16,730
21.0	Travel and transportation of persons	7,446	8,629	9,150
22.0	Transportation of things	2,486	1,850	2,400
23.1	Standard level user charges	8,496	9,793	11,865
23.2	Communications, utilities, and other rent	9,386	10,915	11,523
24.0	Printing and reproduction	1,804	2,082	2,146
25.0	Other services	11,110	17,414	26,635
26.0	Supplies and materials	12,304	16,524	18,072
31.0	Equipment	6,830	9,909	12,822
32.0	Lands and structures	1,082	2,500	2,500
41.0	Grants, subsidies, and contributions	5,568	5,851	7,260
42.0	Insurance claims and indemnities	96	100	100
93.9	Total costs, funded	200,908	237,338	264,057
94.0	Change in selected resources.	9,387		
99.0	Subtotal, direct obligations	210,295	237,338	264,057
	(Memo ent: 21.0)		(Memo ent: 0)	(Memo ent: 0) (Memo ent: 4.0)

FWS-191

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
RESOURCE MANAGEMENT

Object Classification (in thousands of dollars)

Identification code 14-1611-0-1-303		19 80 actual	19 81 estimate	19 82 estimate
	Reimbursable obligations			
	Personnel compensation			
11.1	Permanent positions	3,626	9,874	9,874
11.3	Positions other than permanent	2,260	4,079	4,079
11.5	Other personnel compensation	138	475	475
11.9	Total personnel compensation	6,024	14,428	14,428
	Personnel benefits			
12.1	Civilian	621	1,588	1,588
21.0	Travel and transportation of persons	659	1,375	1,375
22.0	Transportation of things	352	538	538
23.1	Standard level user charges	190	200	200
23.2	Communications, utilities, and other rent	170	1,041	1,041
24.0	Printing and reproduction	4	218	218
25.0	Other services	3,516	12,667	4,142
26.0	Supplies and materials	884	1,478	1,478
31.0	Equipment	368	912	912
32.0	Lands and structures	432	1,400	1,400
99.0	Subtotal, reimbursable obligations	13,220	35,845	27,320
99.9	Total obligations	223,515	273,183	291,377

(Mono cost: 21.5) (Mono cost: 5) (Mono cost: 5) (Mono cost: 4.9)

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
RESOURCE MANAGEMENT

PERSONNEL SUMMARY

Identification code 14-1611-0-1-303	FY 80 actual	FY 81 estimate	FY 82 estimate
Direct			
Total number of full-time permanent positions	4,288	4,330 1/	4,415
Total compensable work years:			
Full-time equivalent employment	5,873	6,352 2/	6,554
Full-time equivalent of overtime and holiday hours	64	64	64
Average GS grade	9.42	10.17	10.17
Average GS salary	$21,955	$23,952	$23,952
Average salary of ungraded positions.	$16,723	$18,244	$18,244
Reimbursables			
Total number of full-time permanent positions	121	280	280
Total compensable work years:			
Full-time equivalent employment	308	618	618
Full-time equivalent of overtime and holiday hours	2	2	2
Average GS grade	9.42	10.17	10.17
Average GS salary	$21,955	$23,952	$23,952
Average salary of ungraded positions.	$16,723	$18,244	$18,244

1/ Excludes 85 PFT associated with request for supplemental appropriations for Alaska.

2/ Excludes staff years associated with pending FY 1981 supplemental request for Alaska.

(Mono cost: 11.3)

FWS-193
(Mono cost: 5)

(Mono cost: 5)

(Mono cost: 4.8)

DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

CONSTRUCTION AND ANADROMOUS FISH

For construction and acquisition of buildings and other facilities required in the conservation, management, investigations, protection, and utilization of sport fishery and wildlife resources, and the acquisition of lands and interests therein; and for expenses necessary to carry out the Anadromous Fish Conservation Act (16 U.S.C. 757a-757f); / $37,897,000 / to remain available until expended $30,034,000

(Public Law 96-514 making appropriations for the Department of the Interior and Related Agencies, 1981).

Exhibit 11

JUSTIFICATION OF CHANGES - CONSTRUCTION
FISH AND WILDLIFE SERVICE

Construction and Anadromous Fish

Appropriation, 1981		37,897,000	
Unobligated balance from prior years		29,280,967	
Total available for obligation		67,177,967	
Decreases			
Construction and rehabilitation	45,501,967		
Anadromous fish	3,900,000		
Subtotal		49,401,967	17,776,000
Increases			
Construction and rehabilitation	26,534,000		
Anadromous fish	3,500,000		
Budget Estimate, 1982			30,034,000
Total available for obligation			47,810,000

SUMMARY OF REQUIREMENTS - CONSTRUCTION
FISH AND WILDLIFE SERVICE
Construction and Anadromous Fish
Analysis by Activities

Activity/Subactivity	1980 Appropriation	1981 Appropriation	Perm Pos	1982 Budget Estimates	Perm Pos	Budget Estimate 1982 Compared w/Appropriation 1981	Page Ref.
1. Construction and rehabilitation							
Appropriation	54,045,000	34,397,000		26,534,000		-7,863,000	197
Unobligated balance brought forward	41,744,599	28,416,894		17,311,927		-11,104,967	
Obligation program	67,372,705	45,501,967		37,225,927		-8,276,040	
Unobligated balance carried forward	28,416,894	17,311,927		6,620,000		-10,691,927	
2. Anadromous fish							
Appropriation	4,712,000	3,500,000		3,500,000			262
Unobligated balance brought forward	309,774	864,073		464,073		-400,000	
Obligation program	4,157,701 a/	3,900,000		3,764,073		-135,927	
Unobligated balance carried forward	864,073	464,073		200,000		-264,073	
Total appropriation	58,757,000	37,897,000		30,034,000		-7,863,000	
Total unobligated balance brought forward	42,054,373	29,280,967		17,776,000		-11,504,967	
Total obligation program	71,530,406	49,401,967		40,990,000		-8,411,967	
Total unobligated balance carried forward	29,280,967	17,776,000		6,820,000		-10,956,000	

a/ Obligational program includes recoveries of prior year obligations as follows: Anadromous fish $343,632.

EXHIBIT 13

Justification of Program and Performance

Activity: Construction and Rehabilitation

(Dollar amounts in thousands)

	1981 Appropriation Enacted to Date	FY 1982 Estimate	Inc. (+) or Dec. (-)
Wildlife Refuges ($)	25,248	9,924	-15,324
Fish Hatcheries ($)	5,439	3,927	- 1,512
Research Facilities ($)	3,460	4,856	+ 1,396
Energy Conservation ($)	0	6,127	+ 6,127
Dam Safety ($)	0	1,700	+ 1,700
October 1979 Payraise	250	0	- 250
Common Program Services ($)	(688)	(531)	(-157)
Total Requirements ($)	34,397	26,534	- 7,863
(FTP)	(117)	(117)	(0)

Refuge construction and rehabilitation thrusts in descending order of priority, are:

1 - Facilities required for wildlife management practices, particularly habitat manipulation, including all water management facilities;

2 - Facilities providing protection for wildlife habitat (such as fences and posting);

3 - Facilities which directly support habitat manipulation activities (such as roads and heavy equipment);

4 - Facilities which support the production of wildlife outputs less directly (such as administration/maintenance facilities);

5 - Facilities for environmental education and interpretive programs;

6 - Facilities supporting other wildlife oriented public use (such as hunting, fishing, hiking, bird watching, etc.); and

7 - All other facilities including non-mission related public use facilities.

The FY 1982 Refuge construction request ($9.924 million) focuses on items 1 through 4. Reduction or elimination of safety hazards is and will continue to be the highest priority for refuge maintenance funding. However, this area has been met in part through recent Refuge construction funding and recent increases in base funding for cyclical maintenance and minor rehabilitation.

Restoring lake trout populations to self-sustaining levels in the Upper Great Lakes will require stocking of about 10 million fingerlings annually. Current production capability is about 5.5 million fingerlings. The FY 1982 Fish Hatchery Construction package ($3.927 million) will provide for completion of production facilities on the Schacte Creek Unit of the Iron River Hatchery, and increase production by 2.6 million lake trout fingerlings annually for the Great Lakes. The remaining 1.9 million fingerlings will require additional production facilities in the years ahead.

74-939 O—80——64

The introduction of numerous exotic fish species into U.S. waters in the last 10 to 15 years is resulting in serious adverse impacts on native fish populations. The Fishery Research construction funding ($1.3 million) for Gainsville will provide the first phase of construction. The laboratory will allow the Service to better predict the impacts of proposed introductions on native species and thereby prevent exotic species problems.

More than $10 million have been appropriated since FY 1974 for construction at Leetown, West Virginia including research hatchery and training facilities. These facilities have exceeded the capability of the water supply system. The requested Fishery Research constuction funding ($.7 million) for Leetown will ensure a safe and reliable supply of water.

The National Wildlife Health Laboratory's basic goal is to develop procedures to deal with the character, ecology, and causes of diseases associated with wildlife. The laboratory is the only federal facility dealing with this goal. The $2.860 million requested will be for the construction of tight isolation facility needed for research on contagious wildlife diseases.

The energy conservation request ($6.127 million) is to reduce the rate of energy consumption in existing buildings. Buildings will require retrofitting to insure minimum life cycle costs, and a minimum rate of energy consumption. The proposal provides funding to meet the Administration's FY 1982 energy conservation goal. The funds would be used to complete metering requirements, detailed surveys of over 700 buildings, and to retrofit energy conservation features such as storm windows, insulation, renewable energy sources, and more efficient heating and cooling equipment.

The dam safety request ($1.7 million) implements the Federal Guidelines for Dam Safety of June 25, 1979. The request will fund inspections of the over 250 dams associated with wildlife refuges, fish hatcheries, and research laboratories to identify potential problem areas.

WILDLIFE REFUGES

Authorization: 16 U.S.C. 742a-742j; Fish and Wildlife Act of 1956, as amended; which authorizes the Secretary of the Interior to develop, manage, advance, conserve and protect wildlife resources through research, acquisition of refuge lands, development of existing facilities, and other means.

16 U.S.C. 668dd-668ee; National Wildlife Refuge System Administration Act of 1966, as amended; which authorizes the Secretary of the Interior to administer and manage the National Wildlife Refuge System to protect and conserve fish and wildlife.

16 U.S.C. 460k-460k-4; Refuge Recreation Act, as amended; which authorizes the Secretary of the Interior to administer refuges for recreational use, when such uses do not interfere with the area's primary purpose.

Proposal: Construct certain new and/or rehabilitate certain existing facilities on 30 units of the National Wildlife Refuge System.

Justification: Over a period of 75 years the Service has constructed or purchased facilities and equipment to operate the refuge system. The replacement value of the facilities and equipment, based on a 1978 inventory, is over $1.6 billion. The facilities include such items as dikes, water control and delivery systems, roads, fences, buildings, trails, utility systems, and public use structures. The equipment includes tractors, road graders, draglines, trucks, boats, loaders, radios, and similar items.

While recent funding for facilities maintenance has helped to improve refuge facilities, many facilities and pieces of equipment are still in need of extensive repairs or replacement. Many refuge facilities have exceeded their expected useable life span. In addition, on many refuges, basic, functional administrative/service facilities have never been developed even though these are needed in order to manage these areas in a safe, efficient manner. Approximately $2.6 million of the funds in this proposal will be used to rehabilitate existing facilities. The remaining $7.3 million will be used to develop new facilities and purchase new equipment.

The proposed FY 1982 refuge construction projects will affect key outputs on the 30 units of the National Wildlife Refuge System involved as follows.

(Outputs in thousands)

Program/Key Outputs	Base	Losses Avoided	Gains Anticipated
Migratory Birds Program			
Waterfowl Production	222	12	16
Waterfowl Use Days	188,717	25,700	16,971
Other Migratory Bird Use Days	151,406	683	6,525
Mammals & Non-Migratory Birds Program			
Mammal Use Days	3,062	5	25
Interpretation & Recreation Program			
Interpretation Activity Hours	1,000		1,038
Environmental Education Activity Hours	73		15
Wildlife-Oriented Recreation Activity Hours	5,379	12	113
Endangered Species Program			
Endangered Species Use Days	7,114	108	725

Descriptions of the specific refuge projects follow.

COST
(IN THOUS.)

ALASKA

Kodiak NWR

Project Title: Headquarters Complex Development
(Completion) 1,375

Need

Kodiak NWR is located in an area where private housing is very expensive or not available. The severe climate requires enclosed airplane storage and shop facilities. Housing for seasonal employees is virtually non-existent. Construction costs are very high due to the remote location. Recruitment of sufficient staff to manage the area will not be feasible until residences are available. Efficient management of 1,865,000 acre refuge depends on adequate support facilities (e.g. hangar, shop/storage building, and fuel storage facilities). The refuge supports major brown bear and salmon resources among other fish and wildlife species.

Description

Construct 2 residences (1,350 sq. ft. each)	260
Construct 2,400 sq. ft. shop/storage building	350
Construct 2,200 sq. ft. airplane hangar	390
Construct dormitory/bunk house capable of housing six employees (1,500 sq. ft.)	145
Construct 144 sq. ft. oil house and underground storage tanks	45
Construct utility lines and complete roads and parking	185
	1,375

Costs for construction on Kodiak Island are approximately 2.5 times the average costs for the lower 48 states. The 2.5 cost ratio is current as of September 1980, but may change due to material transportation charges from manufacturing points. Engineering is 50% completed and will be 100% completed by 2/82. Construction is scheduled to begin 5/82 and be completed by 6/83. The short work season prevents earlier start-up and completion.

Annual O&M increase of $150,000 will be required to maintain these facilities.

Benefits

The primary benefits will be the protection of government property and the increase in efficiency and safety of the total refuge operations.

Refuge total 1,375

State total 1,375

COST
(IN THOUS.)

ARIZONA

Cibola NWR

Project Title: Headquarters Complex Development (Completion) 755

Need

Presently, there is only one small metal storage building on the refuge. The office is 25 miles from the refuge in Blythe, CA. where all personnel live. The lack of on-site buildings has severely handicapped the management of this refuge which has extensive investment in irrigation systems, impoundment structures heavy equipment and heavy year-round public use.

Water and cropland management, maintenance of roads, fences and other facilities, inventories, patrol and all other operations are grossly inefficient. Frequently equipment and other facilities are vandalized or stolen and wildlife illegally taken or harassed.

Description

Construct new office building (2,100 sq. ft.)	150
Construct shop/storage building (2,800 sq. ft.)	200
Construct two residences (3 bedroom) (1,300 sq. ft. each)	190
Construct 2 metal storage buildings (4,000 sq. ft) (2,500 sq. ft)	95
Complete entrance roads (0.4 mile) parking areas and utility lines for headquarters complex	120
	755

Standard Service design will be used. Engineering work is 90% completed. Construction is scheduled to begin 12/81 and be completed by 7/82.

Annual O&M increase of $16,000 will be required.

Benefits

The primary benefit will be greatly increased efficiency of refuge operations and protection of government property. Service to the visiting public will also be enhanced.

Refuge Total 755

State Total 755

COLORADO

Monte Vista NWR

Project Title: Marsh Development - Unit 16 118

Need

This project will add approximately 600 acres of needed habitat for the endangered whooping cranes migrating through from Grays Lake NWR in Idaho. This project will also increase waterfowl production by an estimated 1,600 young per year.

COST
(IN THOUS.)

Description

Construct 3 miles of contour dikes with 1.5 miles of feeder ditch and 10 water control structures. 118

Costs are based on preliminary engineering surveys and standard design. Construction design will be completed by 1/82 with actual construction to begin 6/82 and be completed by 8/82. Because of short working season, the project cannot be initiated earlier.

Annual O&M increase of $6,000 will be needed.

Benefits

Refuge benefits include:

Endangered Species Maintenance	+ 1,800 use days
Waterfowl Maintenance	+ 400,000 use days
Waterfowl Production	+ 1,600 waterfowl
Other Migratory Bird Maint.	+ 62,000 use days
Wildlife-oriented Recreation	+ 3,000 activity hours

Refuge Total 118

State Total 118

FLORIDA

Loxahatchee NWR

Project Title: Water Management Facilities Development 750

Need

The Everglade kite has decreased from several thousand to about four hundred in the last 30 years because of dwindling habitat, and is now an endangered species. Creation of manageable habitat is necessary to offset habitat lost due to drought, floods, or unfavorable water manipulation by man. Completion of this project will provide vital habitat for several endangered species along with habitat for many species of wetland birds and mammals. The habitat needed by the the kite and other species described below.

Description

Construct perimeter dike(2 miles) around 1,080 acre compartment "D"	200
Construct pumping station, including intake canal and intake structure	475
Reshape, stabilize and reseed perimeter dike (4 miles)	75
	750

Cost estimates are based upon standard design. Engineering will be completed by 1/82. Construction is scheduled to start 4/82 and be completed by 12/82. An earlier start-up is not possible due to wet ground conditions.

COST
(IN THOUS.)

Annual O&M increase of $40,000 will be required to maintain these facilities.

Benefits
Endangered/threatened species use of the refuge will increase by at least 500,000 use days. Species benefitted are Everglade kite, alligator, peregrine falcon, and osprey. Other refuge benefits include an increase in waterfowl maintenance by 1,000,000 use days, other migratory bird maintenance by 5,000,000 use days, and waterfowl production by 300.

Refuge Total 750

State Total 750

GEORGIA
Harris Neck NWR
Project Title: Habitat Enhancement 316

Need
Construction of the 70 acre Bluebill Pond and the 40 acre Woods Pond will create additional fresh water habitat in a predominantly brackish water environment. Such habitat is favored by colonial birds for nesting and roosting. In addition, wintering waterfowl will benefit. Harris Neck Refuge presently supports seven rookeries with densities of up to 400 nests per acre. Since present wetland habitat is limited, this project will provide for the expansion of these rookeries and the creation of new ones. Trees and brush growing within the ponds serve as nest supports. The water has to be drained periodically to prevent damage to existing vegetation and allow for germination of replacement trees. In order to flood and dewater the ponds, a 12' well and pumping station will be constructed. Fencing is needed to contain cattle within the areas where grazing is used as a management tool and to exclude them from the ponds.

Description

Construct Bluebill Pond dike (17,000 cu. yds.) complete with core ditch and water control structure	165
Raise existing Woods Pond dike (1.1 mi.)	57
Install irrigation well pump station	56
Construct 6-1/2 mile fence	38
	316

Cost estimates are based upon standard design. Engineering design and surveys will be completed by 2/82. Construction is scheduled to begin 6/82 and be completed by 12/82. An earlier start-up is not possible due to wet ground conditions.

Annual O&M increase of $11,000 will be required.

COST
(IN THOUS.)

Benefits
Refuge objective benefits are as follows:

Waterfowl maintenance	+ 2,400 use days
Other Migratory Birds Maint.	+ 113,000 use days
Interpretation	+ 14,500 activity hours
Environmental Education	+ 750 activity hours
Wildlife-oriented Recreation	+ 24,900 activity hours

Refuge Total 316

State Total 316

HAWAII

Hawaiian Islands NWR

Project Title: Buildings, Road and Water System Rehabilitation (Kilauea Point Wildlife Site) 64

Need
Deteriorated buildings and facilities at the Kilauea Point site have severely hampered operations efficiency and created safety problems for personnel and the public. In order to enhance the refuge effectiveness and to better provide for human enjoyment and opportunity to observe colonial seabirds, refuge operating facilities and safety features need to be upgraded.

Description

Rehab 3 residences (Roof, exterior and electric wiring)	25
Repair entrance road and parking area	15
Rehab domestic water system	18
Rehab visitor center and storage building	6
	64

Costs are based on standard design. The project is planned to begin 11/81 and be completed by 5/82.

Annual O&M increase of $2,000 needed.

Benefits
Refuge benefits are as follows:

Interpretation	+ 4,500 activity hours
Environmental Education	+ 400 activity hours
Wildlife-oriented Recreation	+ 4,000 activity hours

Refuge Total 64

State Total 64

COST
(IN THOUS.)

IDAHO

Grays Lake NWR — 52

Project Title: Equipment Purchase

Need

A tractor with front loader and back-hoe is needed to maintain 17 miles of ditches and dikes and to aid in old fence and debris removal from land additions to the approved by the Migratory Bird Conservation Commission

Description

Purchase 60 horsepower industrial tractor with front loader and back-hoe	52

The equipment is to be purchased by 10/81.

Annual O&M increase of $2,000 needed.

Benefits

Primary benefits are improved work efficiency and employee safety.

Refuge Total — 52

State Total — 52

LOUISIANA

Sabine NWR — 284

Project Title: Breeding Pen and Grit Area Construction and Equipment Purchase

Need

Breeding pens are needed to produce sandhill cranes and endangered Attwater's Prairie Chickens to re-establish these species in southwestern Louisiana. A grit site is needed to provide a safe loafing and gritting site for migratory waterfowl on the refuge. Heavy equipment is needed to maintain suitable marsh and prairie habitat for sandhill cranes, Attwater's prairie chickens and waterfowl.

Description

Construct 3 breeding pens for sandhill cranes (400' x 600 'each)	138
Construct breeding pens for Attwater's prairie chicken (25' x 60')	18
Construct grit (coarse sand) area for waterfowl	32
Purchase equipment for marsh management (front-end loader, tractor-truck, dump trailer and low-boy trailer)	96
	284

Costs are based on standard design. Engineering will be completed by 12/81. Construction is scheduled to begin 3/82 and be completed by 6/82.

COST
(IN THOUS.)

Annual O&M increase of $28,000 will be required.

Benefits
Refuge benefits will increase by 32,000 activity hours of interpretation, 1,000 use days by endangered species, and 4,000,000 use days by waterfowl.

Refuge Total 284

State Total 284

MINNESOTA

Fergus Falls Wetland Management District (WMD)

Project Title: WMD Headquarters Development (Completion) 755

Need
Fergus Falls Wetland Management District encompasses 209 units (33,000 acres) in fee title and 388 units (11,000 acres) in easements in six counties in Minnesota. The present 600 sq. ft. office is inadequate for the staff of 17 and allows no space for education concerning the Service's waterfowl production area programs.

Description

Construct a 4,000 sq. ft. building to provide 2,384 sq. ft. of administrative space and 1,144 sq.ft. of environmental education space. The design incorporates passive solar heating and an active solar heating system	630
Construct 0.3 mile access road with 150' x 30' parking area	90
Provide sewage, well and water distribution system	35
	755

Cost is based on standard design and architectural engineering estimate. Engineering design will be completed by 1/82. Construction is planned to begin 4/82 and be completed by 4/83. Earlier start-up and completion is not possible because of the short outdoor work season.

Annual O&M increase of $29,000 will be required.

Benefits
Besides the benefit of increased efficiency, security and protection, the refuge will gain public benefits including: 90,000 activity hours of interpretative use and 4,000 hours of environmental education use.

Refuge Total 755

COST
(IN THOUS.)

Morris WMD
Project Title: Shop and Storage Facility Rehabilitation — 850

Need
A new office was funded and constructed in FY-79. To complete the headquarters work area, a new shop and storage building, utilities, radio network and fuel dispensing tanks and pumps are required. The existing shop and warehouses (vehicles and storage) are approximately 30 years old, in a deteriorated state of repair and are located 26 miles from the new office.

Description	
Construct new shop/storage building (8,000 sq. ft.)	668
Complete utility lines including radio antenna tower, telephone, power and water, etc.	82
Complete entrance road (.3 miles) and parking area (4,500 sq. ft.)	50
Complete security fence (1,380 ft.), buried fuel tanks and pumps	50
	850

Cost estimates are based on standard design. Engineering design will be completed 1/82. Construction is scheduled to begin 4/82 and be completed by 4/83. Earlier start up and completion is not possible because of the short outdoor working season.

Annual O&M increase of $19,000 will be required.

Benefits
Refuge benefits are primarily increased efficiency of the Wetland Management District operation, safer working environment for all refuge employees, and protection of property and equipment. In addition, the gains in wildlife interpretation and environmental education activity will be possible because of increased efficiency of operation.

Refuge Total — 850

State Total — 1,605

MISSOURI
Swan Lake NWR
Project Title: Headquarters Complex Upgrading (Completion) — 80

Need
A new office was funded in FY 1979, but the road and parking area, landscaping, utility features, and interpretive exhibits were not completed. These parts of the project are needed to

COST
(IN THOUS.)

upgrade the office complex and facilities to ensure smooth traffic flow, and adequate parking spaces, improved refuge communications.

Description	
Construct 1/2 mile paved road and parking area	44
Purchase interpretive exhibits	15
Complete landscaping, radio tower and flag pole	21
	80

Cost estimates are based upon standard design. Engineering will be completed by 3/82. Construction is planned to begin 6/82 and be completed by 9/82.

Annual O&M increase of $10,000 will be required.

Benefits
Primary benefits are the improved functioning and efficiency of the office. Public benefits include an increase in interpretation use by 47,000 activity hours.

Refuge Total	80
State Total	80

MONTANA

Medicine Lake NWR

Project Title: Headquarters Complex Development/Rehab 118

Need
The present headquarters buildings are 45 years old; shop office space is inadequate and so is equipment storage (most equipment is parked outside overwinter). Extensive rehab is needed on some buildings and maintenance and heating is becoming increasingly costly. This project will complete the rehab of the headquarters which was begun in FY-81 on construction of a service building.

Description	
Construct open front pole barn building (4,300 sq. ft.)	76
Rehab office by converting adjoining vehicle stalls to office space	26
Construct vehicle storage/work building (800 sq. ft.)	16
	118

Engineering design and cost estimates were completed in FY 79. Cost estimates have been adjusted to 1/82. Construction is scheduled to begin 3/82 and be completed by 7/82. Office rehab can only be done during warm season.

COST
(IN THOUS.)

Annual O&M increase of $10,000 will be needed to maintain the headquarters building to Service standards.

Benefits
This package offers greatly increased efficiency at minimal cost. The current office building is structurally sound and vehicle stall conversion will provide adequate office space. Construction of the pole barn will allow protection from severe weather resulting in extended equipment life and lower maintenance costs. The vehicle work/storage building will provide additional maintenance capability during winter months.

Refuge Total 118

State Total 118

NEVADA

Desert NWR

Project Title: Corn Creek Field Headquarters Rehab/Replacement 295

Need
Corn Creek Field Headquarters is located 26 miles north of Las Vegas at the main entrance to Range. It serves as a visitor contact station, and base for all refuge field operations. Also located at the station are historical structures and archaeological sites. In order to adequately safeguard facilities against vandalism, protect the Pahrump killifish and its habitat, and serve the public, it is essential that someone reside at the station.

Nearly all the facilities presently in use on the station were either purchased along with the land in 1939, or acquired on surplus from the Bureau of Reclamation in the 1950's. Upgrading, rather than rehabilitation of substandard facilities, is recommended due to their age and inappropriate design.

Description	
Construct new 600 sq. ft. oil and paint storage building	86
Construct open storage and shop building (partially-open) (3,000 sq. ft.)	120
Construct one new residence (1,250 sq. ft.)	74
Rehabilitate water system	15
	295

Cost estimates are based on standard design. Engineering has been completed. Construction is scheduled to begin 11/81 and be completed 7/82.

Annual O&M increase of $12,000 will be required to maintain the facilities.

COST
(IN THOUS.)

Benefits
The primary refuge benefit will be the protection of the endangered Pahrump killifish. It is estimated that completion of the project will prevent the loss of 100,000 use days by the killifish with a long term gain of 200,000 use days. Government property will continue to be protected from vandalism and the elements.

Refuge Total 295

State Total 295

NEW JERSEY

Brigantine NWR

Project Title: Shop/Storage Building Replacement 300

Need
The current shop building, constructed in 1950, is inadequate from a number of aspects. It is too small (960 sq. ft.), the refuge tractors and grader cannot be placed inside for maintenance. The building has no plumbing, no facilities for maintenance personnel, no storage space, no hoist for vehicle maintenance and is not work efficient. Renovation is not feasible from a structural standpoint. The cinder block building is also energy inefficient.

Description
Construct Shop/storage building 300
(2,500 sq. ft.)

Costs are based on standard design. Engineering will be completed by 1/82. The project is scheduled for construction beginning 4/82 and ending 7/82.

Annual O&M increase of $15,000 will be required.

Benefits
Benefits include increased storage for supplies and maintenance items, improved maintenance capability, provision for a safe work environment, increased refuge operational efficiency, and improved energy efficiency despite increased floor space.

Refuge Total 300

Great Swamp NWR

Project Title: Headquarters Complex Development (Completion) 350

Need
The office/administration building construction was approved for FY 80. In order to complete the headquarters complex a new shop/storage building, utilizing energy efficient and safety-oriented materials and design is necessary. This will enable the refuge to replace an inadequate storage building and effectively maintain equipment on-site.

	COST (IN THOUS.)
Description	
Construct shop/storage building (2,700 sq. ft.)	350

Cost estimates are from engineering surveys and based upon standard design. Engineering will be completed by 4/82. Construction is scheduled to begin 6/82 and be completed by 11/82.

Annual O&M increase of $16,000 will be required.

Benefits
Primary benefit is the protection of government property. The efficiency of refuge operations will be improved and the project will provide a safer working environment and fire protection.

Refuge Total	350
State Total	650

NEW YORK

Montezuma NWR

Project Title: Tschache Pool Habitat Restoration Study — 30

Need
Tschache Pool was completed in 1941. Eutrophic changes have reduced this pool's water storage capacity and biological values approximately 75 percent. Data indicate that over 90 percent of this pool's functions will be lost in the next 6 to 10 years. Should this 1340 acre wetland be lost, the effects on waterfowl and other migratory birds, including the endangered bald eagle, will be severe. Several million use days will be lost and waterfowl production will be reduced. An engineering planning and design study is needed to determine the best remedies and design criteria for rehabilitating the pool and marsh.

Description	
Conduct a study to develop the design criteria	30

No annual O&M increase required.

Benefits
The study will provide the best design criteria for rehabilitating the marsh.

Refuge Total	30
State Total	30

COST
(IN THOUS.)

NORTH DAKOTA

Devils Lake Wetland Management District (WMD)

Project Title: Production Areas (WPA) New Waterfowl Habitat Development Rehab — 80

Need

New WPA's acquired since October 1976, need initial fencing, posting, ditch and drain plugs, dense nesting cover seeding, trail rehab, and general cleanup. (e.g., removing old farm sites and old fences). This initial work exceeds station O&M funding and is a one-time cost. The replacement truck is needed to haul farm machinery and other equipment. Maintenance will be accomplished in the future by O&M funds.

Description

Trails and parking areas	4
Signs and posting	2
Dense nesting cover seeding (500 acres)	5
Clean up old farm sites	6
Fencing (3 miles)	9
Ditch and drain plugs and rehab water control structures	24
Replace flatbed truck	30
	80

Engineering is not required. Cost estimates are based on field experience. Rehabilitation is scheduled to begin 10/81 but cannot be completed until 9/82 because of the short work season and the recommended seed planting time.

Annual O&M increase of $5,000 is required for WPA facilities maintenance.

Benefits

Completion is required for the area's function as WPA's to assist in meeting national waterfowl production goals. Project completion will permit achievement of the benefits listed below:

	Loss Avoided	Anticipated Gains
Waterfowl Maintenance	102,000	+ 300,000 use days
Waterfowl Production	2,250	+ 2,500 waterfowl
Other Migratory Birds Maint.	34,000	
Environmental Education		+ 150 act. hrs.
Wildlife-oriented Recreation		+ 275 act. hrs.

Refuge Total — 80

Kulm Wetland Management District

Project Title: New Waterfowl Production Areas(WPA's) Development and Rehab — 110

Need

New WPA's, purchased since October 1976, require fencing, wildlife habitat improvements, water development and general cleanup in order to provide quality wildlife habitat. This

COST
(IN THOUS.)

initial work exceeds O&M capability. The D-4 dozer replaces a 1932 model currently used to carry out this type of work by force account. Facilities will be maintained in the future by O&M funds.

Description	
Construct 15 miles of new fence and signing	60
Replace 1932 D-4 dozer	50
	110

Cost estimates for fencing and signing are based on past experience. Equipment costs are based on historical costs for similar equipment. Project will be started 3/82 and completed by 9/82.

Annual O&M increase of $6,000 needed.

Benefits
Potential loss of over 4 million waterfowl use days will be avoided if the project is completed, and additional benefits will be produced as follows:

	Loss Avoided	Anticipated Gains
Threatened Species Maint.	8,000	+12,000 use days
Waterfowl Maintenance	4,075,000	+ 1,000,000 use days
Other Migratory Birds Maint.	1,000,000	use days
Wildlife-oriented Recreation	7,000	+20,000 act. hrs.

Refuge Total 110

Tewaukon NWR
Project Title: Waterfowl Production Area Wetlands and Sprague Lake Rehab 65

Need
Wetland drains and ditches, acquired with the land, need to be plugged/filled. Flood damage on WPA road crossings and culverts required immediate repair/replacement. Without these repairs, the areas will not achieve the objectives which justified acquisition.

Description	
Construct ditch/drain plugs	15
Rehab road crossings and culverts	25
Complete pump ramp and purchase pump	25
	65

Cost estimates are based on experience and current costs. Construction is scheduled to begin 5/82 and be completed by 11/82. Earlier completion is not feasible because of usual spring high water and wet ground conditions.

Annual O&M increase of $2,000 needed.

74-939 O—80——65

COST
(IN THOUS.)

Benefits
Refuge benefits are as follows:

	Loss Avoided	Anticipated Gains
Waterfowl Production	200	+ 1,000 waterfowl
Waterfowl Maintenance	500	+ 1,000 use days
Other Migratory Birds Maint.		+ 1,000 use days

Refuge Total 65

State Total 255

OREGON

Lower Klamath NWR

Project Title: Domestic Water Supply Development 37

Need
A new water supply line, pressure system and distribution system are needed to complete the water system at the headquarters site. Presently there is no well or water source on site. Potable water must be hauled one mile from a private well in a 5,000 gallon tank truck.

Description
Construct one mile of underground 2" water supply lines with pressure tank and pump 37

Cost estimates are based on standard design.
Construction is scheduled to begin 2/82 and be completed by 5/82.

Annual O&M increase of $2,000 will be required.

Benefits
Primary benefits are increased operating efficiency, safety of refuge employees and fire protection.

Refuge Total 37

Malheur NWR

Project Title: Malheur Lake Rehabilitation 230

Need
The Malheur Lake project was funded in 1977 under the rehabilitation provisions of BLHP. This proposal is a continuation of the program. Carp control is required about every four years in order to maintain the biological productivity of the 60,000 acre Malheur Lake marsh for waterfowl purposes. Left unchecked in such an area, carp would eventually reduce the natural food plants to the point that the refuge would have to resort to farming to produce supplemental foods. Studies indicate that chemical control is the only reasonable and economical control method.

COST
(IN THOUS.)

Description
Apply rotenone to Malheur Lake during low water time (fall) of the year. Cost estimates are based on chemical control programs in past years, and recommendations of the carp studies completed in 1977. Engineering is not required. This is a rehabilitation project and is scheduled to begin 10/81 and be completed in 11/81.

Out-year needs - FY-86. Studies indicate control will be required every four years — 250

Benefits
Benefits are as follows:

	Loss Avoided		Anticipated Gains
Waterfowl Maintenance	21,130,000	+	10,000,000 use days
Waterfowl Production	9,300	+	10,000 waterfowl
Other Migratory Birds Maint.	547,000	+	300,000 use days
Wildlife-oriented Recreation	4,500		act. hrs.

Out-year benefits - Refuge outputs will increase in FY-82 and FY-83, then decline to present level by FY-86.

Refuge Total — 230

Sheldon-Hart Mountain Complex
Project Title: Meadow Restoration and Erosion Control — 125

Need
Livestock and unauthorized off-road vehicle (ORV) abuse have caused serious erosion problems on many of the spring fed wet-meadow areas of the refuge. Gabion dams, bank sloping, reseeding and some fencing are needed immediately to halt further erosion.

Description

Place gabion cribs in streambed to slow water movement and raise water table	36
Slope steep banks and rip-rap, seed, and fence where necessary	89
	125

Cost estimates are based on consultation with Soil Conservation Service. No engineering is required. The project is scheduled to begin 10/81 and be completed 9/82. A full year is required for seeding, growth and development.

Annual O&M increase of $6,000 will be required.

Benefits
Primary benefit will be halting further land abuse and deterioration. Wildlife benefits include halting the loss of 500 activity hours of wildlife-oriented recreation and 5,000 use-days by mammals,

COST
(IN THOUS.)

primarily deer and antelope. The long-term benefit gain will be 2,000 activity hours of wildlife-oriented recreation and 25,000 use-days by mammals.

Refuge Total 125

William Finley NWR

Project Title: Brown Swamp and McFadden Marsh Rehab 102

Need

Reed canary grass has invaded the marsh area and displaced most of the beneficial native plants. Rehabilitation of the earth dike, installation of water control structure, and plowing and seeding of native vegetation will return the marsh to maximum wildlife productivity.

Description

Rehabilitate 1/3 mile earth dike and install culvert with screw gate and concrete core	83
Rehabilitate 205 acre McFadden Marsh and 40 acre Brown Swamp by plowing and reseeding	19
	102

Cost estimates are based on standard design. This rehabilitation project is scheduled to begin 5/82 and be completed by 7/82. Earlier start-up is not possible due to seasonal requirements.

Annual O&M increase of $1,000 will be required.

Benefits

Increase in refuge benefits are as follows:

Waterfowl Maintenance	+ 2,000 use days
Waterfowl Production	+ 100 produced
Other Migratory Bird Maintenance	+10,000 use days
Interpretation	+ 200 activity hours
Wildlife-oriented Recreation	+ 3,400 activity hours

Refuge Total 102

State Total 494

PENNSYLVANIA

Tinicum National Environmental Center

Project Title: Headquarters/Environmental Education Center Design 500

Need

Congress has authorized the development of the Tinicum National Environmental Center (P.L. 93-326, as amended). Due to the proximity of the Center to Philadelphia (8 million people within a 50 mile radius) and the limited land available, proposed facilities must have adequate design to insure proper utilization and

COST
(IN THOUS.)

full potential is reached. Preliminary planning indicates a need for approximately 15,000 sq. ft. of educational/administrative office area. In conjunction with the building, integrated design of exhibits, surrounding grounds, and associated visitor contact points are required. The tentative projected cost of the completed facilities is $6.5 million. Tinicum currently operates out of rented office space ill suited to public access (Interstate 95 separates the office from the Center) and has only a 20' x 20' visitor contact building on the area.

Description

Design headquarters/environmental education center which includes: design of exhibits, landscape and associated visitor facilities. Also includes site investigation (soil borings, etc.) to insure construction feasibility prior to detailed building design.	500

Benefits

Proper design of facilities will insure that future construction permits the full potential of Tinicum to be reached. With proper design, a quality environmental education program can be conducted that has the potential to reach a significant portion of the people in the Northeast corridor. Advance design will also result in cost efficiency during phased construction of related facilities.

Refuge (Center) Total	500
State Total	500

SOUTH DAKOTA

Karl E. Mundt NWR — 74

Project Title: Equipment Purchase

Need

Karl Mundt is a relatively new refuge established to manage and preserve bald eagle habitat. To date, it has no management equipment. Secondary growth of inferior timber will eventually cause deterioration of bald eagle habitat and displace the eagles. Much of the refuge is accessible only by boat. Lack of equipment prevented adequate law enforcement on the area and eagles have been killed by unknown persons.

Description

Purchase two tractors, mower, and row tiller (100 h.p. and 65 h.p.)	60
4 x 4 compact pickup and 15' patrol boat	14
	74

COST
(IN THOUS.)

Cost estimates are based on costs for comparable equipment. Equipment will be purchased by 2/82.

Annual O&M increase of $9,000 will be required.

Benefits
The pickup and boat will be utilized for protection of bald eagles and their habitat. The tractors will be used in conjunction with other timber management practices to maintain and encourage roosting trees essential to bald eagles. The tractors will also be used to improve waterfowl areas.

Benefits are as follows:

Threatened Species Maintenance	+ 2,500 use days
Waterfowl Maintenance	+ 200,000 use days
Interpretation	+ 2,000 act. hrs.
Environmental Education	+ 1,500 act. hrs.
Wildlife-oriented Recreation	+ 2,000 act. hrs.

Project Total 74

Project Title: Missouri River Streambank Stabilization 450

Need
Bald eagle habitat on the Karl Mundt NWR is being destroyed rapidly by excessive bank erosion. Stabilization measures are vitally needed to maintain this critical habitat in its present condition. The refuge has the largest wintering bald eagle concentration in the lower 48 states.

Description
Stabilize approximately 6,000 ft. of riverbank along the NE boundary of the refuge. Estimates indicate an additional $550,000 will be required to complete the remaining stabilization. 450

Costs are based on standard design and consultation with U.S. Corps of Engineers. The Service plans to contract this project through transfer of funds to the Corps of Engineers, with Service biologist working out the most environmentally acceptable construction methods. Engineering design will be completed by 10/81. Construction will begin 4/82 and be completed by 9/82. Consolidation of this stabilization work with stabilization work conducted on Corps lands reduce total costs.

Annual O&M increase of $20,000 needed.

Benefits
Benefits are as follows:

Endangered Species Maintenance	+ 5,500 use days
Other Migratory Birds Maint.	+ 5,000 use days
Interpretation	+ 1,000 activity hours

		COST (IN THOUS.)
Environmental Education	+ 500 activity hours	
Wildlife-oriented Recreation	+ 8,000 activity hours	
Refuge Total		524

Lacreek NWR — 177

Project Title: Shop/Storage Building Replacement

Need

Lacreek NWR currently has an inadequate shop building constructed over 40 years ago. During South Dakota's severe winters the shop is almost unusable and the space is insufficient for equipment maintenance and other refuge operations. The building is not suitable for renovation or expansion due to its poor condition. Refuge equipment is currently unprotected from vandalism or severe weather.

Description

Construct 1250 sq. ft. shop building with attached 1,000 sq. ft. vehicle storage bay — 177

Cost estimates are based on standard design. Engineering will be completed by 10/81. Construction will begin 4/82 and be completed by 9/82. The short outdoor work season prevents earlier start-up and completion.

No annual O&M increase will be $1,000.

Benefits

Construction of a new shop/vehicle building will enhance refuge operations in several ways. The shop area will facilitate improved maintenance of equipment during severe weather allowing increased staff time to be devoted to habitat maintenance and other operations during warmer months. The storage area will protect equipment and vehicles, increasing life expectancy and preventing equipment deterioration. Construction of a new building will also greatly increase building energy efficiency.

Project Total — 177

Project Title: Little White River Dam Rehabilitation — 145

Need

The Little White River Dam has several defects which must be corrected to continue to use it as a major water source for Lacreek NWR. This dam was inspected by the Corps of Engineers for compliance with the National Dam Safety Program. The sides of the dam are eroding and tree roots extend through the structure. The height also needs to be raised. The specific work listed under the description of the project was recommended by the Corps to correct deficiencies. Without this work and continued use of the dam, water management will be severely hampered.

Description	COST (IN THOUS.)
Raise crest of dam to original specifications and install concrete apron on emergency spillway	68
Riprap upstream face of dam	42
Repair outlet and replace downstream deflectors	2
Remove diversion ditch obstructions	26
Install perforated drain at toe of dam	7
	145

Construction costs are based on Corps of Engineers standard design. Design and specifications will begin 10/81, with construction scheduled to begin 6/82 and be completed by 9/82. Earlier completion is not possible because of usual high spring flows and wet ground conditions.

No annual O&M increase needed.

Benefits
Besides compliance with dam safety codes, this project will remove threat of losing water needed for management of waterfowl habitats due to dam failure. Also, the loss of 70,000 waterfowl use days will be avoided.

Project Total	145
Refuge Total	322
State Total	846

Texas
Santa Ana NWR
Project Title: Rehabilitate Service Road Rehab (Completion) 410

Need
Santa Ana NWR is an important bird area which annually hosts over 75,000 bird watching enthusiasts from all 50 states and over 32 foreign countries. The present roads are narrow and it is frequently necessary to close them due to poor conditions. They become very dusty during the dry seasons, creating unpleasant and hazardous driving conditions due to reduced visibility. In the rainy seasons, sections become impassable with visitors occasionally becoming stuck. In order to properly operate the refuge and for safety reasons, the roads need to be rebuilt (raised) and surfaced.

Description	
Rehabilitate refuge service road (7 miles)	410

Engineering is 100% completed. Construction is scheduled to begin 11/81 and be completed by 2/82.

COST
(IN THOUS.)

Annual O&M increase of $4,000 required.

Benefits
Benefits are primarily efficiency of refuge operation and safety for refuge employees and refuge visitors.

Refuge Total 410

State Total 410

VIRGINIA
Mackay Island
Project Title: Green Tree Impoundment Feasibility Study 75

Need
Black Duck and diving duck habitat is disappearing at a rapid rate in the Eastern United States. Winter inventories show that black ducks declined 47 percent between 1958 and 1978. This project would create 400 acres of excellent waterfowl habitat for Mackay Island NWR. It is proposed to construct a one mile long dike across the South Marsh Impoundment separating a wooded area from the marsh. By seasonally flooding the wooded area, habitat for black ducks, wood ducks and other waterfowl would be created. The marsh could then also be managed for canvasbacks and other diving species. However, a study to develop the design criteria is needed before construction takes place.

Description
Conduct a feasibility study including engineering design, 404 application, and environmental assessment of the construction of a 400 acre green tree reservoir on east marsh of Mackay Island 75

Benefits
The benefits of this study are to provide the best alternatives and design for future construction of this green tree reservoir. The reservoir, when constructed, will provide much needed habitat for wintering black ducks, wood ducks, canvasbacks and other species.

Refuge Total 75

State Total 75

WASHINGTON
Umatilla NWR
Project Title: McCormack Slough Water Control Structure Rehab 37

Need
The present water control structure is insufficient to dewater the slough for vegetation management purposes or for rough fish (carp) control. The slough can be dewatered only when the Columbia River levels are lower than the slough, there-

COST
(IN THOUS.)

fore, the drain structure must be large enough to allow removal of 700 acre feet of water in 10 days. The present structure needs to be replaced with a larger structure to allow rapid drawdown.

Description

Remove present 22" culvert and install two 48" x 110' culverts with flash board risers. 37

Cost is based on standard design. The project is scheduled to begin 11/81 and be completed by 1/82.

Annual O&M increase of $1,000 required.

Benefits

Water level management capabilities will allow better manipulation of shoreline vegetation and dewatering during the carp spawning season. These capabilities will increase refuge outputs as follows:

Waterfowl Maintenance	+ 60,000 use days
Waterfowl Production	+ 500 waterfowl
Other Migratory Birds Maint.	+ 120,000 use days
Interpretation	+ 2,000 activity hours
Environmental Education	+ 2,000 activity hours
Wildlife-oriented Recreation	+ 18,000 activity hours

Refuge Total 37

State Total 37

WYOMING

National Elk Refuge

Project Title: Office/Administrative Center Development 815

Need

National Elk Refuge and Jackson National Fish Hatchery currently maintain separate, small facilities. These facilities were built over 40 years ago for small staffs and do not provide for the high public use that has come to this area. This project is designed to meet combined staff needs and provide a facility capable of handling 400,000 visitors annually. The project will form a base for greatly expanded public use in this area.

Description

Construct office/administrative building (5,000 sq. ft.) including staff facilities for both refuge and hatchery personnel, (18), environmental education exhibit space (for estimated 400,000 visitors annually), and solar heating system. 650

	COST (IN THOUS.)
Construct interpretive exhibits including an educational sleigh ride (elk viewing) staging area.	55
Construct parking lot (60 vehicle capacity) and landscape area.	80
Construct 16 x 40 ft. bridge (Flat Creek) for access road and elk interpretive project.	30

Cost estimates are based on standard design. Engineering is 50% completed and should be 100% completed by 10/81. Because of the short summer (working) season, construction would begin 4/82 and be completed by 6/83. Future funding of $184,000 will be required to complete interpretive and environmental education displays.

Annual O&M increase of $76,000 required.

Benefits

The Service at Jackson Hole, WY has an unrealized opportunity to educate and inform a significant cross section of the American public. With program facilities, over 400,000 visitors can be reached directly with many more receiving indirect educational and interpretive benefits. Specific benefits as a result of implementation are as follows:

Interpretation	+ 780,000 use days
Environmental Education	+ 1,500 use days
Wildlife-oriented Recration	+ 26,500 use days

	Refuge Total	815
	State Total	815
REFUGE CONSTRUCTION	GRAND TOTAL	9,924

FISH HATCHERIES Exhibit 13 (cont.)

Authorization: 16 U.S.C., 661-666, Fish and Wildlife Coordination Act; 16 U.S.C. 742c-742i, Fish and Wildlife Act of 1956.

Proposal: Construction of fish production facilities.

Justification: The Fishery Resources Program includes the operation of 89 National Fish Hatcheries, 5 Fish Cultural Development Centers, a spawning channel, a fishway, and a fish screen complex. The requested $3,927,000 will be used to complete production facilities at a new National Fish Hatchery.

WISCONSIN - Iron River National Fish Hatchery

Project Title:

Completion of Schacte Creek production facilities..... $3,927,000

Need:

Restoring lake trout populations to self-sustaining levels in the Upper Great Lakes will require stocking about 10 million fingerlings annually. Present annual production capability of Federal hatcheries dedicated to this purpose is about 5.5 million fingerlings. As early as 1970 the Great Lakes Fishery Commission recognized that the United States would have to expand its lake trout production capability to restore self-sustaining populations and recommended that the United States take such measures. The recommendation was the impetus for construction of the Iron River National Fish Hatchery. All the Great Lake States and the Canadian Government support completion of the Iron River National Fish Hatchery.

In FY 1977, $500,000 was appropriated for planning and design of the Iron River National Fish Hatchery to expand production capability for the Great Lakes. The hatchery as planned will consist of two units, Schacte Creek and Middle Creek. The Schacte Creek unit is the principal unit, with the main hatchery building, broodstock facilities, 24 raceways, maintenance building, and residences to be located at this site. The Middle Creek unit will include a service and storage building and additional production raceways.

Construction funds were appropriated in FY 1978 ($2.4 million), FY 1979 ($2.0 million), and FY 1980 ($.2 million). Final environmental and construction permits were obtained in 1979 and construction of water diversion intake structures, water supply lines, and the main hatchery building is underway at this time. The requested funding will provide for completion of facilities on the Schacte Creek unit of the project.

Exhibit 13 (cont.)

Description:

Complete broodstock holding and spawning facilities	$1,110,000
Raceways (24)	1,294,000
Maintenance building	394,000
Roads, parking, walks, and landscaping	408,000
Residences (3)	425,300
Domestic water and sewer	162,000
Electrical services	12,100
Roads and driveways	109,500
Landscaping and yardlights	12,100
TOTAL	$3,927,000

Cost estimates are based on engineering design with Construction Price Index projected to January 1982. Construction would begin in the spring of 1982 and be completed in June 1984. Completion of Iron River National Fish Hatchery (Middle Creek unit) will require an additional $2,000,000 in construction funds based on standard design and present costs for these types of fish production facilities.

Operational funding for the Iron River National Fish Hatchery was appropriated in FY 1981.

Benefits:

Completion of the production facilities on the Schacte Creek unit of Iron River National Fish Hatchery will provide an additional 2.6 million lake trout fingerlings annually, thereby bringing the total annual production of lake trout for the Upper Great Lakes to 8.1 million. An additional 0.9 million fingerlings will be provided by completion of the Middle Creek production facilities.

Exhibit 13 (cont.)

RESEARCH FACILITIES

Authorization: 16 U.S.C., 661-666, Fish and Wildlife Coordination Act - Authorizes assistance to Federal, State, and other agencies in development, protection, rearing, and stocking of fish and wildlife, and controlling losses thereof.

16 U.S.C. 742c-742j, Fish and Wildlife Act of 1956, as amended; Authorizes research, extension and information collection and any necessary steps to develop, manage, protect, and conserve fishery and wildlife resources, including research, development of facilities, and other means.

Fishery Research Construction

Proposal: Development and rehabilitation of facilities at two research laboratories.

Justification: The Fishery Resources Program includes the operation of 12 major research laboratories and 25 research field stations. Research is carried out in three major areas: 1) fish husbandry research, 2) fish ecology research, and 3) fish contaminant research.

Fish husbandry and culture related research has been a high priority activity within the Service. This has been reflected in the extensive construction at the National Fishery Center, Leetown, West Virginia, over the last eight years. Construction in recent years included a fish disease research laboratory, fish culture training academy, and an experimental fish hatchery. Funding requested in FY 1982 would be used to rehabilitate the old, inadequate domestic water system serving these extensive new facilities.

The introduction of numerous exotic (non-native) fish species in the United States waters in the last 10-15 years is resulting in significant detrimental impact on the native fish resources in many areas. The proliferation of numerous exotic tropical and subtropical fish species in Florida is of particular concern. The interaction of exotic and native species must be determined if the native fish resources are to be protected.

The need for national research on non-native fish species and their interaction with native species was formally addressed when the Gainesville National Fishery Research Laboratory in Florida was authorized in 1979 and $500,000 was appropriated for planning and design. Funding totaling $2,500,000 was appropriated in FY 1981 to initiate construction of the main laboratory building. The funding requested in FY 1982 will provide for completion of this building.

Exhibit 13 (cont.)

FLORIDA - Gainesville National Fishery Research Laboratory

Project Title:

Completion of main laboratory building and associated facilities..... $1,300,000

Need:

The Gainesville National Fishery Research Laboratory was established to coordinate and conduct research on beneficial uses and potential harmful effects of exotic fish, and document the spread of exotics in United States waters and the impacts on indigenous species and their habitat. Funding of $500,000 was appropriated in FY 1979 for planning and design of research facilities to be constructed on 25 acres provided by the University of Florida at the Agricultural Research Station at Gainesville. A conceptual plan was developed for construction of the facility in two phases. Phase I ($3,500,000) provided the main laboratory building, and phase II provided experimental ponds and associated facilities. Engineering design will be completed by January 1981. Temporary offices were initially made available at the fisheries buildings on the main University of Florida campus. Offices have now been moved to a temporary trailer at the site of the future laboratory. A total of $2,500,000 was appropriated in FY 1981 to initiate construction of the main laboratory building. This will be adequate to provide a base laboratory building shell. The funds requested in FY 1982 will be used to complete the laboratory building and associated facilities (phase I) as follows:

Description:

Completion of base building:	
Building equipment	$238,000
Roads, parking, landscaping	129,000
Water lines and storage pond	57,000
Electrical service	23,000
Sanitary sewer	30,000
Chemical neutralization	30,000
Effluent treatment	93,000
Subtotal	600,000
Shop, storage, and maintenance facilities	280,000
Incinerator	113,000
Access road (1/4 mile)	113,000
Security fence	71,000
Solar heating of water	123,000
Total	$1,300,000

Cost estimates are based on standard design with the Construction Price Index projected to 1982. Construction would begin in April 1982 and be completed by August 1983.

Upon completion of phase I, approximately an additional $400,000 operations and maintenence funding will be needed to operate the facility and conduct the planned research program.

Original conceptual plans for the Gainesville Laboratory estimated total construction at $5.5 million. Completion of the phase II will require an additional $2,000,000 (1980 estimate) plus inflationary cost increases from estimate to time of actual construction.

Benefits:

Field survey and literature reviews performed under contract to universities have delineated the general problem. Now specific research is needed to refine the information on exotic fish/native fish interactions. Appropriate facilities and expertise are not available in a single location to carry out the detailed experiments needed to document the adverse impacts that some exotics would cause, or to determine the useful purposes the exotics could

Facility Total:	$1,300,000
State Total:	$1,300,000

WEST VIRGINIA - National Fishery Center, Leetown

Project Title:

Rehabilitation and development of domestic water supply system....$ 700,000

Need:

The National Fisheries Center, Leetown, coordinates and administers the activities of five laboratories, a fisheries academy, and an experimental hatchery to provide timely research on the most effective and least costly means of producing quality fish for fishery management needs, and to provide training in the latest principles, practices, and techniques of fish culture and management. More than $10 million have been appropriated since FY 1974 for research and training facilities at Leetown, including $5.7 million in FY 1980 for construction of new laboratory and hatchery facilities, $1.0 million in FY 1978 for construction of the Fisheries Academy, and $4.3 million in FY 1974 and 1976 for construction of the National Fish Health Research Laboratory. The majority of previously appropriated funds are expected to be obligated by the end of FY 1981. These newly constructed facilities have placed a heavy demand on the present domestic water supply system consisting of several small independent wells with no central distribution system. The requested $700,000 will be used to upgrade the present water system. A water storage tower will be built to centralize the water supply, and the water distribution system will be rehabilitated.

Exhibit 13 (cont.)

Description

Supply piping	$330,000
Storage tank	$310,000
Water treatment system and building	$ 60,000
Total	$700,000

Cost estimates are based on standard design with the Construction Price Index projected to 1982. Construction is expected to begin in December 1981 and be completed in July 1982.

Maintenance of this system will require approximately $10,000 annually beginning in FY 1984.

Approximately $13.6 million would be required to complete development of facilities as presently envisioned at the Leetown National Fisheries Center.

Benefits:

Rehabilitation and development of the domestic water system will provide a safe and reliable supply of water to the research facilities at the National Fisheries Center.

Facility Total:	$700,000
State Total:	$700,000

Wildlife Research Construction

Proposal: The requested $2.86 million will be used to construct a tight isolation building at the National Wildlife Health Laboratory, Madison, Wisconsin. This is the last phase of this major constuction program. A FY 1978 appropriation of $2.83 million provided for purchase and partial renovation of the Ansul laboratory. A FY 1981 appropriation of $3.06 million provided for: (1) the complete renovation of the Ansul laboratory; (2) construction of a shop and garage building; (3) construction of an access road and parking area; and (4) preparation of engineering designs for a tight isolation facility.

Justification: Diagnosis and research of contagious diseases often require live animal experiments, which can only be conducted in a tight isolation facility. The National Wildlife Health Laboratory currently has access to only one off-site tight isolation room provided by the University of Wisconsin, which severely limits the Service's ability to work on contagious wildlife diseases. The planned tight isolation building provides for 18 tight isolation rooms and two research laboratories. The National Wildlife Health Laboratory represents the only facility and staff within the Service addressing wildlife disease problems. The Service's objective for the laboratory is to address disease problems of wildlife the Service has special responsibilities for, and to assist States and other Federal agencies in the diagnosis and research of wildlife diseases.

FWS-229

74-939 O—80——66

Exhibit 13 (cont.)

WISCONSIN - National Wildlife Health Laboratory, Madison.

Project Title

Tight isolation building.....$2,856,000

Need:

The National Wildlife Health Laboratory was established in 1975, the tight isolation facility is needed to allow the laboratory to meet all wildlife disease problems. Federal biohazard regulations require that contagious disease work be carried out in tight isolation facility.

Description:

Estimated costs are as follows:

Major Built-in Equipment (e.g., pass-through autoclaves, incinerator)	$464,000
Building Construction (12,150 square feet)	1,220,000
Mechanical Electrical	1,000,000
Waste Treatment	172,000
Total	$2,856,000

In a tight isolation facility everything is decontaminated before leaving the facility (e.g., air, water, waste, personnel). Personnel must shower and change clothes on entering and leaving. The necessary decontamination features add considerable cost. The estimated costs are based on the cost to construct similar tight isolation facilities adjusted for awarding a construction contract in early 1982. The engineering design work for the facility is funded in FY 1981 and will be completed before the beginning of FY 1982. Construction would start no later than February 1982 and be completed by Feburary 1983.

Benefits:

The tight isolation facility would allow the laboratory to do live animal research on contagious wildlife diseases, under controlled conditions and therefore to provide full wildlife disease research and diagnosis services. This facility complements those already at the laboratory to allow the Service to conduct a national wildlife disease diagnostic, training, and research program.

Facility Total	$2,856,000
State Total	$2,856,000

Exhibit 13 (cont.)

ENERGY CONSERVATION

Authorization: National Energy Conservation Policy Act (P.L. 95-619) Requires each Federal agency to perform by 1990 energy audits and retrofit all buildings so as to assure minimum life-cycle costs to the extent consistent with basic requirements for the occupation and use of the buildings.

Executive Order 12003, July 20, 1977 - Directs all Federal agencies, including the Fish and Wildlife Service, to: 1) reduce the rate of energy consumption in existing buildings to 80 percent of the FY 1975 base (89,700 BTU's/gross square feet) by FY 1985, and 2) retrofit all existing buildings to assure: (a) minimum life cycle costs, and (b) minimum rate of energy consumption. Department of Interior Order No. 3007 established Departmental policy to implement Executive Order 12003.

Proposal: Meet FY 1982 interim energy conservation goals as laid out in the Fish and Wildlife Service's Energy Conservation/Management Plan.

Justification: In the Fish and Wildlife Service, energy is used to provide for operation and maintenance of 89 fish hatcheries and five development centers; 15 research laboratories with 80 field stations; and 414 national wildlife refuges for a total of 603 field locations. Executive Order 12003 mandates a 20 percent reduction in energy use rate by FY 1985, with FY 1975 as the base year. During FY 1975 the Service consumed energy at a rate of 89,700 BTU's/gsf in existing buildings. Energy consumption must be reduced to 71,760 BTU/gsf by 1985. The requested $6,127,000 will be used to reduce Service energy consumption to an FY 1982 interim objective of 78,000 BTU's/gsf.

Project Title: Energy Conservation

Need: The Service's actual energy use rate in BTU's/gsf has increased from 89,700 in FY 1975 to 108,500 in FY 1979. In order to attain the FY 1982 goal of 78,000 BTU's/gsf, the Service must reduce energy usage 28 percent from the FY 1979 level. In order to achieve this goal, the requested funds will be used for a comprehensive energy management program including energy use surveys, metering, retrofitting, and administration.

Description:

Funding will be utilized as follows:

	Admin.	Metering	Surveys	Retrofit	Total
Refuges	688.0	365.0	212.7	3,151.1	4,416.8
Hatcheries	190.0	100.8	117.1	726.4	1,134.3
Reasearch Facilities	27.0	14.5	14.2	520.2	575.9
Total	$905.0	$480.3	$344.0	$4,397.7	$6,127.0

Exhibit 13 (cont.)

	Number of Buildings	Gross Square Feet	Cost in thousands
Metering	200	—	$ 480.3
Surveys	837	1,791,613	$ 344.0
Retrofitting	—	936,655	$4,397.7

ADMINISTRATION ($905,000): Includes salaries and benefits for 24 staff years providing an energy coordinator, technical assistant, and clerk-typist for the Washington office and each Regional office. Also included are funds for travel, office costs, energy-related supplies, equipment, site-plan training courses, and ADP services. Permanent full-time personnel required for the Energy Conservation Program will be absorbed within current Service positions.

METERING ($480,300): Executive Order 12003 requires that all structures, individual or within a facility, be metered for each energy source by the end of FY 1982. The Service has initiated metering, with costs being absorbed wherever possible; however, to meet the Executive Order mandate, $480,300 is required to complete the metering. The requested funding will provide for metering at 338 sites at a 5 meter/site average cost of $284.00 per meter.

SURVEYS ($344,000): To meet energy reduction goals, Executive Order 12003 requires that all buildings be surveyed to determine energy conservation measures that can be undertaken to reduce energy consumption to a minimum. The required surveys are conducted at three levels. Level I is the initial, general survey required of all buildings with very little energy requirements and with potential for moderate energy savings. To a large extent these surveys can be conducted by field management personnel with a minimum of training and guidance.

Level II surveys are required of structures with higher levels of energy usage and a potential for significant energy savings. These surveys may require the expertise of a Service staff engineer or an individual with a basic knowledge of structural engineering. The Service will have completed most Level I and some Level II surveys at Service facilities by the end of FY 1981 with costs being absorbed in other operations.

Level III surveys are detailed architectural, structural, and mechanical surveys of buildings with high-energy requirements where there is a potential for large energy savings. The cost for conducting Level III surveys is estimated at approximately $0.192/ square foot of building floor space. This square foot estimate is based on surveys conducted to date and the cost from average quotations provided by private industry. The requested funding would be utilized to initiate Level III energy surveys on Service facilities with high energy usage.

Surveys will be conducted at the following stations:

Exhibit 13 (cont.)

RESEARCH

State/Station	No. of Buildings	Gross Sq. Ft.	Cost to Survey
ND			
Northern Prairie Wildlife Research Center	12	43,981	$ 8,444
OH			
Columbia Research Laboratory	2	30,100	5,779
SUB TOTAL	14	74,081	$14,223

HATCHERIES

State/Station	No. of Buildings	Gross Sq. Ft.	Cost to Survey
AR			
Norfork NFH	8	12,000	$ 2,304
AZ			
Alchesay-Wm. Creek NFH	12	20,876	4,008
CA			
Coleman NFH	5	8,340	1,601
Tehama-Colusa Fish Facility	11	20,500	3,936
CO			
Leadville NFH	9	19,785	3,799
Hotchkiss NFH	8	16,353	3,140
GA			
Millen NFH	2	3,000	576
ID			
Hagerman NFH	4	9,000	1,728
KS			
Cedar Bluff NFH	6	13,670	2,625
KY			
Wolf Creek NFH	5	10,000	1,920
Frankfort NFH	7	4,600	883
LA			
Natchitoches NFH	6	8,700	1,670

Exhibit 13 (cont.)

State/Station	No. of Buildings	Gross Sq. Ft.	Cost to Survey
MI			
Jordan River NFH	3	26,000	4,992
MN			
New London NFH	4	16,500	3,168
MO			
Neosho NFH	4	9,000	1,728
MS			
Meridian NFH	6	5,300	1,018
MT			
Ennis NFH	9	18,967	3,641
Creston NFH	5	9,008	1,730
Bozeman FCDC	7	11,907	2,286
NC			
Pisgah Forest NFH	6	13,500	2,592
Edenton NFH	6	7,300	1,402
ND			
Valley City NFH	8	16,204	$ 3,111
NM			
Dexter NFH	7	8,160	1,567
Mescalero NFH	8	9,016	1,731
NV			
Lahontan NFH	7	14,600	2,803
Willow Beach NFH	6	13,175	2,530
OH			
Hebron NFH	8	10,700	2,054
Senecaville NFH	3	5,600	1,075
OR			
Warms Springs NFH	7	16,500	3,168
SC			
Cheraw NFH	5	9,500	1,824
Orangeburg NFH	7	13,000	2,496
Walhalla NFH	5	7,500	1,440
SD			
Spearfish Fisheries Center	4	8,200	1,574
Gavins Point NFH	5	10,884	2,090
TN			
Erwin NFH	7	15,000	2,880
Dale Hollow NFH	6	18,000	3,456

Exhibit 13 (cont.)

State/Station	No. of Buildings	Gross Sq. Ft.	Cost to Survey
TX			
San Marcos FCDC	5	7,154	1,374
Uvalde NFH	5	7,463	1,433
Inks Dam NFH	5	8,579	1,647
UT			
Jones Hole NFH	7	16,280	3,126
WA			
Spring Creek NFH	4	12,000	2,304
Little White Salmon NFH	6	10,600	2,035
Carson NFH	4	4,100	787
Quinsault NFH	7	11,800	2,266
Entiat NFH	8	10,700	2,054
Abernathy FCDC	8	22,000	4,224
WY			
Diet Development Center - Spearfish	9	42,122	8,087
Jackson NFH	5	16,496	3,167
SUB TOTAL	299	609,639	$117,050
	REFUGES		
AL			
Wheeler NWR	6	25,000	$ 4,800
AR			
Wapanocca NWR	3	6,300	1,210
Big Lake NWR	6	3,800	730
AZ			
Kofa Game Range	3	5,440	1,044
CA			
Havasu NWR	4	4,861	933
Modoc NWR	7	15,300	2,938
Tulelake NWR	7	14,300	2,746
Delevan NWR	5	10,000	1,920
Salton Sea NWR	15	76,000	14,592
Klamath Basin Refuge	11	18,500	3,552
Sacramento NWR	4	26,400	5,069
CO			
Alamosa NWR	5	5,544	1,064
Monte Vista NWR	11	12,211	2,345
Arapaho NWR	6	6,542	1,256
Browns Park NWR	4	4,631	889
FL			
National Key Deer NWR	2	3,700	710
Lake Woodruff NWR	4	5,000	960
Ding Darling NWR	16	22,000	4,224

Exhibit 13 (cont.)

State/Station	Number of Buildings	Gross Sq. Ft.	Cost to Survey
GA			
Savannah NWR	15	20,000	3,840
Piedmont NWR	5	4,600	883
Okefenokee NWR	7	18,600	3,571
IA			
Louisa Division, Mark Twain NWR	3	5,300	1,018
ID			
Deer Flat NWR	4	16,500	3,168
IL			
Crab Orchard NWR	15	75,000	14,400
Chautaugua NWR	4	4,100	787
IN			
Muscatatuck NWR	12	22,000	4,224
KS			
Flint Hills NWR	3	1,248	240
Quivira NWR	6	6,812	1,308
Kirwin NWR	6	3,685	708
LA			
Lacassine NWR	4	7,500	$ 1,440
Delta Breton NWR	5	8,600	1,651
MI			
Shiawassee NWR	3	6,000	1,152
MN			
Upper Mississippi River NWR	10	14,600	2,803
Big Stone NWR	5	10,000	1,920
National Sign Shop	2	14,000	2,688
Detroit Lakes WMD	3	9,000	1,728
Fergus Falls WAO	2	16,000	3,072
MO			
Mingo NWR	4	12,000	2,304
Squaw Creek NWR	4	8,000	1,536
MS			
Yazoo NWR	5	1,400	269
MT			
Lee Metclaf NWR	4	7,802	1,498
National Bison Range	5	5,216	1,001
Red Rocks Lake NWR	5	6,051	1,162
Benton Lake NWR	4	9,069	1,741
C.M. Russell NWR	13	16,845	3,234
NC			
Pee Dee NWR	3	18,000	3,456

Exhibit 13 (cont.)

State/Station	Number of Buildings	Gross Sq. Ft.	Cost to Survey
NE			
Crescent Lake NWR	14	8,678	$ 1,666
Valentine NWR	32	38,699	7,430
Hastings WMD	2	10,000	1,920
NM			
Bosque Del Apache NWR	9	16,542	3,176
Las Vegas NWR	4	4,449	854
Maxwell NWR	2	2,650	509
Sevilleta NWR	2	1,824	350
OH			
Ottawa NWR	13	12,600	2,419
OK			
Sequoyah NWR	3	3,825	734
Tishomingo NWR	7	9,132	1,753
Washita NWR	6	7,460	1,432
Wichita Mountains NWR	24	34,296	6,585
OR			
Malheur NWR	8	15,000	$ 2,880
Umatilla NWR	5	14,200	2,726
Basket Slough NWR	4	16,500	3,168
SC			
Santee NWR	4	5,400	1,037
SD			
Sand Lake NWR	14	24,931	4,787
Waubay NWR	4	6,210	1,192
LaCreek NWR	7	10,797	2,073
Lake Andes NWR	4	7,020	1,349
TN			
Hatchie NWR	5	35,000	6,720
Reelfoot NWR	3	19,000	3,648
Tennessee NWR	4	47,000	9,024
TX			
Anahuac NWR	2	1,925	370
Muleshoe NWR	2	3,202	615
Hagerman NWR	4	4,902	941
UT			
Ouray NWR	3	6,972	1,339
WA			
Turnbull NWR	10	30,100	5,779
McNary NWR	9	26,000	4,992
Willapa NWR	5	11,200	2,150
Columbia NWR	10	21,600	4,147

Exhibit 13 (cont.)

State/Station	Number of Buildings	Gross Sq. Ft.	Cost to Survey
WI			
Horicon NWR	13	22,600	4,339
WY			
National Elk Refuge	6	14,722	2,827
SUB TOTAL	524	1,107,893	$212,715
TOTALS	837	1,791,613	$343,988

RETROFITTING: ($4,397,700) Retrofitting is the actual installation and/or implementation of energy conservation measures identified in surveys. Retrofitting can range from simple things such as installation of storm windows, storm doors, and weather stripping to extensive insulation projects or installation of renewable energy systems (solar, wind, hydro). The Service has identified a total of $4,397,700 in retrofit projects that could be undertaken at this time with surveys conducted to date. These include storm windows, minor insulation projects, upgrading of heating, ventilation, and air conditioning systems, etc. Additional and more techically complicated retrofitting may be required on some buildings as a result of Level III surveys.

The Service must begin retrofitting in FY 1982 to ensure an interim objective of 78,000 BTU's/gsf and a 20 percent reduction in building energy use by FY 1985. Sufficient retrofitting must be completed by the end of FY 1984 so that the Service will have a full year in which to monitor energy consumption. It is presently estimated that about $12 million will be required in FY 1983 and $8 million in FY 1984 to retrofit Service facilities adequately to meet the energy conservation goals as established by P.L. 95-619.

The requested FY 1982 funding would be utilized to undertake retrofitting at the following field stations:

Refuges Proposed to be Retrofitted

Exhibit 13 (cont.)

STATE/STATION	BUILDING	GROSS SQ. FEET	COST TO RETROFIT	TYPE OF RETROFITTING
AZ Havasu NWR	Shops (2)	2,160	9,600	Insulate; install reflective roof coating; wind turbine to supplement electric power
	Quarters (4)	3,188	21,200	Insulate; install solar preheater for domestic hot water; weather seal and caulk; install ceiling fans; add energy saving features to HVAC*; replace water heater with energy saver type
Kofa NWR	Office	3,968	18,300	Insulate; replace water heater with in-line heater; weather seal and caulk; install entry airlock; install ceiling fans; add energy saving features to HVAC; replace heaters in shop area with spot heaters; install exhaust fans in shop area
AK Clarence Rhode NWR	Quarters (3)	3,570	259,000	Retrofit building environment envelopes ($139,000); modify and insulate plumbing system ($36,000); correct electrical energy deficiencies ($36,000); replace heating system ($48,000)
Izembek NWR	Quarters (3) Office Shop	7,140 1,731 672 1,015	318,000	Retrofit building environment envelopes ($162,000); modify and insulate plumbing system ($48,000); correct electrical deficiencies ($48,000); replace heating replace heating system ($60,000)

* HVAC = heating, ventilating, air conditioning system

FWS-239

Exhibit 13 (cont.)

STATE/STATION	BUILDING	GROSS SQ. FEET	COST TO RETROFIT	TYPE OF RETROFITTING
AR				
Holla Bend NWR	Office/Service/ Storage	6,385	$ 30,000	Insulate; renovate HVAC system including insulating (wraping) hot water heater and ducts; install storm windows and doors; caulk and weather strip
Big Lake NWR	Office/Service/ Storage	12,770	60,000	Insulate; install storm windows and doors; caulk windows, doors and other openings; wrap hot water heater and HVAC ducts
CA				
Modoc NWR	Office	600	400	Insulate
	Quarters	1,500	1,200	Insulate
Tulelake NWR	Quarters	1,500	3,200	Insulate; install thermal pane windows
Merced NWR	Quarters	1,500	3,200	Insulate; install thermal windows
San Luis NWR	Service	750	4,600	Insulate; install drop ceiling
ID				
Grays Lake NWR	Service	3,480	1,200	Install heat controls for individual space heaters
	Quarters	1,290	900	Install wood burning stove
Minidoka NWR	Service	1,960	600	Insulate
	Quarters	1,100	400	Insulate
	Office	1,375	800	Insulate

FWS-240

1050

Exhibit 13 (cont.)

STATE/STATION	BUILDING	GROSS SQ. FEET	COST TO RETROFIT	TYPE OF RETROFITTING
ID (cont.) Deer Flat NWR	Office	1,300	$ 1,200	Insulate; install storm windows and florescent lights
	Service (2)	2,960	3,600	Insulate; install storm windows and wood burning furnace
	Headquarters/ Visitors Center	8,000	32,000	Install wood burning stove and solar domestic hot water and heating system
Kootenai NWR	Service	2,072	2,700	Insulate; install wood burning furnance
Camas NWR	Quarters (2)	2,450	5,500	Insulate; install wood burning furnances
	Offices	570	5,600	Insulate; install wood burning stove
	Service	1,500	2,400	Install storm doors/windows and wood burning stove
IL Crab Orchard NWR	Office/Visitor Center	9,900	295,000	Install solar heating & cooling system to include remote concentrated heating and cooling type collectors with additional mechanical systems as required. The new system requires an addition to the building to accommodate a storage capability. The system is expected to provide approximately 45% of the building's heating & cooling requirements.

FWS-241

Exhibit 13 (cont.)

STATE/STATION	BUILDING	GROSS SQ. FEET	COST TO RETROFIT	TYPE OF RETROFITTING
	Maintenance	11,600	344,500	Install solar heating and cooling system ...
Mark Twain NWR	Office/Visitor Center	2,600	77,000	Install solar heating & cooling system ...
IN				
Muscatatuck NWR	Vistor Center	2,885	88,600	Install solar heating & cooling system ...
KS				
Kirwin NWR	Shop/Quarters	3,066	25,000	Insulate; install new windows & siding
Flint Hills NWR	Shop	1,248	30,000	Install domestic hot water and heating system; install stove along with ductwork
MD				
Blackwater NWR	Visitor Center	12,885	5,000	Insulate; weather seal and caulk; add energy saving features to HVAC; replace windows/doors with insulated wood type
Eastern Neck	Quarters (2) Office Shop	7,908	$ 5,000	Insulate; weather seal and caulk; add energy saving features to HVAC; replace windows/doors with insulated wood type
MN				
Detroit Lakes WMD	Office	2,352	9,000	Install small wind turbine
Morris WMD	Office	8,200	338,000	Insulate; install solar heating and thermal shutters
MO				
Swan Lake NWR	Office	3,000	60,000	Install solar heating including a roof mounted flat plate collector with additional mechanical system as required. The new system requires an addition to the building to accommodate a storage capability

TWS-242

Exhibit 13 (cont.)

STATE/STATION	BUILDING	GROSS SQ. FEET	COST TO RETROFIT	TYPE OF RETROFITTING
MO (cont.) Squaw Creek NWR	Office	3,000	60,000	Install solar heating...
MT National Bison Range	Office	1,400	8,300	Insulate; extend basement walls; replace cellar door with insulated door; install air lock and automatic vent damper
	Quarters (4)	4,616	12,600	Insulate; install wood stoves and automatic vent damper
	Warehouse/Shop	1,400	18,700	Insulate; weather strip; install automatic vent damper; convert east end of shop for cold storage
Benton Lake	Shop	2,000	10,000	Insulate; install windows and overhead doors
Lee Metcalf	Quarters (2)	1,658	3,000	Insulate; install windows
Red Rocks	Quarters (2)	3,426	9,000	Insulate; install wood stoves
Charles M. Russell	Office	2,128	5,000	Replace steel windows
NC Mattamuskeet Cedar Island NWR	Office/ Storage	4,755	$ 30,000	Insulate; install storm doors and windows; caulk windows, doors and other openings, wrap hot water tank & HVAC ducts

FWS-243

Exhibit 13 (cont.)

STATE/STATION	BUILDING	GROSS SQ. FEET	COST TO RETROFIT	TYPE OF RETROFITTING
NC (cont.)				
Pee Island NWR	Office/Service/ Storage	7,970	40,000	Insulate; install storm doors and windows; caulk windows, doors and other openings, wrap hot water heater and HVAC ducts
ND				
Des Lacs NWR	Refuge	11,200	60,000	Convert existing oil-fired boilers and electric unit heaters to a centralized coal-fired heating system
Lostwood NWR	Office	1,112	58,000	Insulate; install new siding and windows
NE				
Crescent Lake	Quarters (2)	3,012	2,000	Insulate; install new windows
Ft. Niobrara/Valentine	Office/Shop/ Quarters (2)	5,128	8,000	Insulate; install new windows
NM				
Bitter Lake NWR	Office	2,310	$ 13,100	Insulate; replace water heater with in-line heater; weather seal and caulk; install entry airlock; add energy saving features to HVAC; construct passive heat collector
	Shops (2)	4,224	18,700	Insulate; weather seal and caulk; replace heaters with infra-red spot heaters; replace incandescent with fluorescent fixtures; install wind turbines to supplement electric power; install wood burning stove; install roof wind turbines; replace yardlights with low energy use fixtures

Exhibit 13 (cont.)

STATE/STATION	BUILDING	GROSS SQ. FEET	COST TO RETROFIT	TYPE OF RETROFITTING
NM (cont.)				
Bitter Lake NWR	Quarters (2)	2,882	27,900	Insulate; install solar preheater for domestic hot water; weather seal and caulk; install stove insert in fireplace; replace windows/ doors with insulated wood type; add energy saving features to HVAC; replace water heater with energy type
Bosque del Apache NWR	Office	2,250	$ 22,400	Insulate; install wind turbine to supplement electric power; replace water heater with in-line heater; weather seal and caulk; install entry airlock; install ceiling fans; add energy saving features to HVAC; construct passive heat collector
	Shop (2)	4,024	18,300	Insulate; weather seal and caulk; install wood burning stove; install roof wind turbines; replace yard-lights with low energy-use fixtures; construct passive heat collector; replace heaters with infra-red spot heaters
	Quarters (3)	3,160	32,600	Insulate; install solar preheater for domestic hot water; replace water heater with energy-saver type; weather seal and caulk; install stove insert in fireplace; replace windows/doors with insulated wood type; add energy-saving features to HVAC

FWS-245

74-939 O—80——67

Exhibit 13 (cont.)

STATE/STATION	BUILDING	GROSS SQ. FEET	COST TO RETROFIT	TYPE OF RETROFITTING
NM (cont.)				
Las Vegas NWR	Shop	1,920	17,700	Insulate; install wind turbine to supplement electric power; replace water heater with in-line heater; weather seal and caulk; install wood burning stove; replace heaters with infra-red spot heaters; replace yardlights with low energy use fixtures
Maxwell NWR	Office	1,100	$11,100	Install wind turbine to supplement electric power; install ceiling fans; construct passive heat collector
NV				
Ruby Lake NWR	Service	4,500	2,200	Insulate; replace lights
	Office	872	200	Replace lights
	Quarters	870	600	Install thermal pane windows
Stillwater NWR	Service	1,872	3,000	Insulate; weather strip
	Office	1,728	2,500	Insulate; weather strip
Desert NW Range	Office	680	7,700	Insulate; install thermal pane windows
	Service	1,950		Insulate; install thermal pane windows
	Quarters	1,720		Insulate; install wood burning stove
Pahranagat NWR	Service #1	1,800	2,500	Insulate
	Service #2	500	900	Insulate; weather strip
	Quarters	1,300	700	Install wood burning stove
Sheldon NWR	Service #1	100	100	Install storm windows
	Service #2	1,650	8,300	Insulate; install solar heating

Exhibit 13 (cont.)

STATE/STATION	BUILDING	GROSS SQ. FEET	COST TO RETROFIT	TYPE OF RETROFITTING
NV (cont.)				
Moapa NWR	Quarters	2,050	$ 4,400	Insulate; install storm windows; weather strip; install wood burning stove
NY				
Target Rock NWR	Office Shop	22,684	7,600	Insulate; weather seal and caulk; add energy saving features to HVAC; replace windows/doors with insulated wood type
Iroquois NWR	Office	14,300	5,000	Insulate; weather seal and caulk; add energy saving features to HVAC; replace windows/doors with insulated wood type
Montezuma NWR	Office Shop Storage Visitor Center	5,500	2,700	Insulate; weather seal and caulk; add energy saving features to HVAC; replace windows/doors with insulated wood type
OK				
Salt Plains NWR	Office	2,210	12,600	Insulate; replace heater with in-line heater; weather seal and caulk; install entry airlock; replace windows/doors with insulated wood type; install ceiling fans; construct passive heat collector
	Shop	2,560	10,900	Insulate; install wind turbine to supplement electric power; weather seal and caulk; install wood burning stove; replace yardlights with low energy-use fixtures

Exhibit 13 (cont.)

STATE/STATION	BUILDING	GROSS SQ. FEET	COST TO RETROFIT	TYPE OF RETROFITTING
OK (cont.)				
	Quarters (3)	4,250	41,400	Insulate; install solar preheater for domestic hot water; replace water heater with energy saver type; weather seal and caulk; install stove insert in fireplace; replace windows/doors with insulated wood type; add energy saving features to HVAC; install entry airlock; install ceiling fans
Tishomingo NWR	Office/shop	12,000	$ 45,200	Insulate; install wind turbine to supplement electric power; replace water heaters with in-line heaters; weather seal and caulk; install ceiling fans and solar skylights; construct passive heat collector
	Quarters (4)	6,076	46,500	Insulate; install ceiling fans; install solar preheater for domestic hot water; replace water heater with energy-saver type; weather seal and caulk; replace windows/doors with insulated wood type; add energy saving features to HVAC
Washita NWR	Office	1,300	8,900	Insulate; replace water heater with in-line heater; install entry airlock; replace windows/ doors with insulated wood type

FWS-248

Exhibit 13 (cont.)

STATE/STATION	BUILDING	GROSS SQ. FEET	COST TO RETROFIT	TYPE OF RETROFITTING
OK (cont.)				
Washita NWR (cont.)	Shop	2,640	11,700	Insulate; install wind turbine to supplement electric power; weather seal and caulk; install wood burning stove; replace yardlights with low energy use fixtures.
	Quarters (2)	2,400	25,600	Insulate; install solar preheater for domestic hot water; replace water heater with energy saver type; weather seal and caulk; install entry airlock; replace windows/doors with insulated wood type; add energy saving features to HVAC
Wichita Mountains WR	Office	2,834	$ 12,500	Insulate; replace water heater with in-line heater; weather seal and caulk; add energy saving features to HVAC
	Warehouse	1,960	15,100	Insulate; replace windows with insulated wood type; install ceiling fans; add energy saving features to HVAC
	Shops (2)	7,912	16,100	Insulate; weather seal and caulk; install wood burning stove; replace heaters with infra-red spot heaters; replace yardlights with low energy use fixtures; install solar pre-heater for domestic hot water; add energy saving featurs to HVAC

Exhibit 13 (cont.)

STATE/STATION	BUILDING	GROSS SQ. FEET	COST TO RETROFIT	TYPE OF RETROFITTING
OK (cont.)				
Wichita Mountains WR	Quarters (4)	5,138	39,700	Insulate; install solar preheater for domestic hot water; replace water heater with energy-saver type; weather seal and caulk; install stove insert in fireplace; replace windows/doors with insulated wood type; add energy saving features to HVAC; install ceiling fans
OR				
Finley NWR	Office	3,600	8,500	Insulate; install weather stripping, storm windows and thermal drapes
Malheur NWR	Office #1	1,892	1,200	Insulate; install water heater blanket; revamp heating system
	Office #2	1,202	2,100	Insulate; install water heater blanket; install self-closing doors to unheated area
	Service #1	2,299	400	Insulate; install lights
	Service #2	2,160	4,600	Insulate; install storm windows and lights
	Museum	1,008	500	Insulate
	Storage	240	500	Insulate; revamp heating system
	Service #3	3,900	300	Install lights

Exhibit 13 (cont.)

STATE/STATION	BUILDING	GROSS SQ. FEET	COST TO RETROFIT	TYPE OF RETROFITTING
OR (cont.)				
Umatilla NWR	Service	2,100	3,000	Insulate; install storm doors
	Storage	750	1,000	Insulate
PA				
Erie NWR	Office Shop	9,600	5,200	Insulate; weather seal and caulk; add energy saving features to HVAC; replace windows/doors with insulated wood type
SC				
Carolina Sandhills NWR	Office/Service/ Storage	7,970	40,000	Insulate
SD				
Wauby NWR	Quarters/Shop	2,370	10,000	Insulate; install new siding, windows, and entry shelters
LaCreek NWR	Quarters/Shop	2,208	12,000	Insulate; install new siding on quarters
Karl Mundt NWR	Quarters	1,300	2,000	Insulate
Sand Lake NWR	Office	3,000	50,000	Install solar heat
TX				
Aransas NWR	Office	2,400	23,000	Insulate; install wind turbine to supplement electric power; replace water heater with in-line heater; weather seal and caulk; install entry airlocks; install ceiling fans; add energy saving features to HVAC

FWS-251

Exhibit 13 (cont.)

STATE/STATION	BUILDING	GROSS SQ. FEET	COST TO RETROFIT	TYPE OF RETROFITTING
TX (cont.)				
Attwater Prairie Chicken NWR	Office	1,575	6,300	Insulate; replace water heater with in-line heater; weather seal and caulk; install ceiling fans; add energy saving features to HVAC
	Quarters	2,600	18,200	Insulate; install solar preheater for domestic hot water; replace water heater with energy-saver type; weather seal and caulk; install ceiling fans; add energy saving features to HVAC; replace electric well pump with wind turbine and elevated reservoir tank
Muleshoe NWR	Shop	4,084	$ 20,100	Insulate; install wind turbine to supplement electric power; weather seal and caulk; install wood burning stove; replace heaters with infra-red spot heaters; replace yardlights with low energy-use fixtures
San Bernard NWR	Shop	1,500	13,800	Insulate; install wind turbine to supplement electric power; weather seal and caulk; replace heaters with infra-red spot heaters; replace yardlights with low energy use fixtures

Exhibit 13 (cont.)

STATE/STATION	BUILDING	GROSS SQ. FEET	COST TO RETROFIT	TYPE OF RETROFITTING
UT				
Browns Park and Ouray	Refuge	5,200	5,000	Install plumbing needed to hook up solar panels
VA				
Chincoteague NWR	Quarters (5) Offices (3) Shop	8,427	5,200	Insulate; weather seal and caulk; add energy saving features to HVAC; replace windows/doors with insulated wood type
Back Bay NWR	Quarters (2) Shop Visitor Center	8,471	5,000	Insulate; weather seal and caulk; add energy saving features to HVAC; replace windows/doors with insulated wood type
WA				
Conboy Lake NWR	Service	504	800	Insulate; install storm doors
McNary NWR	Office/Service	1,430	1,400	Insulate; install storm doors and windows
	Service	2,000	2,100	Insulate; install storm doors and windows
Nisqually NWR	Office	1,440	$ 5,700	Insulate; install storm windows and doors; weather strip
	Service	1,440	2,100	Insulate; weather strip and caulk
Dungeness NWR	Office/Storage	570	1,100	Insulate; install storm windows and doors, weather strip and caulk
Turnbull NWR	Office	802	100	Insulate
	Service #1	1,350	1,100	Insulate
	Service #2	1,952	300	Insulate
	Service #3	1,952	300	Insulate

FWS-253

Exhibit 13 (cont.)

STATE/STATION	BUILDING	GROSS SQ. FEET	COST TO RETROFIT	TYPE OF RETROFITTING
WY				
National Elk Range	Shop/Vehicle Storage	2,240	9,300	Insulate; install automatic vent dampers
	Headquarters/ Office	700	1,900	Insulate; install automatic thermostat, automatic vent damper, caulking, weather stripping, and air lock
	Garage/Office	1,151	600	Insulate
	Quarters (2)	2,630	2,700	Insulate, install automatic thermostat, vent damper; install wood burning stove
	SUB TOTAL	432,198	$3,151,100	
	National Fish Hatcheries Proposed to be Retrofitted			
AR				
Corning NFH	Office/shop	6,232	20,000	Insulate; caulk windows & doors; install storm windows and doors; wrap ducts & hot water tanks
CA				
Coleman NFH	Office/	1,536	2,500	Revamp heating system
	Service	2,616	1,500	Install thermal pane windows
	Quarters (4)	4,400	4,000	Install thermal pane windows
CO				
Leadville NFH	Quarters (3)	3,800	10,500	Replace furnaces with wood/oil combination systems

FWS-254

Exhibit 13 (cont.)

STATE/STATION	BUILDING	GROSS SQ. FEET	COST TO RETROFIT	TYPE OF RETROFITTING
GA				
Cohutta NFH	Office/Aquarium	3,116	10,000	Insulate; install storm doors and windows; caulk windows, doors and other openings; wrap hot water tank and HVAC*
Millen NFH	Office/Shop/ Aquarium	3,116	10,000	Insulate; install storm doors and windows; caulk windows, doors and other openings; wrap hot water tank and HVAC ducts
ID				
Hagerman NFH	Service #1	2,040	2,000	Install thermal pane windows
	Service #2	432	1,500	Revamp heating system
KS				
Cedar Bluff NFH	Hatchery	6,500	25,000	Install wind generator system to supplement propane heating system
MN				
New London NFH	Hatchery	4,800	83,400	Insulate; install storm windows; install solar heating including a roof mounted flat plate collector with additional mechanical systems as required. The new system requires an addition to the building to accommodate a storage capability
MT				
Ennis NFH	Hatchery	4,960	66,300	Insulate; install water powered electrical generator; install heat recovery system

*HVAC = heating, ventilating, air conditioning system

Exhibit 13 (cont.)

STATE/STATION	BUILDING	GROSS SQ FEET	COST TO RETROFIT	TYPE OF RETROFITTING
MT (cont.)				
Miles City NFH	Hatchery	8,524	21,000	Replace furnance; install wind powered pumps
NC				
McKinney Lake NFH	Office/Shop	6,232	20,000	Insulate; install storm doors and windows; caulk windows, doors, & other openings; wrap hot water tank and HVAC ducts
NV				
Lahontan NFH	Office/Laboratory	816	4,000	Install thermal pane windows
	Service	720	2,200	Insulate; install thermal pane windows
OR				
Eagle Creek NFH	Hatchery	5,400	6,500	Insulate; install storm windows
Warm Springs NFH	Office/Visitor Center/ Service	4,500	10,000	Insulate; install storms windows
PA				
Allegheny NFH	Hatchery	10,185	3,600	Insulate; remove and block-in windows; install insulated drapes in office
	Office			
Lamar NFH	Hatchery	6,232	30,000	Install new boiler
SC				
Walhalla NFH	Office	7,139	20,000	Insulate; caulk windows, doors and other openings, install thermopane windows; stone plaster wall; wrap HVAC ducts; install heat pumps in garage; replace furnace in office
	Hatchery			
	Storage			
	Garage			

Exhibit 13 (cont.)

STATE/STATION	BUILDING	GROSS SQ FEET	COST TO RETROFIT	TYPE OF RETROFITTING
SD				
McNenny NFH	Hatchery	2,422	$ 60,000	Install heat recovery system to recover heat from heated hatchery water
TN				
Erwin NFH	Office/Shop	6,232	20,000	Insulate; install thermopane doors and windows; caulk windows, doors and other openings; wrap hot water tank and HVAC ducts
UT				
Jones Hole NFH	Duplex/Shop/ Hatchery	6,510	64,000	Install wood burning stoves; install solar domestic hot water heater
WA				
Abernathy NFH	Laboratory/Office	5,324	8,000	Insulate; install storm windows and doors; drop ceiling
Carson NFH	Service	4,160	8,000	Insulate
Entiat NFH	Office/Service	6,732	6,500	Insulate; lower ceiling; install storm doors and windows
Leavenworth NFH	Storage/Service	12,780	3,000	Insulate
	Hatchery	26,700	5,000	Insulate
Little White Salmon NFH	Hatchery	8,456	8,000	Insulate
	Service	3,630	5,000	Insulate
	Storage	3,684	3,000	Insulate
	Laboratory	1,200	4,800	Insulate
Quilcene NFH	Hatchery	7,416	8,000	Insulate
	Office	1,500	1,400	Insulate; install storm windows

Exhibit 13 (cont.)

STATE/STATION	BUILDING	GROSS SQ FEET	COST TO RETROFIT	TYPE OF RETROFITTING
WA (cont.)				
Quinault NFH	Office	1,903	6,000	Insulate; install storm windows
Spring Creek NFH	Hatchery	9,945	$ 6,000	Insulate; install storm windows
Willard NFH	Hatchery/Office	21,840	7,000	Insulate
	Service	1,740	4,000	Insulate
Winthrop NFH	Office/Hatchery/ Service	9,160	6,700	Insulate; install storm windows and doors
WY				
Diet Development Center (Spearfish)	Center	9,936	100,000	Install heat recovery system
Jackson NFH	Hatchery	8,800	38,000	Insulate; install woodburning stoves; install heat exchanger; install storm doors/windows
	SUB TOTAL	283,366	$726,400	
	Research Facilities Proposed to be Retrofitted			
CA				
Denver Wildlife Research Center, (Piedras Blanca, CA Substation)	Quarters (4)/ Office/shop	9,800	50,000	Insulate; install storm windows, solar domestic hot water system; replace roofs with insulated type
FL				
Denver Wildlife Research Center (Gainesville, FL Substation)	Center	4,500	58,200	Insulate; install solar heating and cooling; modify heating and cooling distribution system

Exhibit 13 (cont.)

STATE/STATION	BUILDING	GROSS SQ FEET	COST TO RETROFIT	TYPE OF RETROFITTING
MD				
Patuxent Wildlife Research	Gabrielson Lab	35,000	40,000	Upgrade HVAC* controls; upgrade distilled water system; rezone heating system
	Chemistry Lab	22,000	28,800	
	Meriam Lab	16,700	57,500	
MI				
Great Lakes Fishery Laboratory	Laboratory	42,022	87,200	Install well water pre-cooling system; modify pumps for automatic start; eliminate standby pumps from continuous operation; install energy use monitor controls; add zone reset to HVAC; install air handling controls for exhaust input
MO				
Fish Pesticide Research Laboratory	Laboratory	8,137	51,600	Install well water pre-cooling system; modify pumps for automatic start; eliminate standby pumps from continuous operation; install outside air measuring controls (temperature & humidity); add zone reset to HVAC; install air handling controls for exhaust input

*HVAC = heating, ventilating, air conditioning system

Exhibit 13 (cont.)

STATE/STATION	BUILDING	GROSS SQ FEET	COST TO RETROFIT	TYPE OF RETROFITTING
WI				
National Fishery Research Laboratory	Laboratory	83,871	$146,900	Install air handling control for exhaust input; change lighting; reduce window area; install well water pre-cooling system; and install solar domestic hot water heater
	SUB TOTAL	222,030	$520,200	
	TOTAL	936,655	$ 4,397,700	

Benefits:

- Reduce the Service's FY 1979 energy consumption rate by 28 percent.
- Reduce life-cycle costs of retrofitted buildings to a minimum level, thereby improving operational efficiency of Service facilities.
- Establish capability to move toward attainment of energy conservation goals as established by P.L. 95-619.

Exhibit 13 (cont.)

DAM SAFETY

Authorization: Presidential Memorandum of October 4, 1979 directing all Federal agencies to adopt and implement the Federal Guidelines for Dam Safety (dated June 25, 1979) as prepared by the Adhoc Interagency Committee on Dam Safety of the Federal Coordinating Council for Science, Engineering, and Technology.

Secretary of the Interior Order No. 3048 to implement and assign responsibility for a Departmentwide dam safety program in accordance with the President's Memorandum of October 4, 1979.

Proposal: Implementation of a dam inspection program.

Justification: The Fish and Wildlife Service has over 250 dams associated with wildlife refuges, fish hatcheries, and research laboratories. In the event of failure, some of the dams have the potential for hazards to human life, significant damage to downstream areas, and loss of valuable fish and wildlife habitat. Many of the dams have received only cursory inspection since they were initially constructed. A systematic inspection of all dams is a necessary first phase of a comprehensive dam safety program.

Description:

Implement inspection program for approximately 200 dams $1,700,000

Cost estimates are based on average inspection cost per dam of $8,500 based on information provided by the Water Power and Resources Service. Costs include salaries, travel, per diem, contracts for special studies, and report preparation. Completion of the inspection program is scheduled for September 1983. Engineering design for necessary repairs will require additional funding in FY 1983.

Funding for necessary repair and rehabilitation will be requested in future fiscal years, based upon the findings and results of the inspection program.

Benefits:

The inspection of the dams will allow the Service to identify potential problem areas and to request funds to make repairs where appropriate. The inspection program will serve to prevent injury or loss of life, damage to public and private property, and the loss or degradation of fish and wildlife habitat because of dam failure or malfunction.

74-939 O—80——68

Exhibit 8 (Cont.)

Justification of Program and Performance

Activity: Anadromous Fish Grants-in-Aid

(Dollar amounts in thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Grants to States	$	2504	2504	2325	-179
	(FTP)	(0)	(0)	(0)	(0)
Grant Administration	$	196	196	175	-21
	(FTP)	(7)	(7)	(7)	(0)
Striped Bass Study	$	720	720	900	+180
	(FTP)	(0)	(0)	(0)	(0)
Administration - Striped Bass Study	$	80	80	100	+20
	(FTP)	(0)	(0)	(0)	(0)
(Common Program Services)	$	(52)	(52)	(53)	(0)
Total Requirements	$	3500	3500	3500	0
	(FTP)	(7)	(7)	(7)	(0)

GRANTS TO STATES AND GRANT ADMINISTRATION

Authorization: 16 U.S.C 757a-757f, Anadromous Fish Conservation Act - Authorizes the Secretary of the Interior to enter into cooperative agreements with the States and other non-Federal interests for conservation, development, and enhancement of the Nation's anadromous fish resources, including fish in the Great Lakes and Lake Champlain that ascend streams to spawn. The Act is administered jointly with the National Marine Fisheries Service. The total authorizations for both agencies to carry out the purposes of this Act in FY 1982 are not to exceed $14,750,000.

Objective: To restore, conserve and enhance anadromous fishery resources of the Nation, and the fish of the Great Lakes and Lake Champlain that ascend streams to spawn.

Base Program: The Anadromous Fish Conservation Program provides financial grants to the States and other non-Federal entities for projects that fulfill the purpose of the Act. Grantees receive up to 50 percent Federal funding for individual State projects and up to 66 2/3 percent for multi-State projects involving interstate waters and for striped bass studies under Section 7 of the Act. Project funds can be used for construction, research, production, facility operation and maintenance, coordination, and fish planning, except that projects under Section 7 must be for research only. The principal species of anadromous fish included in

this program are coho and chinook salmon, steelhead trout, Atlantic salmon, striped bass, river herring, and American shad. In 1978, Congress amended the Anadromous Fish Conservation Act to include Lake Champlain.

Administrative funds are used at the Washington and regional levels of the Fish and Wildlife Service to implement the purposes of the Act. Washington level program functions include national planning, coordination, budget priorities, policy, and legislation. Regional level functions include technical project review and approval (major responsibility), budget execution, and coordination of projects.

The Anadromous Fish Program plays an important role in the overall management of Great Lakes fish resources by the State management agencies. Significant activities and accomplishments in FY 1980 include:

- The fishing activity generated by anadromous fish management in the upper Great Lakes in 1980 is estimated to be 6.7 million angler days with a catch of 4.8 million anadromous fish. The economic value of this recreational salmonid sport fishery is $115 million based on the expenditure per-participant-day rate of $17.16 for salmonid fishing that appears in the 1975 "National Survey of Hunting and Fishing Activities."

- Over 7.6 million anadromous fish (salmon and trout) totaling over 345,000 pounds in weight were stocked during this year.

- Illinois stocked 22,000 chinook salmon and 24,000 coho salmon in Lake Michigan that were imprinted to the chemical morpholene. The purpose of this imprinting is to develop a return run of adult salmon to the Camp Logan Egg Taking Station and Imprinting Pond now under construction. This return run of adult salmon would provide a source of eggs for the Illinois salmon stocking program. The Department of Conservation has a goal to expand quality fishing in the Chicago metropolitan area. Sixty percent (7 million) of the state's population reside in this area and there is a shortage of fishing opportunities.

- Indiana and Michigan signed an interstate cooperative agreement to expand management of the St. Joseph River anadromous fishery into the Indiana portion of the watershed. Proposed developments include fish passage facilities at four dams and a trout and salmon hatchery in Indiana. Public meetings were held in May 1980 to obtain public comment on the proposal. A fishery management plan and environmental impact statement will be prepared in 1981.

- Excellent progress occurred on the Grand River (Michigan) fish passage program. Construction was completed on one fish ladder, advertisement for construction bids was completed for two fish ladders, and final design is underway on the two remaining fish ladders.

- Studies on tributary streams to the north shore of Lake Superior (Minnesota) have established the value of stream improvements for increasing natural production of steelhead. These findings have stimulated an easement acquisition program that will provide stream access for anglers and stream improvement crews. Additional improvement of spawning and nursery areas should further increase natural production and future steelhead runs in these north shore streams.

Exhibit 8 (Cont.)

- Anadromous creel censuses were compiled for calendar year 1979 and initiated for calendar year 1980 in Wisconsin waters of Lakes Michigan and Superior. This has been a long-term study providing annual evaluation of the sport fishery vital to on-going management activities.

Accomplishments relating to management of West Coast anadromous fish resources were as follows:

- Approximately $490,000 was obligated for seven projects in Washington's Boldt Decision Area to aid in implementation of the court decision. The most significant accomplishment was the successful implementation of a tribal catch record system. Also, 1.4 million steelhead smolts weighing 230,000 lbs. were reared in 10 Washington rearing ponds and released in the Boldt Area.

- Research projects completed included an America shad life history study in California, a study of stream flow requirements in Oregon, and an evaluation of the contribution of pen reared coho salmon in Washington. Some continuing research projects in thes three states include development of artificial propagation techniques for anadromous sturgeon, evaluation of hatchery salmonids, coastal coho production factors, fish disease diagnosis and prevention, and salmonid nutritional studies. Two particular highlights of 1980 research were successful cultivation of white and green sturgeon at the University of California - Davis, and successful testing of components of an acoustical/Dopler-effect fish counter at the University of Washington Applied Physics Laboratory.

- Construction projects completed in 1980 included two tribal hatching facilities and two rearing ponds in Washington, and a fish counting weir in Oregon. Construction of a major sockeye salmon production facility on the Cedal River was initiated in Washington.

In the Northeast, projects funded under the Anadromous Grant Program play an important role in the State-Federal cooperative effort to restore Atlantic Salmon and other anadromous fish runs. Significant accomplishments of 1980 include:

- Strategic plans have been completed for restoration efforts on the Merrimack and Connecticut River basins.

- A total of 163 returning Atlantic Salmon spawning adults have been recaptured on the Connecticut River in 1980. To date, 79 are surviving and being held as brood fish to initiate a strain of fish specifically for the Connecticut River.

- A good shad fishery has been developed at the base of the Lawrence dam on the Merrimack River as a result of restocking efforts. Fish passage and trapping facilities are being build by the owner of the Lawrence dam. This will provide opportunity to restore the run further upstream.

- A study was undertaken regarding the feasibility of restoring the American shad runs on the Raritan River in New Jersey. This included a survey of barriers to fish migration. The first upstream barrier (Fieldsville dam) has been scheduled for removal.

Exhibit 8 (Cont.)

Output/Workload Factors

(Outputs are shown in Table 1)

Changes for FY 1982

(Dollars in thousands)

		FY 1982 Base	FY 1982 Estimate	Change (+) (-)
Grants to States	$	2504	2325	-179
Grant Administration	$	196	175	-21
	(FTP)	(7)	(7)	(0)
Total Requirements	$	2700	2500	-200
	(FTP)	(7)	(7)	(0)

In FY 1982, it is proposed to reduce Grants to States and Grant Administration by a total of $200,000 in order to redirect these funds to the Special Striped Bass Study. This will increase the funding for this study to $1 Million, the amount authorized for FY 1982 in the Chaffee Amendment to the Anadromous Fish Act. Under this proposed reduction, 43 projects will be funded and 25 states will participate in the program in Fiscal Year 1982.

Funding for projects in FY 1982 will be directed toward the following general priorities:

- on-going broad area resource planning
- on-going construction
- restoration of critical species such as northwest salmon, Atlantic salmon, and Atlantic coast shad.

As much as possible, projects involving continuing O&M of facilities constructed under the program will be discouraged, on the premise that these facilities are best operated and funded by the States to meet State management objectives. Proposed individual project funding is shown in Table II.

Although this reduction in funding will result in a minor reduction in ouput from the program, there will be a delay of several years before it would actually be expressed in terms of fish harvest. In the meantime, the States will probably assume funding for at least a portion of the eliminated activities. Therefore, actual reduction in benefits, in terms of effect on the resource, should be minor.

Object Classification Description

The object class detail for the $200,000 decrease is as follows:

Travel and Transportation of Persons	-$10,000
Supplies and Materials	-$11,000
Grants	-$179,000
Total	-$200,000

Exhibit 8 (Cont.)

SPECIAL STRIPED BASS STUDY

Authorization: 16 U.S.c. 757a-757b, Anadromous Fish Conservation Act. In November of 1979 Congress extended the Act for three years and included, by amendment, a three-year Emergency Striped Bass Study to start in FY 1980. This study is to be conducted jointly by the National Marine Fisheries Service (NMFS) and the Fish and Wildlife Service (FWS). Funding authorized was $1,000,000 in FY 1980; $1,750,000 in FY 1981; and $2,000,000 in FY 1982. Grants, contracts, or in-house expertise at Service research laboratories can be utilized to conduct the study.

Objective: To conduct an emergency striped bass study to determine the cause of the decline of striped bass populations of the East Coast.

Base Program: Striped bass on the East Coast have historically been subject to population fluctuations. However, in recent years, the populations have declined to all-time lows. Consequently, in 1980 Congress authorized this broad three year study to attempt to determine the causes of the population decline, analyze the economic impacts of the striped bass fishery, and provide information to the managing resource agencies for use in development of management plans.

Following authorization, the FWS and the NMFS cooperatively developed an "Action Plan" for a systematic approach to investigating the problem of declining striped bass populations. In accordance with the intent of Congress, the Action Plan provided for the establishment of a Striped Bass Study Planning and Coordinating Committee to provide overall guidance and coordination for the study, a Citizens Advisory Committee to provide direct public input (from both sport and commercial fishing interests) into the study, and a Management Team composed of a project manager and two senior scientists to organize the research program. Administrative funding associated with the study is provided to pay salaries and operating expenses of the Management Team. Establishment of these bodies was completed in FY 1980, and a comprehensive research effort was initiated.

Three separate but closely related projects were initiated by the Service during the 1980 striped bass spawning season. Under the first project, the Service and State biologists collected adult fish from a number of Atlantic coast streams in April and May of 1980. The Columbia National Fisheries Research Laboratory is analyzing the flesh for the kind and amount of contaminants which are present. A comparison of contaminants between areas may help elucidate what effects such chemicals have on survival, growth and reproductive success of striped bass. Initial findings have shown that traces of arsenic, PCB's, and other chemicals are present in fry and fingerlings collected for analysis. Further sampling and testing is needed to determine possible relationships between the presence of toxic chemicals and population changes.

The second project was a joint FWS/NMFS cooperative study to determine the effects of environmental contaminants on the physiology, survival and growth of striped bass eggs, larvae, and post-larvae. The work is being done at NMFS's Northeast Fisheries Center Narragansett Laboratory with cooperation from the Columbia Laboratory.

The third project is an economic study to determine the economic importance of both the sport and commercial striped bass fisheries. An analysis of the willingness of fishermen to pay for the resource will be made. Also to be analyzed are the economic impacts resulting from the extreme fluctuations in striped bass populations.

Changes for FY 1982

(Dollars in thousands)

		FY 1982 Base	FY 1982 Estimate	Change (+) (-)
Striped Bass Study	$	720	900	+180
Study Administration	$	80	100	+20
	(FTP)	(0)	(0)	(0)
Total Requirements	$	800	1,000	+200
	(FTP)	(0)	(0)	(0)

The Service proposes a $200,000 increase in FY 1982 for the Emergency Striped Bass Study. This increase will bring the Fish and Wildlife Service's share of study funding to the level authorized by Congress.

This increase in funding will permit the Service to enlarge the range of the environmental contaminant studies to include more comprehensive laboratory studies on egg, larvae and juvenile stages of striped bass. Collection and analysis of sediment samples and adult and juvenile fish will continue.

In addition, economic studies already in progress to collect, compile, and analyze data on both commercial and sport fishery values of striped bass will be expanded to more thoroughly deliniate the economic impacts resulting from the extreme fluctuations in the striped bass populations and fishery.

Object Classification Description

The object class detail for the $200,000 increase is as follows:

Personnel Compensation	$10,000
Travel and Transportation of Persons	5,000
Supplies and Materials	5,000
Grants	180,000
	$200,000

Exhibit 8 (cont.)

Table 1
Anadromous Fish Conservation Projects
Cost and Benefits
FY 1967 thru FY 1982
(dollars in thousands)

	Federal Cost	Estimated Angler-days (thousands)	Estimate of Value of Sportfish Benefits 1/	Estimate of Value of Commercial Fishery Benefits
1967	$ 1,175	0	0	0
1968	2,435	500	3,000	0
1969	2,294	1,300	7,800	0
1970	2,311	3,000	18,000	0
1971	2,321	3,800	22,800	0
1972	2,332	4,750	28,500	3,000
1973	2,333	5,500	33,000	3,000
1974	1,833	5,500	33,000	3,500
1975	2,633	7,500	67,500	3,500
1976	4,388	7,500	67,500	3,500
1977	3,513	7,500	67,500	4,000
1978	3,513	7,500	67,500	4,000
1979	3,611	8,000	72,000	5,000
1980	4,712 2/	8,000	72,000	5,000
1981	3,500	8,000	72,000	5,000
1982	3,500	8,000	72,000	5,000
TOTAL	$46,404	86,350	$704,100	$44,500

1/ A value of $6 per day was used as established in Senate Document 97, Supplement Number 1, through 1974. From 1975 forward a value of $9 per day was established by the Water Resources Council (see Federal Register, September 10, 1973, p. 2024)

2/ As per the intent of the appropriation, $500,000 transferred to National Marine Fisheries Service for Emergency Striped Bass Study.

Exhibit 8 (cont.)

Table 2
Funding of Anadromous Fish Conservation
Projects

State	Funded FY 1981	Projects	FY 1982 Request
Alabama	23,500	Striped Bass Production and Stocking Experiments	23,500
	23,500		23,500
Alaska	59,000	Southeast King Salmon Investigations.	73,900
	44,400	Southeast Alaska Steelhead and Sea Run Cutthroat Trout Investigations.	44,400
	64,000	Mendenhall Salmon Rearing Ponds.	0
	24,400	Russian River Red Salmon Study.	24,400
	191,800		142,700
California	60,000	Mad River Hatchery Operations & Maintenance.	60,000
	88,000	Trinity and Klamath Rivers Anadromous Fish Study.	88,000
	148,000		148,000
Connecticut	22,300	Connecticut River Basin Program.	32,000
	22,300		32,000
Delaware	14,000	Brandywine River Program.	2,400
	14,000		2,400
Georgia	20,000	Winter Movements of Striped Bass in Savannah River.	20,000
	20,000		20,000
Illinois	25,000	Lake Michigan Anadromous Fish Management and Creel Census.	25,000
	25,000		25,000
Indiana	200,000	St. Joseph River Salmon Enhancement and Hatchery Construction.	200,000
	200,000		200,000
Louisiana	20,000	Striped Bass Production.	20.000
	20,000		20,000
Maine	30,000	Development of Shad and Smelt Fishery Resource.	30,000
	40,000	Statewide Atlantic Salmon Restoration and Management Plan.	52,000
	70,000		82,000

Exhibit 8 (cont.)

State	Funded FY 1981	Projects	FY 1982 Request
Massachusetts	52,000	Connecticut River Basin Anadromous Fishery Studies.	58,000
	6,000	Merrimack River Basin Restoration Program.	9,000
	58,000		67,000
Michigan	100,000	Grand Rapids Fish Ladder Improvement.	86,000
	50,000	St. Joseph River Fish Ladder at Niles.	50,000
	150,000		136,000
Minnesota	35,000	Improvement of Sportfishing for Anadromous Species.	35,000
	35,000		35,000
Mississippi	20,000	Striped Bass Rearing & Stocking Program.	20,000
	20,000		20,000
New Hampshire	8,300	Conn. River Basin Anadromous Fish Studies.	8,300
	18,000	Merrimack River Basin Restoration Program.	38,000
	26,300		46,300
New Jersey	8,300	Raritan River Shad Study.	13,800
	8,300		13,800
New York	10,000	Fish and Wildlife Management Coordination.	0
	319,900	Anadromous Trout and Salmon Hatchery Development.	160,000
	329,900		160,000
North Carolina	34,000	Cooperative Management of Striped Bass.	34,000
	40,000	Anadromous Fisheries Management Program.	40,000
	74,000		74,000
Ohio	35,000	Put-In-Bay Hatchery Improvements - Phase II.	35,000
	35,000		35,000
Oregon	28,000	Fish Disease Investigations and Treatment.	47,000
	20,000	Evaluation of Hatchery Salmonids.	20,000
	130,000	Genetic Studies and Stock Assessment.	130,000
	178,000		197,000
Pennsylvania	81,600	Lake Erie Salmon Programs.	85,000
	25,000	Susquehanna River Anadromous Fish Research.	0
	106,600		85,000

Exhibit 8 (cont.)

State	Funded FY 1981	Projects	FY 1982 Request
South Carolina	41,000	Detailed Studies of the Santee and Cooper Rivers.	41,000
	56,000	Enhancement of Striped Bass Populations of the Santee River.	56,000
	35,000	Atlantic Sturgeon Research and Management.	35,000
	132,000		132,000
Vermont	8,300	Connecticut River Basin Studies.	8,300
	8,300		8,300
Washington	125,000	Operation and Maintenance of Anadromous Fish Ponds.	125,000
	73,000	Treaty Indian Catch Record System.	73,000
	50,000	Development of Fish Counter - Quinalt Tribe.	50,000
	25,000	Fisheries Enhancement - Hoh Indian Tribe.	25,000
	189,000	Cedar River Sockeye Salmon Spawning & Rearing Channel.	189,000
	462,000		462,000
Wisconsin	41,700	Assessment of Anadromous Sport Fish Harvest.	41,700
	8,000	Lake Superior Plan for South Shore Streams.	22,000
	71,300	Study of Anadromous Fish Movement.	71,300
	121,000		135,000
SUBTOTAL	$2,479,000	(All Projects)	$2,302,000
	25,000	(Common Program Services)	23,000
TOTAL	$2,504,000		$2,325,000

ANADROMOUS FISH PROGRAM SUMMARY

1981		1982
2,479,000	Payments to States	2,302,000
25,000	Common Program Services	23,000
177,000	Grant Administration	155,000
19,000	Common Program Services	20,000
713,000	Special Striped Bass Study	891,000
79,000	Administration - Striped Bass Study	99,000
8,000	Common Program Services	10,000
3,500,000	PROGRAM TOTAL	3,500,000

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
CONSTRUCTION AND ANADROMOUS FISH
Program and financing (in thousands of dollars)

Identification code 14-1612-0-1-303	1980 actual	1981 estimate	1982 estimate
Program by activities:			
1. Construction and rehabilitation			
a. Refuges	39,612	26,988	18,557
b. Hatcheries	9,115	6,748	2,248
c. Laboratories	3,759	4,260	4,100
d. Energy			6,127
2. Anadromous fish	4,130	3,900	3,500
Total program costs, funded 1/ ..	56,616	41,896	34,532
Change in selected resources (undelivered orders)	15,258	7,756	6,708
10.00 Total obligations	71,874	49,652	41,240
Financing:			
17.00 Recovery of prior obligations...	-344	-250	-250
21.00 Unobligated balance available, start of year	-42,054	-29,281	-17,776
24.00 Unobligated balance available, end of year	29,281	17,776	6,820
Budget authority;			
40.00 Appropriation	58,757	37,897	30,034
Relation of obligations to outlays:			
71.00 Obligations incurred, net	71,874	49,652	41,240
72.00 Obligated balance, start of year.	77,718	62,785	57,587
74.00 Obligated balance, end of year...	-62,785	-57,587	-73,077
78.00 Adjustments in unexpired accounts	-344	250	250
90.00 Outlays	86,463	55,100	26,000

1/ Includes capital investment as follows: 1908, $21,659; 1981, $7,869; and 1982, $5,283.

FWS-272

(Mono cast: 21.5) (Mono cast: 5) (Mono cast: 5) (Mono cast: 4.9)

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
CONSTRUCTION AND ANADROMOUS FISH

Object Classification (in thousands of dollars)

Identification code 14-1612-0-1-303		1980 actual	1981 estimate	1982 estimate
	Personnel compensation			
11.1	Permanent positions	3,592	3,187	3,187
11.3	Positions other than permanent	2,243	2,447	2,447
11.5	Other personnel compensation	220	240	240
11.9	Total personnel compensation	6,055	5,874	5,874
	Personnel benefits			
12.1	Civilian	552	646	646
21.0	Travel and transportation of persons	771	1,264	1,264
22.0	Transportation of things	45	113	113
23.2	Communications, utilities, and other rent	583	2,000	2,000
24.0	Printing and reproduction	181	215	215
25.0	Other services	19,146	14,569	13,187
26.0	Supplies and materials	3,970	4,000	2,452
31.0	Equipment	5,145	4,158	3,000
32.0	Lands and structures	16,844	5,596	3,481
41.0	Grants, subsidies, and contributions	3,256	3,461	2,300
42.0	Insurance claims and indemnities	68		
93.9	Total costs, funded	56,616	41,896	34,532
94.0	Change in selected resources	15,258	7,756	6,708
99.0	Total obligations	71,874	49,652	41,240

(Mono cost: 31.5)

FWS-273
(Mono cost: 1)

(Mono cost: 1)

(Mono cost: 4.9)

GPO : 1975 O - 442-207

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
CONSTRUCTION AND ANADROMOUS FISH

PERSONNEL SUMMARY

Identification code 14-161]-0-1-303	19 80 actual	19 81 estimate	19 82 estimate
Total number of full-time permanent positions	167	134	134
Total compensable work years:			
Full-time equivalent employment	301	275	275
Full-time equivalent of overtime and holiday hours	8	8	8
Average GS grade	9.42	10.17	10.17
Average GS salary	$21,955	$23,952	$23,952
Average salary of ungraded positions.	$16,723	$18,244	$18,244

(Mone cost: 21.3)

(Mone cost: 5)

(Mone cost: 5)

(Mone cost: 4.8)

GPO : 1971 O - 432-337

DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

MIGRATORY BIRD CONSERVATION ACCOUNT

[For an advance to the Migratory Bird Conservation Account, as authorized by the Act of October 4, 1971, as amended (16 U.S.C. 715k-3,5), $1,250,000, to remain available until expended.]

(Public Law 96-514 making appropriations for the Department of the Interior and Related Agencies, 1981).

Appropriation Summary Statement

Exhibit 5

Appropriation: Migratory Bird Conservation Account

The primary purpose of the land acquisition program funded from this account is to preserve the habitat needed to maintain international migratory bird resources that are protected by international treaty and Federal law.

The account is funded from two sources: (1) loans advanced from a $200 million loan fund authorized by the Wetlands Loan Act of October 4, 1961, (16 U.S.C. 715k-3-5), as amended; and (2) receipts derived from the sale of Federal migratory bird hunting and conservation stamps ($16.5 million for FY 1982). No loan is requested in FY 1982.

The Service estimates that it will acquire 10,700 acres of refuge lands and 10,700 acres of waterfowl production areas in FY 1982. The Service's policy is to acquire lands only when other means of achieving its goals and objectives are no longer available and/or effective. Furthermore, it is the Service's policy to acquire only the minimum interest in land necessary to achieve its goals or objectives. Based on the past several years performance, about 40 percent of the acreage acquired will be acquired in less than fee title.

Summary of Requirements
(Dollar amounts in thousands)

Appropriation: Migratory Bird Conservation Account

Page No.	Summary of adjustments to base and built-in changes:	Perm Pos	Amount
278	Appropriation enacted to date, 1981:		
	Receipts (permanent, indefinite authority)	119	16,500
	Advance appropriation (current authority)		1,250
	1982 base	119	17,750

Comparison by activities/ subactivities	1980 Actual Perm Pos	1980 Actual Amount	1981 Appropriation Enacted to Date Perm Pos	1981 Appropriation Enacted to Date Amount	1982 Base Perm Pos	1982 Base Amount	1982 Estimate Perm Pos	1982 Estimate Amount	Increase (+) Dec (-) Over 1982 Base
Printing and sale of hunting stamps		439		500		500		500	
Acquisition of refuges and other areas	149	30,301	119	17,250	128	17,250	119	16,000	-1,250
Total requirements	149	30,740	119	17,750	128	17,750	119	16,500	-1,250

FWS-277

Exhibit 6

74-989 O—80——69

EXHIBIT 8

Justification of Program and Performance

Activity: Migratory Bird Conservation Account

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted to Date	FY 1982 Estimate	Inc. (+) or Dec. (-)
Wetland Loan Fund Advance	($)	1,250	0	-1,250
	(FTP)	(0)	(0)	(0)
Duck Stamp Receipts	($)	16,500	16,500	(0)
	(FTP)	(119)	(119)	(0)
Common Program Services	($)	(927)	(907)	(-20)
Total Requirements	($)	17,750	16,500	-1,250
	(FTP)	(119)	(119)	(0)

Authorization: 16 U.S.C. 715, Migratory Bird Conservation Act, as amended; 16 U.S.C. 718, Migratory Bird Hunting and Conservation Stamp Act, as amended; 16 U.S.C. 715k-3-715k-5, Wetlands Loan Act, as amended.

The Migratory Bird Conservation Act, as amended, established the Migratory Bird Conservation Commission to approve areas recommended by the Secretary of the Interior for acquisition with Migratory Bird Conservation Account funds. The Commission consists of the Secretary of the Interior, as Chairman, The Secretaries of Transportation and Agriculture, two members of the Senate and two members of the House of Representatives, and a member ex officio from each State in which acquisition is being considered. Second, the Act authorizes the Secretary of the Interior to acquire migratory bird areas approved by the Commission. Third, the Act authorizes the Secretary of the Interior to cooperate with local authorities in wildlife conservation and to maintain and develop refuges.

The Migratory Bird Hunting and Conservation Stamp Act, as amended, commonly known as the "Duck Stamp Act", requires all waterfowl hunters 16 years of age or older to possess a valid Federal waterfowl hunting stamp. Funds from the sale of this stamp are placed in the Migratory Bird Conservation Account established by this Act. The Act also authorizes the Secretary of the Interior to acquire small wetland and pothole areas, "Waterfowl Protection Areas".

The Wetlands Loan Act, as amended, authorizes loans of up to $200 million to be appropriated through FY 1983 to accelerate acquisition of migratory waterfowl habitat. The advances are to be repaid without interest using 75 percent of annual "Duck Stamp" receipts upon appropriation of all funds authorized or beginning in FY 1984, whichever occurs first. Through FY 1981 Congress has appropriated $143.65 million under this authority. In addition, this Act requires that acquisitions of land with monies from the Migratory Bird Conservation Account be approved by the Governor of the State concerned or the appropriate State agency. Funds appropriated under the Wetlands Loan Act are merged with "Duck Stamp" receipts and made available to the Secretary of the Interior for acquisition of migratory bird habitat under provisions of the Migratory Bird Conservation Act or the Migratory Bird Hunting and Conservation Stamp Act.

Objectives: To prevent or offset at least 70 percent of the expected losses of important waterfowl breeding and wintering habitat through acquisition of 1,950,000 acres of such habitat, in fee title or easement, between FY 1977 and FY 1986.

Base Program: The Service acquires important breeding areas, migration resting places, and wintering areas under terms of the Migratory Bird Conservation Act or the Migratory Bird Hunting and Conservation Stamp Act. The Service places greatest emphasis on acquiring breeding and wintering habitat. The areas, acquired through fee or easement, become units of the National Wildlife Refuge System. Of the 268,719 acres the Service has acquired during the last four fiscal years (1977-1980) for migratory birds, 59 percent have been in fee title and 41 percent have been in easement.

The Service weighs a number of factors before seeking approval for acquisition. The factors include, the value of the habitat to the waterfowl resource, the degree of threat to these values, and the possibility of preserving the habitat values through means other than Service acquisition. It is the Service's policy to acquire land only when other means of preserving habitat, such as zoning and permits, are no longer available or effective. Furthermore, it is the Service's policy to acquire only the minimum interest in land needed to preserve the habitat.

The Service has subdivided its 10-year acquisition objective of 1,950,000 acres into 33 habitat priority categories. Table 1 shows the acquisition objective by category. Acreage targets and priorities are based primarily on: 1) the relative importance of the habitat to waterfowl, particularly those species such as black ducks whose populations are declining, or are otherwise seriously impacted by habitat deficiencies; 2) the amount of habitat available and unprotected; 3) near-term habitat threats; and 4) known loss rates. The Service estimates that about 400,000 acres of prime waterfowl habitat are being destroyed annually.

At the proposed funding level of $16,500,000 the Service will acquire about 21,400 acres of important migratory bird habitat in FY 1982. This will bring Service migratory bird land acquisition from FY 1977 through 1982 to 318,605 acres or about 16 percent of the FY 1977-86 migratory bird land acquisition goal. Table 1 shows by category the acres acquired through FY 1981, the acres to be acquired in FY 1982, and the total estimated cost of the 10-year land acquisition goal at 1980 land prices.

The estimated cost of attaining the 10-year land acquisition objective has increased almost 50 percent since the objective was established because of escalating land prices.

	Accomplishments		
	FY 1980 Actual	FY 1981 Est.	FY 1982 Est.
Acres Preserved			
Refuges	52,349	11,600	10,700
Waterfowl Production Areas	30,082	15,650	10,700
Total	82,431	27,250	21,400

Decrease for 1982:	1981 Appropriation	1982 Estimate	Decrease
$	17,750	16,500	-1,250
(FTP)	119	119	0
Wetland Loan Fund Advance	1,250	0	-1,250
Duck Stamp Receipts	16,500	16,500	0

The decrease in funding from the repayable advance is part of the effort to limit Federal spending.

Object Classification Distribution

The object class detail for the $1.25 million decrease in Migratory Bird Conservation Account funds is as follows:

Item	$
Lands and structures	-$1,250,000
TOTAL	-$1,250,000

Table 1

Fish and Wildlife Service
MBCA Acquisition Goals
and Performance

Priority Categories	Geographic Location	Goal Acres FY 1977-86	Est. Cost 1980 Price $ Millions	Acquired Through FY 1981 Acres/% of Goal	1982 Acres	1982 $ Million
1,2	Prairie Pothole Breeding (ND, SD, MT)	825,000	$ 150.7	145,800/17.7	8,500	$ 3.9
3	Prairie Pothole Breeding (MN, IA)	150,000	64.8	18,400/12.3	2,200	2.8
4	Central Valley Wintering (CA)	60,000	21.2	12,750/21.2	4,200	2.5
5	Atlantic Coast Black Duck Wintering (NC to MA)	40,000	21.3	3,800/ 9.5	400	1.1
6	California Coastal Wintering (CA)	60,000	41.8	360/ 0.6	550	0.7
7	Mississippi Delta Wintering (AR, LA, MS, TN, Mo, KY)	200,000	27.5	45,400/22.7	2,200	2.3
8	Texas Coastal Wintering (TX)	100,000	22.3	57,000/57.0	2,200	2.1
9	Central Gulf Coast Wintering (LA mainly)	100,000	44.8	0/0	0	0

FWS-281

1091

Chart (cont.)

10	Great Basin Redhead Breeding (ID, NV, UT)	40,000	$ 20.5	3,000/7.5	300	$ 0.1
11	Mississippi Flyway General Breeding (WI, MI, IA)	100,000	43.9	4,500/4.5	100	0.3
12	Atlantic-Eastern Gulf Coastal Wintering (DE to FL)	50,000	27.1	45/trace	0	0
13	Central Flyway Breeding (CO, NB)	100,000	24.9	950/0.9	250	0.2
14	Washington Coastal Wintering	13,000	15.7	800/6.2	0	0
15	Oregon Coastal Wintering	5,000	4.8	0/0	0	0
Subtotal, (1-15)		1,843,000	$ 531.3	292,805/15.9	20,900	$16.0
16-33		104,000	69.2	4,400/ 4.2	500	0.5
TOTAL		1,947,000	$ 600.5	297,205/15.3	21,400	$16.5

FWS-282

Summary of Requirements by Object Class
(dollar amounts in thousands)

Appropriation: Migratory Bird Conservation Account	1982 Base Pos.	1982 Base Avg.No.	1982 Base Amount	1982 Estimate Pos.	1982 Estimate Avg.No.	1982 Estimate Amount	Inc.(+) Dec.(-) Pos.	Inc.(+) Dec.(-) Avg.No.	Inc.(+) Dec.(-) Amount
Object class									
11 Personnel compensation	119	113	3,387	119	113	3,361			-26
11.1 Permanent positions	60	48	814	60	48	814			
11.3 Positions other than permanent		4	98		4	98			
Total personnel compensation	179	165	4,299	179	165	4,273			-26
Other objects									
12.1 Personnel benefits			472			464			-8
12.0 Travel and transportation of persons			547			547			
22.0 Transportation of things			113			113			
23.2 Comm.,utilities, & other rent			200			200			
24.0 Printing and reproduction			150			150			
25.0 Other services			1,600			1,600			
26.0 Supplies and materials			300			300			
31.0 Equipment			400			400			
32.0 Lands and structures			10,839			8,453			-2,386
Total requirements			18,920			16,500			-2,420

The total of 119 base positions were lapsed based on a one-half percent end-of-year month average. There are no new positions requested for this account.

FWS-283

Exhibit 10

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
MIGRATORY BIRD CONSERVATION ACCOUNT
(PERMANENT, INDEFINITE, SPECIAL FUND)

Program and financing (in thousands of dollars)

Identification code 14-5137-0-2-303	19 80 actual	19 81 estimate	19 82 estimate
Program by activities:			
1. Printing and sale of hunting stamps.	439	500	500
2. Acquisition of refuges and other areas	30,666	18,420	16,000
Total program costs, funded 1/	31,105	18,920	16,500
Change in selected resources (undelivered orders)	-365		
10.00 Total obligations	30,740	18,920	16,500
Financing:			
21.00 Unobligated balance available, start of year	-4	-1,181	-11
24.40 Unobligated balance available, end of year	1,181	11	11
Budget authority	31,917	17,750	16,500
Budget authority:			
40.00 Current appropriation (general fund)	15,000	1,250	
60.00 Permanent appropriation (undefinite, special fund)	16,917	16,500	16,500
Relation of obligations to outlays:			
71.00 Obligations incurred, net	30,740	18,920	16,500
72.00 Obligated balance, start of year	4,550	5,299	8,219
74.00 Obligated balance, end of year.	-5,299	-8,219	-8,719
90.00 Outlays	29,991	16,000	16,000

1/ Includes capital investment as follows: 1980, $21,920; 1981, $10,839; and 1982, $8,453.

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
MIGRATORY BIRD CONSERVATION ACCOUNT
(PERMANENT, INDEFINITE, SPECIAL FUND)

Object Classification (in thousands of dollars)

Identification code 14-5137-0-2-303		1980 actual	19 81 estimate	19 82 estimate
	Personnel compensation			
11.1	Permanent positions	3,407	3,387	3,361
11.3	Positions other than permanent	684	814	814
11.5	Other personnel compensation	81	98	98
11.9	Total personnel compensation	4,172	4,299	4,273
	Personnel benefits			
12.1	Civilian	428	472	464
21.0	Travel and transportation of persons	426	547	547
22.0	Transportation of things	87	113	113
23.2	Communications, utilities, and other rent	137	200	200
24.0	Printing and reproduction	66	150	150
25.0	Other services	2,217	1,600	1,600
26.0	Supplies and materials	232	300	300
31.0	Equipment	139	400	400
32.0	Lands and structures	23,197	10,839	8,453
42.0	Insurance claims and indemnities	4		
93.9	Total costs, funded	31,105	18,920	16,500
94.0	Change in selected resources	-365		
99.9	Total obligations	30,740	18,920	16,500

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
MIGRATORY BIRD CONSERVATION ACCOUNT
(PERMANENT, INDEFINITE, SPECIAL FUND)

PERSONNEL SUMMARY

Identification code 14-5137-0-2-303	19 80 actual	19 81 estimate	19 82 estimate
Total number of permanent positions....	149	119	119
Total compensable work years:			
Full-time equivalent of other positions	197	165	165
Full-time equivalent of overtime and holiday hours	4	4	4
Average GS grade	9.42	10.17	10.17
Average GS salary	$21,955	$23,952	$23,952
Average salary of ungraded positions...	$16,723	$18,244	$18,244

Exhibit 5

Appropriation Summary Statement

Appropriation: Development and Operation of Recreation Facilities

Funds collected from recreation use fees at national wildlife refuges were used to cover expenses and provide funding for minor facilities and services required to qualify existing recreational areas for special recreation user fee collections.

The Congress abolished this appropriation in FY 1981 and transferred funding to the Resource Management appropriation.

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
DEVELOPMENT AND OPERATION OF RECREATION FACILITIES
Amounts available for appropriation (in thousands of dollars)

Identification code 14-5028-0-2-303	1980 actual	1981 estimate	1982 estimate
Unappropriated balance, start of period	88	7	7
Receipts: Land and Water Conservation Fund: recreation user fees	119		
Total available for approriation	207	7	7
Appropriation	200		
Unappropriated balance, end of period	7	7	7

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
DEVELOPMENT AND OPERATION OF RECREATION FACILITIES

Program and financing (in thousands of dollars)

Identification code 14-5028-0-7-303		19 80 actual	19 81 estimate	19 82 estimate
Program by activities:				
10.00	Development and operation of recreation facilities (costs, obligations)	144	115	
Financing:				
21.40	Unobligated balance available, start of year	-59	-115	
24.40	Unobligated balance available, end of year	115		
40.00	Budget authority (appropriation) (special fund)	200		
Relation of obligations to outlays:				
71.00	Obligations incurred, net	144	115	
72.00	Obligated balance, start of year	53	29	
74.00	Obligated balance, end of year	-29		
90.00	Outlays	168	144	

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
DEVELOPMENT AND OPERATION OF RECREATION FACILITIES

Object Classification (in thousands of dollars)

Identification code 14-5028-0-2-303		19 80 actual	19 81 estimate	19 82 estimate
	Permanent positions			
11.3	Positions other than permanent	35	38	
11.5	Other personnel compensation	38	42	
11.9	Total personnel compensation	73	80	
	Personnel benefits			
12.1	Civilian	12	9	
21.0	Travel and transportation of persons	4	4	
23.2	Communications, utilities, and other rent	1		
24.0	Printing and reproduction	1	1	
25.0	Other services	25	9	
26.0	Supplies and materials	25	9	
31.0	Equipment	3	3	
99.9	Total obligations	144	115	

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
DEVELOPMENT AND OPERATION OF RECREATION FACILITIES
PERSONNEL SUMMARY

Identification code 14-5028-0-2-303	19 80 actual	19 81 estimate	19 82 estimate
Total number of permanent positions....			
Total compensable work years:			
Full-time equivalent of other positions .....f.....	3	3	
Full-time equivalent of overtime and holiday hours	1	1	
Average GS grade	9.42	10.17	
Average GS salary	$21,955	$23,952	
Average salary of ungraded positions...	$16,723	$18,244	

Appropriation Summary Statement Exhibit 5

Appropriation: National Wildlife Refuge Fund

Under 16 U.S.C. 715s, as amended by PL 95-469 of October 17, 1978, the Service makes payments to counties in which Service lands are located based on their fair market value. Funding for these payments is derived from revenues through the sale of products from Service lands, less expenses for producing revenue and activities related to revenue sharing. If net revenues are insufficient to make full payments according to the formula contained in the Act, direct appropriations are authorized to make up the differential. However, in an attempt to control Federal expenditures, no direct appropriation is requested. Payments to counties will be $1,900,000 from prior year net refuge receipts.

Justification of Program and Performance

EXHIBIT 8

Activity: National Wildlife Refuge Fund

(Dollar amount in thousands)

		FY 1981	FY 1982 Estimate	Inc. (+) or Dec. (-)
Appropriation	$	8,500	0	-8,500
Receipts	$	3,700	4,100	+ 400
Total Budget Authority	$	12,200	4,100	-8,100
Prior year unobligated balance	$	3,159	1,900	-1,259
Total Available	$	15,359	6,000	-9,359
Less:				
Payments to Counties	$	9,876 1/	1,900	-7,976
Expenses for Sales	$	1,800	2,000	+ 200
	(FTP)	(20)	(20)	(0)
(Common Program Services)	$	(192)	(207)	(+15)
Total Requirements	$	11,676	3,900	-7,776
	(FTP)	(20)	(20)	(0)
Balance Forwarded		1,900 1/	2,100	+200

PAYMENTS TO COUNTIES

Authorization: 16 U.S.C. 715s as amended; Refuge Revenue Sharing Act, as amended, (Participation of Local Governments in Revenue from areas administered by the United States Fish and Wildlife Service).

Objectives: To share with the counties the economic return from Service lands to alleviate the tax loss because of the exempt status of the land holdings.

Base Program: Under 16 U.S.C. 715s, as amended by P.L. 95-469 of October 17, 1978, the Fish and Wildlife Service makes payments to counties in which Service lands are located. Formerly, these payments related only to the National Wildlife Refuge System lands. The 1978 amendment extended the coverage to all holdings under sole or primary administration of the Fish and Wildlife Service. Funding for these payments is derived from revenues through the sale of products from Service lands, less expenses for producing revenue and activities related to revenue sharing. If the net revenues are insufficient to make full payments according to the formula contained in the Act, direct appropriations are authorized to make up the difference.

The law classified Service lands as reserved lands (reserved from the public domain) or fee lands (acquired). Payments to counties on Service reserved lands are 25 percent of the net receipts from such lands in the county. In addition, the law provides for payments in lieu of taxes to be made to counties for lands held by certain other Federal land management agencies. Payments to counties on Service fee lands are based on the largest of the following: (1) 25 per cent of net receipts, (2) 3/4 of 1% of the fair market value, or (3) 75 cents per acre.

1/ Since actual payments were only $9,876,000 of the $11,659,000 available it is projected that the $1,783,000 of the FY 1981 direct appropriation will either lapse or be submitted for reprogramming to the expenses for sales function.

74-939 O—80——70

In accordance with P.L. 95-469, all fish hatcheries and laboratory sites (91 units) were appraised by September 30, 1979. All other lands are to be appraised by October 1983, and at no less than five year intervals thereafter. Formerly, lands were valued on an adjusted cost basis. During FY 1979 and FY 1980, 114 refuges were appraised. This will leave approximately 290 to be appraised by October 1983.

The net receipts at the end of any fiscal year are carried over and payments to the counties are made for that year early in the succeeding year with a combination of the net receipts and appropriated funds, if any.

	FY 1981	FY 1982	Decrease
Payments to Counties	$ 9,876	1,900	-7,976

Passage of the 1978 amendment extending the coverage of the Refuge Revenue sharing Act to all holdings of the Service sharply increased the amount of money needed for payments to counties. Further, the new appraisals directed by the amendment increased the amounts due as payments to the counties. In order to make full payments to the counties, annual appropriations supplementary to the net receipts will be necessary. The payments are calculated annually in accordance with the law, using the formula which is most beneficial to the counties.

There is a balance of $1.9 million in the fund and the receipts are estimated at $4.1 million in FY 1981. This contrasts to the counties calculated full entitlement of $13.4 million. Such payment would require an appropriation of $11.5 million. This has not been requested due to the current economic climate as an attempt to control inflation by reducing non-essential expenditures.

Object Classification Distribution

The object class detail for the $8,800,000 decrease is a follows:
Grants, subsidies and contributions -$7,976,000

EXPENSES FOR SALES

Authorization: 16 U.S.C. 715s Refuge Revenue Sharing Act, as amended, (Participation of Local Governments in Revenue from areas administered by the United States Fish and Wildlife Service).

Objectives: To administer revenue-producing field stations for optimum use of natural resources and for an economic return in the course of improving fish and wildlife habitat.

Base Program: The Revenue Sharing Act, as amended, provides for payment of expenses incurred in connection with revenue-producing activities before any other allocation of the funds is made. The expenses include a variety of costs such as salaries of foresters who cruise and mark timber for sale, maintenance of fences in support of grazing, costs associated with the sale of surplus animals and the expenses of selling salmonid eggs and carcasses. There are also costs associated with collecting the refuge share of furs and crops, conducting land appraisals, and administering the industrial complex at Crab Orchard National Wildlife Refuge, Illinois.

The following workload factor are indicated in the Expenses for Sales Program.

	1980	1981	1982
Land Appraisals (No.)	86	88	89
Timber Sales Administration (Acres)	43,200	45,600	44,300
Timber Stand Improvement (Man hours)	15,600	16,000	16,500
Haying and Grazing Administration (Man hours)	2,100	2,100	2,100

Increases for FY 1982		FY 1980	FY 1982	Increases
Expenses for Sales	$	1,800	2,000	+ 200
	(FTP)	(20)	(20)	(0)

An increase in expenses for sales is essential to cover an extended range of revenue producing activities such as haying, grazing, timber harvest, and administration of the Crab Orchard industrial complex. The increase will cover increased costs of existing expenses for sales programs as well as fund new refuges coming on line ($200,000).

Object Classification Distribution

The object class detail for the $200,000 increase for the subactivity is as follows:

Positions other than permanent (4)	$ 96,000
Travel and transportation of persons	12,000
Printing and reproduction	1,000
Other contractual services	38,000
Supplies and materials	33,000
Equipment	20,000
TOTAL	$200,000

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
NATIONAL WILDLIFE REFUGE FUND

Program and financing (in thousands of dollars)

Identification code 14-5091-0-2-852	1980 actual	1981 estimate	1982 estimate
Program by activities:			
1. Expenses for sales	1,339	1,800	2,000
2. Payments to counties	5,592	9,876 2/	1,900
Total program costs, funded 1/	6,931	12,200	3,900
Change in selected resources (Undelivered orders)	101		
10.00 Total obligations	7,032	12,200	3,900
Financing:			
21.40 Unobligated balance available, start of year	-3,617	-3,159	-1,900
24.40 Unobligated balance available, end of year	3,159	1,900 2/	2,100
Budget Authority	6,574	12,200	4,100
Budget authority:			
40.00 Appropriation (general fund) Current	1,950	8,500	
60.00 Appropriation (permanent)	4,624	3,700	4,100
Relation of obligations to outlays:			
71.00 Obligations incurred, net	7,032	12,200	3,900
72.40 Obligated balance, start of year	217	289	289
74.40 Obligated balance, end of year	-289	-289	-189
90.00 Outlays	6,960	12,200	4,000

1/ Includes capital investment as follows: 1980, $24; 1981, $41; and 1982, $14.

2/ Since actual payments were only $9,876,000 of $11,659,000 available, it is projected that $1,783,000 of the FY 1981 direct appropriation will lapse. The unobligated balance available, end of year, has been reduced accordingly.

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
NATIONAL WILDLIFE REFUGE FUND

Object Classification (in thousands of dollars)

Identification code 14-5091-0-2-852		19 80 actual	19 81 estimate	19 82 estimate
	Personnel compensation			
11.1	Permanent positions	717	782	853
11.3	Positions other than permanent	116	127	138
11.5	Other personnel compensation	9	10	12
11.9	Total personnel compensation	842	919	1,003
	Personnel benefits			
12.1	Civilian	88	101	109
21.0	Travel and transportation of persons	25	25	25
22.0	Transportation of things	7	12	12
23.2	Communications, utilities, and other rent	21	21	21
25.0	Other services	223	472	610
26.0	Supplies and materials	97	150	120
31.0	Equipment	34	100	100
32.0	Lands and structures	2		
41.0	Grants, subsidies, and contributions	5,592	9,876	1,900
93.9	Total costs, funded	6,931	12,200	3,900
94.0	Change in selected resources	101		
99.0	Total obligations	7,032	12,200	3,900

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
NATIONAL WILDLIFE REFUGE FUND

PERSONNEL SUMMARY

Identification code 14-5091-0-2-852	19 80 actual	19 81 estimate	19 82 estimate
Total number of full-time permanent positions	21	21	21
Total compensable work years:			
Full-time equivalent employment	42	29	29
Full-time equivalent of overtime and holiday hours	--	--	--
Average GS grade	9.42	10.17	10.17
Average GS salary	$21,955	$23,952	$23,952
Average salary of ungraded positions.	$16,723	$18,244	$18,244

Appropriation Summary Statement Exhibit 5

Appropriation: Permanents and Trusts

Assistant is given to States, Puerto Rico, Guam, the Virgin Islands, and American Samoa by the appropriation of funds equal to the revenue derived from the 10 percent excise tax on certain sport fishing tackle. States are reimbursed up to 75 percent of the cost of approved fish restoration and management projects, including research into fish culture, formulation of restocking plans and acquisition and improvement of fish habitat. Assistance is also given to the States, Puerto Rico, Guam, and the Virgin Islands by the appropriation of funds equal to the 11 percent excise tax on sporting arms and ammunition, the 10 percent excise tax on handguns, and the 11 percent on certain archery equipment. States are reimbursed up to 75 percent of the cost of approved wildlife restoration projects, including acquisition and development of land and water areas, for wildlife management research and approved hunter education programs. Increased collections are anticipated for FY 1982.

Receipts collected from the sale of products from national wildlife refuges established as overlay projects on Corps of Engineers land are used to cover expenses for producing these products and for managing wildlife habitat.

Contributed funds consist mainly of moneys appropriated to the State Department to support the sea lamprey research and control program administered by the Great Lakes Fishery Commission. Also, small amounts of donations are accepted from private organizations and individual citizens in furtherance of Service programs.

EXHIBIT 8 (cont.)

Justification of Program and Performance

Activity: Federal Aid
Subactivity: Fish Restoration

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Estimate	Inc. (+) or Dec. (-)
Payments to States	$	30,249	34,169	+3,920
	(FTP)	(0)	(0)	
Administration	$	3,391	2,740	- 651
	(FTP)	(20)	(20)	
Reverted Funds	$	(309)	(309)	
	(FTP)	(0)	(0)	(0)
Common Program Services	$	(502)	(658)	(+156)
Total Requirements	$	33,640	36,909	+3,269
	(FTP)	(20)	(20)	

Payments to States

Authorization: 16 U.S.C. 777-777k; Federal Aid in Fish Restoration Act of 1950, as amended, commonly called the Dingell-Johnson or D-J Act.

Objectives: To assist the States, Puerto Rico, Guam, the Virgin Islands, and American Samoa in carrying out projects to restore, enhance, and manage sport fishery resources.

Base Program: The Secretary of the Interior apportions funds to the States in accordance with a formula in the authorizing Act which distributes 40 percent of the funds based on the area of each State and 60 percent on the number of paid fishing license holders in each State. Puerto Rico receives 1 percent of total funds apportioned and Guam, the Virgin Islands and American Samoa each receives one-third of 1 percent. Since the beginning of this program in fiscal year 1952, over $300 million has been apportioned to the States and the territorial areas. The funds are derived from the 10 percent excise tax on certain fishing equipment. These tax receipts are appropriated to the Service, through automatic appropriation authority, for use in the fiscal year following collection. The following shows amounts collected and apportioned to the States during the period 1971-1980:

EXHIBIT 8 (cont.)

(Dollar Amounts in Thousands)

Fiscal Year	Excise Tax Collections	Amount Apportioned
1971	13,924	13,105
1972	14,303	13,435
1973	13,023	12,100
1974	15,539	14,630
1975	18,189	16,850
1976	21,894	20,200
1977*	26,635	24,850
1978	26,332	24,300
1979	28,470	27,100
1980	30,418	28,000
Total	$ 208,727	$ 194,570

*Includes Transition Quarter - Covers 15-month period

To utilize the funds apportioned, State fish and wildlife agencies select projects to be funded and submit them to the Service's regional offices for review and approval. To be approved, each project must address a need and be designed in a way to meet the stated need. If approved, the States carry out the work and are reimbursed for up to 75 percent of the approved project costs. Guam, Puerto Rico, the Virgin Islands, and American Samoa are not required to provide a matching share. Nearly 400 projects are funded each year.

Typical project activities include research on fishery problems, surveys and inventories of fish species, creation and improvement of waters suitable for fish, and providing access and facilities for the public. Since the beginning of the program through fiscal year 1979, 108,000 acres were acquired or developed under the program, and 267 fishing lakes comprising over 28,000 acres were created or restored.

The Service mission is to provide the leadership to conserve, protect, and enhance fish and wildlife and their habitats for the continuing benefit of the people. According to a study conducted by the Service, 53.9 million persons spent more than 1.3 billion days fishing in 1975. The management of fishery resources in the United States, and providing fishing opportunity is almost entirely a State responsibility. Therefore, the Service mission is accomplished in part through the financial support provided the States by the D-J program.

Increase for 1982	FY 1981	FY 1982 Estimate	Decrease
$	30,249	34,169	+3,920
(FTP)	(0)	(0)	

The increase in Payments to States results from anticipated increase in excise tax receipts. Exhibit 1 shows the most recent distribution of funds to the States.

EXHIBIT 8 (cont.)

Administration

Authorization: Same as Payments to States.

Objectives: To administer and execute the program as provided by the authorizing Act, and the regulations and policies established by the Service to assure that the program continues to accomplish its intended purpose.

To provide services to the States in the design and execution of their fisheries projects, and conduct studies which will assist them in meeting their needs for fisheries management.

Base Program: The D-J Act, and the regulations and policies issued under it, establishes conditions for State participation in the benefits of the Act. A principal condition is that projects carried out by the States must be "substantial in character and design." This requires working with the States at a professional level in project planning and design, and a review of projects submitted for approval. As projects progress, they are monitored through on-site inspections and/or review of reports to assure work is being conducted as planned and approved. Additional Federal laws and regulations such as the National Environmental Policy Act, the Endangered Species Act, and OMB Circulars A-95 and A-102, applicable to grant programs, must also be considered in the application and review process. These activities are conducted at the regional offices.

Overall program direction and support is provided at the headquarters level, including the development of policies for implementation of the Act and other Federal laws and regulations.

Because of similarities between the D-J program and the related Federal Aid in Wildlife Restoration Program, both are administered jointly under similar regulations and policies, and within the same organizational structure. This results in savings because of shared supervision, staff, and related support services.

Decrease for 1982	FY 1981	FY 1982 Estimate	Decrease
$	3,391	2,740	- 651
(FTP)	(20)	(20)	

(Dollar Amounts in Thousands)

	FY 1981	FY 1982	(+) or (-)
Program administrative costs	1,893	2,090	+ 197
National Survey of Hunting and Fishing	1,205	500	- 705
Rotenone registration	293	150	- 143
Total	3,391	2,740	- 651

Program administrative costs represent salary and related support costs for personnel at the regional offices and the Washington office. The increase for program administrative costs is related to increased costs for common program services (156), and anticipated costs for pay allowances and inflation (41). It is anticipated that overall costs will decrease because of a decrease in funding for the 1980 National Survey (-705) and the rotenone registration project (-143).

In fiscal year 1980, $2,000,000 ($500,000 from D-J and $1,500,000 from P-R) was set aside to begin data collection for the 1980 National Survey of Hunting and Fishing, conducted by the Fish and Wildlife Service. In 1981, $4,800,000 ($3,600,000 for P-R and $1,200,000 for D-J) will be set aside for payment to Bureau of Census for conducting the 1980 National Survey of Hunting and Fishing. It is anticipated that the survey will be completed and published in 1982. The fiscal year 1982 estimate of $1,500,000 ($1,000,000 for P-R and $500,000 for D-J) is for final payment to Bureau of Census and publication costs. The Survey summarizes use patterns of the American people in their pursuit of fish and wildlife-related outdoor recreation. The first such survey was conducted in 1955 and every fifth year since. The Survey results assist State and Federal planners in establishing management programs and priorities benefiting the resource and ultimately the recreationist.

In fiscal year 1980, $310,000 in D-J funds were set aside to support the test necessary for EPA registration of fishery uses of rotenone. Rotenone is a fish toxicant used by State fishery managers to remove undesirable fish species and allow reintroduction of desirable sport fish species. At present, there is not a feasible alternative chemical or other means available for rehabilitation of waters to improve sport fisheries. The tests that are scheduled for 1981 are expected to total $293,000. Additional tests will also be required in 1982, and are expected to total $150,000. Tests are expected to be completed in 1983, and require an estimated $120,000 for completion.

Reverted Funds

Authorization: Same.

Objectives: To carry out the research program of the Fish and Wildlife Service relating to fish of material value for sport or recreation.

Base Program: The D-J Act provides that funds apportioned to the States are available for obligation and expenditure during the year of apportionment and the succeeding fiscal year. After this period of availability the funds revert to the Service for fishery research purposes. Since the beginning of the D-J program, $3,523,827 has reverted to the Service. The following table shows actual reversions by year for the past 10 years:

Fiscal Year	Pittman-Robertson
1971	158,179
1972	120,418
1973	205,292
1974	298,208
1975	422,522
1976	90,058
1977	73,455

EXHIBIT 8 (cont.)

Fiscal Year	Pittman-Robertson
1978	158,720
1979	358,682
1980	309,037
Total	$2,194,571

The amount of reversions is not predictable, and varies, since they are based on the State's ability to obligate and expend funds in any one year.

These funds have been used primarily to support fishery research projects at the Service's research facilities to support the publication of "Sport Fishery Abstracts."

No change in Reverted Funds is anticipated for 1982.

EXHIBIT 1

Proposed
Final Apportionment for Federal Aid in Fish Restoration
Fiscal Year 1981

Alabama	$ 531,901
Alaska	1,547,500
Arizona	657,382
Arkansas	552,291
California	1,547,500
Colorado	732,480
Connecticut	309,500
Delaware	309,500
Florida	728,424
Georgia	608,647
Hawaii	309,500
Idaho	551,377
Illinois	665,627
Indiana	568,692
Iowa	481,627
Kansas	482,296
Kentucky	511,353
Louisiana	454,240
Maine	309,500
Maryland	309,500
Massachusetts	309,500
Michigan	1,115,499
Minnesota	1,204,436
Mississippi	424,201
Missouri	746,274
Montana	716,213
Nebraska	387,098
Nevada	485,616
New Hampshire	309,500
New Jersey	309,500
New Mexico	544,178
New York	696,803
North Carolina	477,326
North Dakota	337,672
Ohio	716,948
Oklahoma	608,893
Oregon	791,510
Pennsylvania	769,538
Rhode Island	309,500
South Carolina	364,033
South Dakota	346,028
Tennessee	560,659
Texas	1,547,500
Utah	564,346
Vermont	309,500
Virginia	435,542
Washington	822,441
West Virginia	309,500
Wisconsin	1,133,884
Wyoming	508,524
Guam	103,167
Puerto Rico	309,500
Virgin Islands	103,167
American Samoa	103,167
TOTAL	$30,950,000

FWS-305

EXHIBIT 8 (cont.)

Justification of Program and Performance

Activity: Federal Aid
Subactivity: Wildlife Restoration

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Estimate	Inc. (+) or Dec. (-)
Payments to States	$	82,136	101,699	+19,563
	(FTP)	(0)	(0)	
Administration	$	8,509	6,405	- 2,104
	(FTP)	(43)	(43)	
Reverted Funds	$	(658)	(658)	
	(FTP)	(0)	(0)	(0)
Common Program Services	$	(1,372)	(1,779)	(+407)
Total Requirements	$	90,645	108,104	+17,459
	(FTP)	(43)	(43)	

Payments to States

Authorization: 16 U.S.C. 669-669i; Federal Aid in Wildlife Restoration Act of 1937, as amended, commonly called the Pittman-Robertson or P-R Act.

Objectives: To assist the States, Puerto Rico, Guam, and the Virgin Islands, in carrying out projects to restore, enhance and manage wildlife resources, and for the conduct of State hunter education programs.

Base Program: The Secretary of the Interior apportions funds to the States in accordance with a formula in the authorizing Act which distributes 50 percent of the funds based on the area of each State and 50 percent on the number of paid hunting license holders in each State. Puerto Rico receives one-half of 1 percent and Guam and the Virgin Islands each receive one-sixth of 1 percent of the total funds apportioned. An additional amount is apportioned to the States for hunter education based on population. Since the beginning of this program in fiscal year 1939, over $1 billion has been apportioned to the States and the territorial areas. The funds are derived from the 11 percent excise tax on firearms, ammunition and archery equipment, and the 10 percent tax on pistols and revolvers. These tax receipts are appropriated to the Service, through automatic appropriation authority, for use in the fiscal year following collection. The following shows amounts collected and amounts apportioned to the States during the period 1971-1980:

EXHIBIT 8 (cont.)

(Dollar Amounts in Thousands)

Fiscal Year	Excise Tax Collections	Amount Apportioned
1971	$ 32,806	$ 30,800
1972	36,704	34,455
1973	43,334	41,045
1974	49,800	47,385
1975	56,855	53,470
1976	63,047	58,600
1977*	89,687	84,400
1978	67,789	62,900
1979	86,019	82,200
1980	93,974	89,000
Total	$ 620,015	$ 584,255

*Includes Transition Quarter - Covers 15-month period

To utilize the funds apportioned, State fish and wildlife agencies select projects to be funded and submit them to the Service's regional offices for review and approval. To be approved, each project must address a need and be designed in a way to meet the stated need. If approved, the States carry out the work and are reimbursed for up to 75 percent of the approved project costs. Guam, Puerto Rico, and the Virgin Islands are not required to provide a matching share. Over 600 projects are funded each year.

Typical project activities include research on wildlife problems, surveys and inventories of wildlife species, acquisition and improvement of wildlife habitat, and providing access and facilities for the public. Since the beginning of the program through fiscal year 1979, nearly 4 million acres of land were acquired under the program; nearly 4,000 wildlife management areas were acquired, developed or managed; and over 1,000,000 birds and mammals were stocked.

The Service mission is to provide the leadership to conserve, protect and enhance fish and wildlife and their habitats for the continuing benefit of the people. According to a study conducted by the Service, 20.6 million persons spent more than 478.6 million days hunting in 1975. The management of resident wildlife in the United States, and providing wildlife recreation opportunity, is almost entirely a State responsibility. Therefore, the Service mission is accomplished in part through the financial support provided the States by the P-R program.

Increase for FY 1982	FY 1981	FY 1982 Estimate	Increase
$	82,136	101,699	+19,563
(FTP)	(0)	(0)	

The increase in Payments to States results from anticipated increase in excise tax receipts. The increase is based on a projection using past years' actual receipts which produces a trend. Exhibit 1 shows the proposed distribution of funds to the States for fiscal year 1981.

EXHIBIT 8 (cont.)

Administration

Authorization: Same as Payments to States.

Objectives: To administer and execute the program as provided by the authorizing Act, and the regulations and policies established by the Service, to assure that the program continues to accomplish its intended purpose.

To provide services to the States in the design and execution of their wildlife projects, and conduct studies which will assist them in meeting their needs for wildlife management.

Base Program: The P-R Act, and the regulations and policies issued under it, establishes conditions for State participation in the benefits of the Act. A principal condition is that projects carried out by the States must be "substantial in character and design." This requires working with the States at a professional level in project planning and design, and a review of projects submitted for approval. As projects progress, they are monitored through on-site inspections and/or review of reports to assure work is being conducted as planned and approved. Additional Federal laws and regulations such as the National Environmental Policy Act, the Endangered Species Act, and OMB Circulars A-95 and A-102, applicable to grant programs, must also be considered in the application and review process. These activities are conducted at the regional offices.

Overall program direction and support is provided at the headquarters level, including the development of policies for implementation of the Act and other Federal laws and regulations.

Because of similarities between the P-R program and the related Federal Aid in Fish Restoration Program, both are administered jointly under similar regulations and policies, and within the same organizational structure. This results in savings because of shared supervision, staff, and related support services.

Decrease for FY 1982	FY 1981	FY 1982 Estimate	Decrease
$	8,509	6,405	- 2,104
(FTP)	(43)	(43)	

(Dollar Amounts in Thousands)

	FY 1981	FY 1982	(+) or (-)
Program administration	4,896	5,405	+ 509
National survey of hunting and fishing	3,613	1,000	-2,613
Total	8,509	6,405	-2,104

Refer to justification of the Federal Aid in Fish Restoration Program for discussion of the National Survey.

EXHIBIT 8 (cont.)

Program administrative costs represent salary and related support costs for personnel at the regional office and the Washington office. The increase for program administrative cost of $509 is related to increased common program services costs (407), and anticipated costs for pay allowances and inflation (102). It is anticipated that overall costs will decrease in 1982 because of a decrease in funds needed for the 1980 National Survey (-2,613).

Reverted Funds

Authorization: Same.

Objectives: To carry out the purposes of the Migratory Bird Conservation Act (16 U.S.C. 701-718h).

Base Program: The P-R Act provides that funds apportioned to the States are available for obligation and expenditure during the year of apportionment and the succeeding fiscal year. After this period of availability the funds revert to the Service for the above objective. Since the beginning of the P-R program, $10,694,674 has reverted to the Service. The following table shows actual reversions by year for the past 10 years:

Fiscal Year	Pittman-Robertson
1971	20,420
1972	42,603
1973	278,027
1974	121,670
1975	111,952
1976	98,949
1977	539,017
1978	1,724,675
1979	771,013
1980	657,593
Total	$4,365,919

The amount of reversions are not predictable, and vary, since they are based on the State's ability to obligate and expend funds in any one year.

These funds have been used primarily to support studies on migratory birds and to support operations at the Migratory Bird Management Laboratory.

No change in Reverted Funds is anticipated for 1982.

74-939 O—80——71

EXHIBIT 1

Proposed
Final Apportionment for Federal Aid in Wildlife Restoration
Fiscal Year 1981

	Wildlife Restoration	Hunter Safety	Total
Alabama	$ 1,236,884	$ 347,573	$ 1,584,457
Alaska	3,459,700	142,000	3,601,700
Arizona	1,628,528	178,872	1,807,400
Arkansas	1,260,032	194,092	1,454,124
California	2,775,657	426,000	3,201,657
Colorado	1,734,645	222,749	1,957,394
Connecticut	345,970	306,000	651,970
Delaware	345,970	142,000	487,970
Florida	1,167,318	426,000	1,593,318
Georgia	1,378,102	426,000	1,804,102
Hawaii	345,970	142,000	487,970
Idaho	1,383,577	142,000	1,525,577
Illinois	1,414,477	426,000	1,840,477
Indiana	1,188,636	426,000	1,614,636
Iowa	1,271,718	285,093	1,556,811
Kansas	1,358,238	226,968	1,585,206
Kentucky	1,070,210	324,881	1,395,091
Louisiana	1,248,097	367,656	1,615,753
Maine	820,542	142,000	962,542
Maryland	451,553	395,834	847,387
Massachusetts	345,970	426,000	771,970
Michigan	2,513,478	426,000	2,939,478
Minnesota	2,128,167	383,994	2,512,161
Mississippi	1,085,707	223,723	1,309,430
Missouri	1,668,021	426,000	2,094,021
Montana	2,021,588	142,000	2,163,588
Nebraska	1,169,330	149,739	1,319,069
Nevada	1,301,782	142,000	1,443,782
New Hampshire	345,970	142,000	487,970
New Jersey	424,127	426,000	850,127
New Mexico	1,587,888	142,000	1,729,888
New York	1,984,545	426,000	2,410,545
North Carolina	1,310,011	426,000	1,736,011
North Dakota	967,702	142,000	1,109,702
Ohio	1,566,953	426,000	1,992,953
Oklahoma	1,324,104	258,271	1,582,375
Oregon	1,845,190	211,055	2,056,245
Pennsylvania	2,997,489	426,000	3,423,489
Rhode Island	345,970	142,000	487,970
South Carolina	785,025	261,425	1,046,450
South Dakota	1,113,042	142,000	1,255,042
Tennessee	1,456,077	396,012	1,852,089
Texas	3,459,700	426,000	3,885,700
Utah	1,414,701	142,000	1,556,701
Vermont	345,970	142,000	487,970
Virginia	1,335,247	426,000	1,761,247
Washington	1,444,193	344,041	1,788,234
West Virginia	870,776	176,022	1,046,798
Wisconsin	2,091,304	426,000	2,517,304
Wyoming	1,481,533	142,000	1,623,533
Guam	115,323	-	115,323
Puerto Rico	345,970	-	345,970
Virgin Islands	115,323	-	115,323
Total	$69,194,000	$14,200,000	$83,394,000

FWS-310

EXHIBIT 8

Justification of Program and Performance

Appropriation: Permanent Appropriation

Activity: Proceeds From Sales, Water Resources Development Projects

(Dollar amounts in thousands)

		1981 Appropriation Enacted to Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Wildlife Refuges	($)	200	200	200	0
	(FTP)	(0)	(0)	(0)	0
Common Program Services	($)	(21)	(20)	(20)	(-1)
Total Requirements	($)	200	200	200	0
	(FTP)	(0)	(0)	(0)	0

Authorization: 16 U.S.C. 460d Public Parks and Recreational Facilities in Water Resource Development Projects. This covers receipts collected from the sale of products on lands in which the U.S. Army Corps of Engineers has primary jurisdiction. The receipts are used to cover expenses of producing these products and for managing the wildlife habitat in accordance with agreements between the Corps and the Service.

Objectives: To cut timber and harvest crops as necessary to serve wildlife management purposes; collect and deposit the proceeds; utilize the funds in the development, conservation, maintenance, and management of the lands.

Base Program: Several national wildlife refuges have been established as overlay projects on U.S. Army Corps of Engineers land and are administered in accordance with cooperative agreements. The agreements provide that timber and grain may be harvested and sold, and that the receipts be returned for development, conservation, maintenance and use of such lands. A special account was established for deposit of these receipts in accordance with Treasury regulations. The receipts are used to cover the expenses of forestry technicians administering timber harvest activities and for development and maintenance of wildlife habitat. Expenses may not exceed the amount of receipts deposited as proceeds from sales. The water resources development project overlay refuges on which timber and grain are being harvested are:

Eufaula refuge, Alabama
Felsenthal refuge, Arkansas
Mark Twain refuge, Illinois
Flint Hills refuge, Kansas
D'Arbonne refuge, Louisiana

Examples of some of the projects undertaken are: addition of soil amendments (lime and fertilizer), road construction and repairs, ditch and fence construction and repairs, equipment maintenance, and storage building construction and maintenance. Under the terms of the agreements with the Corps of Engineers,

the receipts collected on refuges must be spent within five ye- This provides for carryover balances from year to year. Where significant pment projects are proposed involving substantial sums, the accumulation of cs is important in this small program.

The following workload factors are indicated in the proceeds ales program.

	1980	19.	1982
Timber Sales Administration (Acres)	13,500	13,700	13,700
Cropland Operations (Acres)	14,200	14,200	14,200

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
MISCELLANEOUS PERMANENT APPROPRIATIONS

Program and financing (in thousands of dollars)

Identification code 14-9923-0-2-303	19 80 actual	19 81 estimate	19 82 estimate
Probram by activities:			
1. Federal aid in fish restoration and management	35,900	40,902	39,352
2. Federal aid in wildlife restoration	116,986	110,453	120,163
3. Proceeds from sales, water resources development projects	85	200	200
Total program costs, funded	152,971	151,555	159,715
Change in selected resources (undelivered orders)	-13,805	-13,805	-13,805
10.00 Total obligations	139,166	137,750	145,910
Financing:			
17.00 Recovery of prior year obligations	-13,334	-12,900	-12,900
21.00 Unobligated balance available, start of year	-45,692	-44,048	-43,683
24.00 Unobligated balance available, end of year	44,048	43,683	55,886
60.00 Budget authority (appropriation) (spermanent, indefinite, special fund)	124,188	124,485	145,213
Distribution of budget authority by account:			
Federal aid in fish restoration and management	30,326	33,640	36,909
Federal aid in wildlife restoration	93,696	90,645	108,104
Proceeds from sales, water resources development projects	166	200	200

FWS-313
(Mono cast: 5) (Mono cast: 5) (Mono cast: 4.9)

GPO 984-O-737-469

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
MISCELLANEOUS PERMANENT APPROPRIATIONS

Program and financing (in thousands of dollars)

Identification code 14-9923-0-2-999	1980 actual	1981 estimate	1982 estimate
Relation of obligations to outlays:			
71.00 Obligations incurred, net	139,166	137,750	145,910
72.00 Obligated balance, start of year	120,974	131,375	143,580
74.00 Obligated balance, end of year.	-131,375	-143,580	-149,590
78.00 Adjustments in unexpired accounts	-13,334	-12,900	-12,900
90.00 Outlays	115,431	112,645	127,000
Distribution of outlays by account:			
Federal aid in fish restoration and management	28,424	27,200	30,588
Federal aid in wildlife restoration ...	86,765	85,345	96,212
Proceeds from sales, water resources development projects	242	100	200

(Mono cost: 21.3)

FWS-314

(Mono cost: 4) (Mono cost: 5) (Mono cost: 4.3)

GPO 984-O-732-488

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
MISCELLANEOUS PERMANENT APPROPRIATIONS

Object Classification (in thousands of dollars)

Identification code 14-9923-0-2-999		1980 actual	1981 estimate	1982 estimate
	Personnel compensation			
11.1	Permanent positions	2,406	2,625	2,863
11.3	Positions other than permanent	395	431	470
11.5	Other personnel compensation	30	80	90
11.9	Total personnel compensation	2,831	3,136	3,423
	Personnel benefits			
12.1	Civilian	282	329	372
21.0	Travel and transportation of persons	306	345	345
22.0	Transportation of things	16	48	48
23.2	Communications, utilities, and other rent	28	50	50
24.0	Printing and reproduction	60	100	100
25.0	Other services	5,476	6,023	6,023
26.0	Supplies and materials	99	125	125
31.0	Equipment	55	100	100
32.0	Lands and structures	96	150	150
41.0	Grants, subsidies, and contributions	143,722	141,149	148,979
93.9	Total costs, funded	152,971	151,555	159,715
94.0	Change in selected resources	-13,805	-13,805	-13,805
99.9	Total obligations	139,166	137,750	145,910

MISCELLANEOUS PERMANENT APPROPRIATIONS

PERSONNEL SUMMARY

Identification code 14-9923-0-2-999	1980 actual	1981 estimate	1982 estimate
Total number of full-time permanent positions	67	67	67
Total compensable work years:			
Full-time equivalent employment	115	93	93
Full-time equivalent of overtime and holiday hours	1	3	3
Average GS grade	9.42	10.17	10.17
Average GS salary	$21,955	$23,952	$23,952
average salary of ungraded positions	$16,723	$18,244	$18,244

Exhibit 8 (Cont.)

Justification of Program and Performance

Activity: Contributed Funds
Subactivity: Great Lakes Sea Lamprey Control

(Dollar amounts in thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Sea Lamprey Control	$	3042	3042	3288	+246
	(FTP)	(61)	(61)	(61)	(0)
Other Contributed Funds	$	200	200	212	+12
	(FTP)	(0)	(0)	(0)	(0)
(Common Program Services)	$	(35)	(35)	(35)	(0)
Total Requirements	$	3242	3242	3500	+258
	(FTP)	(61)	(61)	(61)	(0)

Sea Lamprey Control

Authorization: 16 U.S.C., 931-939c, Great Lakes Fisheries Act of 1956 - authorizes means for compliance with the articles of the Convention in Great Lakes Fisheries between the United States of America and Canada (September 10, 1954), and provides for the establishment of the Great Lakes Fishery Commission and a cooperative program between the U.S. and Canada for restoration of the fish resources of the Great Lakes.

Objectives: To reduce sea lamprey populations in the Great Lakes to not more than 10 percent of the 1958-60 level in compliance with the purposes of the Great Lakes Fisheries Act of 1956.

Base Program: The Sea Lamprey Control Program is funded by the Department of State through the Great Lakes Fishery Commission. The Commission carries out its operational mandates through two agents; the Canadian Department of the Environment and the United States Fish and Wildlife Service.

The Fish and Wildlife Service carries out a program under contract with the Commission to control the sea lamprey in U.S. streams entering the Great Lakes. The Service also performs research on the physiology of the sea lamprey and the impact of the lamprey on fish populations of the Great Lakes.

The purpose of the Sea Lamprey Control Program is to reduce populations of the parasitic sea lamprey to levels permitting the establishment of high quality fisheries for salmonids and other valuable sport and commercial fishes. The program consists of surveys of Great Lakes tributary streams to assess sea lamprey spawning, periodic chemical treatment of streams to kill larval lampreys, and evaluation activities to measure adult lamprey

abundance. Since the inception of the chemical treatment program in 1958, the number of lampreys in Lakes Superior, Michigan and Huron have been reduced by 85-90 percent. It is probably impossible to eliminate the sea lamprey from the Great Lakes. Periodic retreatment every 3-4 years is required to assure that tributary streams, which serve as spawning and nursery areas for lampreys, are not reinfected by adults returning from the main lakes. It is impractical to consider reducing the populations in the lakes proper because these waters are too large for successful treatment.

Expenditure of requested funds will be approximately as follows ($000):

Survey activities	$ 723	(22%)
Treatment of streams	1,282	(39%)
Evaluation of treatments	559	(17%)
Research	395	(12%)
Administration and Management	329	(10%)
Total:	$3,288	(100%)

Since the establishment of a successful sea lamprey control program, significant populations of lake trout have been re-established in the Upper Great Lakes by artificial stocking. However, lake trout have not been restored to self-sustaining levels and annual stocking is required to maintain populations. A sport fishery valued in excess of $350 million has developed since re-establishment of the salmonid populations.

The United States contribution to the Great Lakes Fishery Commission budget is budgeted by the State Department. The Fiscal Year 1982 funding for sea lamprey control is dependent on State Department allocation of funds.

The following workload factors are projected:

	1980	1981	1982
Number streams surveyed	296	315	310
Number streams treated	34	48	48

Object Class Description

The object class detail for the $246,000 increase is as follows:

Personnel Compensation	$209,000
Supplies and Materials	35,000
Total	$246,000

Other Contributed funds

Authorization: 16 U.S.C. 661-666, Fish and Wildlife Coordination Act; 16 U.S.C. 742c-742i, Fish and Wildlife Act of 1956, as amended.

Funds contributed by State and private organizations for Service activities averaged about $200,000 in recent years for all the Service. These funds were contributed for many varied projects, such as aid in the purchase of specific tracts of land or support for specific research efforts. The various contributions range from as little as ten dollars to several thousand dollars. These contributed funds are generally one-time gifts for specific purposes. Estimate of 1982 contributions is based on past years.

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised,
300-101

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
CONTRIBUTED FUNDS

Program and financing (in thousands of dollars)

Identification code 14-8216-0-7-303	19 80 actual	19 81 estimate	19 82 estimate
Program by activities:			
1. Cooperative studies (program costs, funded)	251	200	212
2. Sea lamprey control	2,571	3,200	3,288
Total program costs, funded 1/	2,822	3,400	3,500
Change in selected resources (undelivered orders)	-687		
10.00 Total obligations	2,135	3,400	3,500
Financing:			
21.00 Unobligated balance available, start of year	-165	-391	-391
24.00 Unobligated balance available, end of year	391	391	391
60.00 Budget authority (appropriation)	2,361	3,400	3,500
Relation of obligations to outlays:			
71.00 Obligations incurred, net	2,822	3,400	3,500
72.00 Obligated balance, start of year	393	1,009	1,209
74.00 Obligated balance, end of year	-1,009	-1,209	-1,509
90.00 Outlays	2,206	3,200	3,200

1/ Includes capital outlays as follows: 1980, $126; 1981, $151; and 1982, $156.

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
CONTRIBUTED FUNDS

Object Classification (in thousands of dollars)

Identification code 14-8216-0-7-303		19 80 actual	19 81 estimate	19 82 estimate
	Personnel compensation			
11.1	Permanent positions	1,361	1,467	1,500
11.3	Positions other than permanent	358	370	400
11.5	Other personnel compensation	27	30	35
11.9	Total personnel compensation	1,746	1,867	1,935
	Personnel benefits			
12.1	Civilian	176	186	204
21.0	Travel and transportation of persons	207	207	207
22.0	Transportation of things	3	5	5
23.2	Communications, utilities, and other rent	88	95	95
24.0	Printing and reproduction	2	5	5
25.0	Other services	216	515	529
26.0	Supplies and materials	233	300	300
31.0	Equipment	149	220	220
42.0	Insurance claims and indemnities	2		
93.9	Total costs, funded	2,822	3,400	3,500
94.0	Change in selected resources	-687		
99.9	Total obligations	2,135	3,400	3,500

PERSONNEL SUMMARY

Identification code 14-3916-0-4-303	19 80 actual	19 81 estimate	19 82 estimate
Total number of permanent positions	63	63	63
Total compensable work years:			
Full-time equivalent of other positions	98	90	90
Full-time equivalent of overtime and holiday hours	1	1	1
Average GS grade	9.42	10.17	10.17
Average GS salary	$21,955	$23,952	$23,952

DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

ADMINISTRATIVE PROVISIONS

Appropriations and funds available to the United States Fish and Wildlife Service shall be available for purchase of not to exceed /160/ passenger motor vehicles, of which /137/ are for replacement only, including /71/ for police-type use; purchase of / one / aircraft for replacement only; not to exceed $100,000 for payment, at the discretion of the Secretary, for information, rewards, or evidence concerning violations of laws administered by the United States Fish and Wildlife Service; miscellaneous and emergency expenses of enforcement activities; authorized or approved by the Secretary and to be accounted for solely on his certificate, not to exceed $75,000; insurance on official motor vehicles, aircraft and boats operated by the United States Fish and Wildlife Service in Mexico and Canada; repair of damage to public roads within and adjacent to reservation areas caused by operations of the United States Fish and Wildlife Service; options for the purchase of land at not to exceed $1 for each option; facilities incident to such public recreational uses on conservation areas as are not inconsistent with their primary purpose, and the maintenance and improvement of aquaria, buildings and other facilities under the jurisdiction of the United States Fish and Wildlife Service and to which the United States has title, and which are utilized pursuant to law in connection with management and investigation of fish and wildlife resources.

143	
129	
53	
3	

DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

ADMINISTRATIVE PROVISIONS

Explanation of Language Changes

Passenger Motor Vehicles

The Fish and Wildlife Service 1982 estimates include a request for the purchase of 143 passenger motor vehicles, 129 of which are for replacement and 14 for addition, as follows:

	Replacement	Additions	Total Requested
Motor Vehicles			
Police-type automobiles	53	2	55
Standard-type automobiles	37	4	41
Total automobiles	90	6	96
Station wagons	39	8	47
Total	129	14	143

All of the vehicles to be replaced will meet the age and mileage replacement standards, or both. Many will have run over 100,000 miles in hard service. In estimating these requirements, careful consideration has been given to the effective use of the service of interagency motor pools where their location and equipment permit.

Of the 129 replacement vehicles, 53 police-type automobiles are needed in the management and enforcement activity for use principally by U.S. special agents to carry out effectively the responsibilities for enforcing fish and game laws enacted by the Congress. These special type vehicles are needed for rapid acceleration and safe handling at the sustained high speeds necessary to pursue violators of fish and game laws. In addition, these vehicles provide the heavy duty capability to travel in snow or ice, to pull out of mud, sand, and deep ruts and haul cargo and boat trailers. The average mileage for these vehicles is 30,000 miles per year, much of which is on unimproved roads and rough,hazardous terrain.

Public Law 91-423 provides that the Administrator of General Services Administration shall make determinations concerning equipment and systems which are customarily incorporated into a passenger motor vehicle completely equipped for ordinary operation. Also, the law provides that the price of such additional equipment and systems shall not be considered in determining whether the cost of the vehicle is within any maximum price otherwise established by law. This will permit the purchase of police-type vehicles in the number specified herein equipped with police-type and safety features that are important for effective enforcement work, as may be prescribed by regulations issued by the Administrator of General Services Administration.

The 37 replacement of standard-type vehicles and 39 station wagons are for various Service programs and will provide safe and economical transportation in areas not serviced by motor pools.

Of the 41 standard-type vehicles requested, 4 are additions to the fleet. The distribution of the 4 standard vehicles is as follows:

Chargeable Program	Location	Number of Vehicles
MB	Sheldon Hart NWR, Lakeview, OR	1
MNB	Kofa NWR, Yuma, AZ	1
I&R	Tinicum NEC, Philadelphia, PA	1
FR	Ashland, WI	1
Total		4

The 2 additions to the fleet of police-type automobiles are for law enforcement activities primarily related to the endangered species program. The vehicles will be located accordingly:

Chargeable Program	Location	Number of Vehicles
ES	Long Beach, CA	2

Of the 47 station wagons requested, 8 are additions to the fleet. The 8 additions will be located as follows:

Chargeable Program	Location	Number of Vehicles
LWRDP	Environmental Services, Guam	1
	Green Bay Field Office, WI	1
MB	Boise Area Office, Boise, ID	1
MNB	Sheldon Hart NWR, Lakeview, OR	1
	Rio Grande Valley NWR, Brownsville, TX	1
FR	Lahontan NFH, Gardnerville, NV	1
	Nat'l Fishery Ctr, Leetown, WV	2
Total		8

General Services Administration standards provide for replacement of passenger motor vehicles every six years or 60,000 miles. On an age basis, this permits an economical replacement of the entire fleet in six years. On a mileage basis, because of Service usage, economical replacement is every two to four years.

This request for purchase of 143 motor vehicles will permit maintenance of the Service fleet on economical and safe basis, in accordance with replacement standards established by the General Services Administration.

Aircraft

Fiscal year 1982 estimates include purchase authority for 3 replacement aircraft. The replacement craft are required as a result of maintenance and operating costs becoming excessive due to age and operating hours on the airframe of the present planes. The Cessna 180 replacement craft will be used in the migratory bird program to periodically census bird populations in Canada, the United States, and Mexico; to provide aerial photography for management and research needs to monitor and/or track radio marked wildlife; to monitor wildlife habitats for a variety of needs; to support large-scale waterfowl banding programs; and support other programs or projects requiring aircraft services.

The 2 Pipers PA-18 craft will be used in the animal damage control program to effectively and selectively resolve coyote depredation problems in many situations. The use of these craft is the only feasible damage control method available for use under winter range conditions since the 1973 Presidential ban on toxicants for predator control, and is a key method in attempting to meet the Secretary's commitment to keep predator damage to livestock industry at a tolerable level. These aircraft will also be used in other Service program objectives such as bird population surveys, monitoring eagle electricution problems, and the endangered squawfish program.

The requested Cessna 180 will be located in Jamestown, ND, and will replace a 1966 Cessna presently located in Portland, OR. The two Pipers PA-18 will replace two 1964 Piper PA-18's currently located in Salt Lake City, UT.

Fish and wildlife activities and operations are performed largely in areas where transportation facilities and roads are inadequate, making it necessary to rely on aircraft and boats.

All Service aircraft are piloted by U.S. special agents, biologists, refuge managers, and a few instances by pilot-mechanics. In the interest of health and safety, reliable equipment is necessary due to the nature of the work. Aircraft are not used to transport personnel as a primary function.

STANDARD FORM 306
July 1968, Bureau of the Budget
Circular No. A-11, Revised.
306-103

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
CONSOLIDATED SCHEDULE OF PERMANENT POSITIONS PAID FROM FUNDS AVAILABLE TO THE FISH AND WILDLIFE SERVICE

DETAIL OF PERMANENT POSITIONS

	1980 actual	1981 estimate	1982 estimate
Executive Level V	1	1	1
ES Level 5	6	6	6
ES Level 4	7	7	7
ES Level 3	6	6	6
ES Level 2	1	1	1
ES Level 1	1	1	1
Subtotal	22	22	22
GS-16	1	1	1
GS/GM-15	61	61	61
GS-GM-14	319	319	320
GS/GM 13	678	678	685
GS-12	960	960	981
GS-11	992	997	1,025
GS-10	2	2	2
GS-9	599	620	630
GS-8	54	54	54
GS-7	482	492	493
GS-6	280	280	280
GS-5	352	359	376
GS-4	74	75	75
GS-3	11	11	11
GS-2	2		
Subtotal	4,867	4,909	4,994
Ungraded	419	419	419
Total permanent positions	5,306	5,350	5,435
Unfilled positions, end of year	-300	-308	-308
Total permanent positions, end of year	5,006	5,042	5,127
	(Mono cast: 16.2)	(Mono cast: 4.9)	(Mono cast: 4.9) (Mono cast: 4)

FWS-326

	FY 1980 ACTUAL $(FTP)	FY 1981 ESTIMATE $(FTP)	FY 1982 ESTIMATE $(FTP)
ALABAMA			
FISH HATCHERIES			
CARBON HILL	96 (5)	79 (5)	79(5)
WILDLIFE REFUGES			
CHOCTAW	100 (3)	100 (3)	103(3)
EUFAULA	147 (5)	151 (5)	156(5)
BON SECOUR	( )	( )	112(1)
WHEELER	302 (7)	348 (7)	370(7)
LAW ENFORCEMENT OFFICE			
MONTGOMERY	91 (2)	101 (2)	101(2)
ECOLOGICAL SERVICES OFFICE			
DECATUR	61 (1)	35 (1)	( )
FISHERY RESEARCH			
S E FISH C LAB	409 (14)	396 (14)	531(14)
COOPERATIVE FISHERY UNIT			
AUBURN UNIV	80 (2)	79 (2)	79(2)
COOPERATIVE WILDLIFE UNIT			
AUBURN UNIV	99 (1)	52 (1)	52(1)
STATE TOTAL	1,385(40)	1,341(40)	1,583(40)
ALASKA			
FISHERY SERVICES			
FAIRBANKS	73 (1)	190 (3)	190(3)
ARCTIC	( )	( )	22(1)
BECHAROF	( )	100 (1)	100(2)
KENAI	108 (1)	170 (2)	170(2)
WILDLIFE REFUGES			
ARCTIC	394 (8)	374 (8)	946(11)
IZEMBEK	230 (5)	248 (5)	248(5)
KENAI	548 (11)	581 (11)	770(13)
KODIAK	258 (5)	358 (6)	527(7)
TOGIAK	( )	( )	201(2)
ALASKA MARITIME	395 (6)	365 (6)	1,187(11)
ALASKA PENINSULA	( )	( )	116(3)

74-939 O—80——72

	FY 1980 ACTUAL $(FTP)		FY 1981 ESTIMATE $(FTP)		FY 1982 ESTIMATE $(FTP)	
ALASKA						
WILDLIFE REFUGES						
BECHAROF		( )		( )	171(	2)
INNOKO		( )		( )	288(	2)
KANJTI		( )		( )	245(	2)
KOYJKUK		( )		( )	300(	3)
NOWITNA		( )		( )	214(	2)
SELAWIK		( )		( )	206(	3)
TETLIN		( )		( )	242(	2)
YUKON DELTA	440	(9)	611	(9)	1,911(	15)
YUKON FLATS		( )		( )	537(	4)
RESOURCE PLANNING(ANCSA)	1,045	(9)	1,241	(9)	1,241(	9)
LAW ENFORCEMENT OFFICE						
ANCHORAGE	216	(6)	267	(6)	268(	6)
ANCHORAGE DIST 1	194	(1)	219	(1)	337(	1)
FAIRBANKS	209	(2)	172	(2)	172(	2)
ECOLOGICAL SERVICES OFFICE						
LAND&WATER-SE ALASKA	482	(9)	481	(8)	481(	8)
LAND&WATER-SW ALASKA	241	(7)	328	(8)	328(	8)
LAND&WATER-N ALASKA	278	(4)	310	(5)	310(	5)
LAND&WATER-PIPELINE ALASKA	355	(8)	588	(6)	588(	6)
COOPERATIVE FISHERY UNIT						
UNIV OF ALASKA	81	(2)	97	(2)	97(	2)
COOPERATIVE WILDLIFE UNIT						
UNIV OF ALASKA	106	(2)	106	(2)	106(	2)
EAGLE MGMT STUDIES JUNEAU	192	(3)	218	(3)	218(	3)
WATERFOWL SURVEYS JUNEAU	184	(2)	210	(2)	299(	2)
STATE TOTAL	5,629(	101)	7,234(	105)	13,101(	149)
ARIZONA						
FISH HATCHERIES						
ALCHESAY NFH	339	(8)	366	(8)	416(	8)
WILLOW BEACH NFH	289	(5)	319	(5)	399(	5)
FISHERY SERVICES						
PARKER	35	(1)	45	(1)	45(	1)
PINETOP	104	(3)	114	(3)	114(	3)
WILDLIFE REFUGES						
IMPERIAL NWR	148	(4)	146	(4)	155(	4)
KOFA GAME RANGE	161	(3)	157	(3)	174(	3)
CABEZA PRIETA GAME RANGE	123	(2)	128	(2)	153(	2)

	FY 1980 ACTUAL $(FTP)	FY 1981 ESTIMATE $(FTP)	FY 1982 ESTIMATE $(FTP)
ARIZONA			
LAW ENFORCEMENT OFFICE PHOENIX	182 (4)	176 (4)	175(4)
ECOLOGICAL SERVICES OFFICE PHOENIX	65 (5)	77 (5)	77(5)
ANIMAL DAMAGE CONTROL PHOENIX	353 (5)	351 (5)	369(5)
COOPERATIVE FISHERY UNIT UNIV OF ARIZONA	82 (2)	79 (2)	79(2)
COOPERATIVE WILDLIFE UNIT UNIV OF ARIZONA	84 (2)	86 (2)	86(2)
STATE TOTAL	1,965(44)	2,044(44)	2,244(44)
ARKANSAS			
FISH HATCHERIES			
CORNING	101 (6)	120 (6)	120(5)
GREERS FERRY	200 (4)	185 (4)	185(4)
HEBER SPRINGS BIOLOGIST	41 (1)	43 (1)	43(1)
MAMMOTH SPRINGS	140 (3)	142 (3)	147(3)
NORFORK	336 (6)	402 (6)	407(5)
WILDLIFE REFUGES			
BIG LAKE	129 (3)	130 (3)	134(3)
FELSENTHAL	222 (4)	229 (4)	238(4)
HOLLA BEND	145 (4)	135 (4)	143(4)
WAPANOCCA	149 (5)	140 (5)	148(5)
WHITE RIVER NWR,	389 (11)	380 (11)	393(11)
OVERFLOW			112(2)
LAW ENFORCEMENT OFFICE LITTLE ROCK	97 (3)	121 (3)	121(3)
WILDLIFE ASSISTANCE STUTTGART	156 (1)	150 (1)	165(1)
ANIMAL DAMAGE CONTROL LITTLE ROCK	53 (1)	60 (1)	60(1)
FISHERY RESEARCH			
NATL RESERVOIR RES PROGRAM	957 (28)	862 (28)	862(28)
FISH FARM EXP LAB	368 (13)	421 (13)	556(13)
STATE TOTAL	3,483(93)	3,525 (93)	3.824(95)
CALIFORNIA			
FISH HATCHERIES			
COLEMAN NFH	522 (10)	554 (10)	554(10)

	FY 1980 ACTUAL $(FTP)	FY 1981 ESTIMATE $(FTP)	FY 1982 ESTIMATE $(FTP)
CALIFORNIA			
FISH HATCHERIES			
TEHAMA COLUSA FISH FACIL	312 (6)	296 (6)	295(6)
FISHERY SERVICES			
FISHERY ASSIST RED BLUFF	109 (7)	114 (6)	114(7)
WILDLIFE REFUGES			
HUMBOLDT BAY NWR	32 (1)	42 (1)	42(1)
KERN NWR	434 (8)	380 (8)	419(8)
SACRAMENTO NWR	708 (15)	794 (15)	859(15)
SALTON SEA	276 (5)	234 (5)	818(5)
SAN FRANCISCO BAY NWR	466 (7)	551 (7)	560(7)
SAN LUIS NWR	359 (7)	362 (7)	395(7)
KLAMATH BASIN NWR	649 (15)	678 (15)	738(15)
DISEASE BIOLOGIST	40 (1)	47 (1)	47(1)
MODOC NWR	153 (2)	153 (2)	153(2)
CIBOLA NWR	122 (2)	128 (2)	136(2)
HAVASU NWR	217 (6)	225 (7)	232(7)
LAW ENFORCEMENT OFFICE			
SACRAMENTO DIST 3	323 (3)	320 (3)	333(3)
SACRAMENTO	50 (3)	50 (3)	50(3)
SAN FRANCISCO	159 (4)	182 (5)	182(5)
LOS ANGELES	252 (5)	312 (6)	312(6)
ECOLOGICAL SERVICES OFFICE			
WATER POLICY CNTR SACTO	160 (6)	29 (6)	29(6)
SACRAMENTO	312 (20)	310 (20)	310(20)
LAGUNA NIGUEL	148 (10)	175 (10)	175(10)
ANIMAL DAMAGE CONTROL			
SACRAMENTO STATE OFFICE	962 (9)	823 (9)	871(9)
ENDANGERED SPECIES			
END SPEC SACRAMENTO	412 (3)	437 (3)	437(3)
COOPERATIVE FISHERY UNIT			
CALIFORNIA STATE	75 (2)	78 (2)	78(2)
STATE TOTAL	7,276 (157)	7,277 (159)	8,141 (160)
COLORADO			
FISH HATCHERIES			
HOTCHKISS	151 (4)	157 (4)	188(4)
LEADVILLE	143 (3)	154 (3)	205(3)
FISHERY SERVICES			
DENVER F ASSISTANCE	47 (1)	61 (1)	61(1)

	FY 1980 ACTUAL $(FTP)	FY 1981 ESTIMATE $(FTP)	FY 1982 ESTIMATE $(FTP)
COLORADO			
WILDLIFE REFUGES			
ALAMOSA	348 (9)	352 (9)	358(9)
ARAPAHOE	128 (4)	135 (4)	147(4)
BROWNS PARK	83 (2)	92 (2)	106(2)
LAW ENFORCEMENT OFFICE			
DENVER DIST 4	245 (4)	272 (4)	306(4)
ECOLOGICAL SERVICES OFFICE			
COAL COORD DENVER	60 (1)	154 (1)	154(1)
ANIMAL DAMAGE CONTROL			
DENVER	471 (3)	491 (3)	516(3)
FISHERY RESEARCH			
FISH DISEASE CONTROL LAB	139 (2)	154 (2)	163(2)
COOPERATIVE FISHERY UNIT			
COLORADO STATE UNIV	97 (2)	79 (2)	79(2)
COOPERATIVE WILDLIFE UNIT			
COLORADO STATE	77 (1)	44 (1)	44(1)
WILDLIFE RESEARCH			
DENVER WL RSRCH CNTR	6,259 (144)	6,218 (144)	6,398(144)
RESEARCH			
FT COLLINS EDITORIAL OFC	509 (9)	557 (9)	566(9)
BIOLOGICAL SERVICES			
NATL ENERGY/LAND USE TM	3,463 (30)	6,243 (30)	6,243(30)
STATE TOTAL	12,220(219)	15,163(219)	15,544(219)
DELAWARE			
WILDLIFE REFUGES			
BOMBAY HOOK	202 (8)	207 (8)	231(8)
PRIME HOOK	88 (6)	93 (6)	110(6)
STATE TOTAL	290(14)	300(14)	341(14)
DISTRICT OF COLUMBIA			
FISH HATCHERIES			
NATL AQUARIUM	235 (7)	286 (7)	286(7)
STATE TOTAL	235(7)	286(7)	286(7)
FLORIDA			
FISH HATCHERIES			
WELAKA NFH	192 (4)	212 (4)	226(4)

	FY 1980 ACTUAL $(FTP)	FY 1981 ESTIMATE $(FTP)	FY 1982 ESTIMATE $(FTP)
FLORIDA			
FISHERY SERVICES			
PANAMA CITY, FL BIOLOGIST	155 (5)	1	190(5)
WILDLIFE REFUGES			
CHASSAHOWITZKA	97 (3)	9)	105(3)
HOBE SOUND	63 (3)	107 (3)	110(3)
J N DING DARLING	197 (4)	212 (4)	225(4)
LAKE WOODRUFF NWR	116 (2)	111 (2)	117(2)
LOXAHATCHEE NWR	391 (8)	385 (8)	395(8)
MERRITT ISLAND NWR	430 (7)	365 (7)	385(7)
NATIONAL KEY DEER NWR	117 (3)	149 (3)	153(3)
PELICAN ISLAND NWR	30 (2)	29 (2)	29(2)
ST JOHNS NWR	68 (1)	55 (1)	55(1)
ST MARKS	369 (8)	350 (8)	359(8)
LOWER SUWANNEE	144 (1)	120 (2)	106(2)
ST VINCENT	140 (7)	146 (7)	152(7)
LAW ENFORCEMENT OFFICE			
TALLAHASSEE	157 (4)	191 (4)	191(4)
MIAMI	188 (6)	363 (6)	363(6)
ECOLOGICAL SERVICES OFFICE			
PANAMA CITY ECO SERVICES	153 (5)	217 (5)	217(5)
VERO BEACH	158 (4)	190 (4)	190(4)
ANIMAL DAMAGE CONTROL			
TALLAHASSEE FL	( )	48 (1)	48(1)
FISHERY RESEARCH			
EXOTIC F RESEARCH	160 (1)	160 (1)	335(1)
COOPERATIVE WILDLIFE UNIT			
FLOR COOP UNIT	130 (1)	180 (3)	180(3)
BIOLOGICAL SERVICES			
NAT'L WETLAND INV	668 (4)	500 (4)	500(4)
STATE TOTAL	4,379.(83)	4,346(87.)	4,631(91)
GEORGIA			
FISH HATCHERIES			
CHATTAHOOCHEE FOREST	190 (3)	185 (3)	228(3)
COHUTTA NFH	116 (4)	125 (4)	125(4)
MILLEN NFH	122 (4)	150 (4)	150(4)
WARM SPRINGS NFH	85 (3)	100 (3)	100(3)

	FY 1980 ACTUAL $(FTP)		FY 1981 ESTIMATE $(FTP)		FY 1982 ESTIMATE $(FTP)	
GEORGIA						
WILDLIFE REFUGES						
OKEFENOKEE NWR	416	(16)	420	(16)	435	(15)
BANKS LAKE		( )		( )	116	(1)
PIEDMONT NWR	218	(8)	213	(8)	226	(8)
SAVANNAH NWR	472	(10)	534	(10)	563	(10)
LAW ENFORCEMENT OFFICE						
ATLANTA DIST 9	185	(3)	183	(3)	306	(3)
ATLANTA	126	(2)	147	(2)	147	(2)
ECOLOGICAL SERVICES OFFICE						
BRUNSWICK	106	(2)	70	(2)	70	(2)
ANIMAL DAMAGE CONTROL						
BRUNSWICK	39	(1)	45	(1)	45	(1)
COOPERATIVE FISHERY UNIT						
UNIV OF GEORGIA	54	(1)	60	(2)	60	(2)
COOPERATIVE WILDLIFE UNIT						
UNIV OF GEORGIA	39	(2)	40	(2)	40	(2)
STATE TOTAL	2,168	(59)	2,272	(60)	2,611	(60)
HAWAII						
WILDLIFE REFUGES						
HI/PAC ISLANDS	449	(5)	528	(5)	547	(5)
LAW ENFORCEMENT OFFICE						
HONOLULU	151	(3)	155	(3)	155	(3)
ECOLOGICAL SERVICES OFFICE						
HONOLULU	149	(12)	164	(12)	164	(12)
ENDANGERED SPECIES						
ENDNGR SPECIES COORD	402	(3)	468	(3)	468	(3)
COOPERATIVE FISHERY UNIT						
UNIV OF HAWAII	66	(1)	50	(1)	50	(1)
STATE TOTAL	1,217	(24)	1,365	(24)	1,384	(24)
IDAHO						
FISH HATCHERIES						
HAGERMAN NFH	302	(4)	313	(4)	313	(4)
KOOSKIA NFH	180	(2)	174	(2)	174	(2)
WILDLIFE REFUGES						
DEER FLAT	190	(4)	189	(4)	197	(4)

	FY 1980 ACTUAL $(FTP)	FY 1981 ESTIMATE $(FTP)	FY 1982 ESTIMATE $(FTP)
IDAHO			
WILDLIFE REFUGES			
KOOTENAI NWR	91 (1)	73 (1)	77(1)
SOUTHEAST IDAHO NWR	94 (1)	92 (1)	122(1)
CAMAS NWR	142 (1)	130 (1)	130(1)
GRAYS LAKE NWR	108 (3)	129 (3)	129(3)
BEAR LAKE NWR	81 (2)	102 (2)	102(2)
MINIDOKA NWR	77 (1)	64 (1)	64(1)
LAW ENFORCEMENT OFFICE			
BOISE	127 (3)	127 (3)	127(3)
ECOLOGICAL SERVICES OFFICE			
BOISE	136 (8)	187 (8)	187(8)
ANIMAL DAMAGE CONTROL			
BOISE STATE OFFICE	597 (7)	576 (7)	608(7)
COOPERATIVE FISHERY UNIT			
UNIV OF IDAHO	73 (2)	71 (2)	71(2)
COOPERATIVE WILDLIFE UNIT			
UNIV OF IDAHO	94 (2)	79 (2)	79(2)
STATE TOTAL	2,292(41)	2,306(41)	2,380(41)
ILLINOIS			
WILDLIFE REFUGES			
SAVANNA DISTRICT	70 (3)	98 (3)	108(3)
CRAB ORCHARD NWR	1,003 (30)	1,004 (30)	887(30)
MARK TWAIN NWR	110 (2)	109 (2)	126(2)
CALHOUN DIST BRUSSELS	61 (3)	77 (3)	85(3)
MISSOURI	121 (2)	156 (2)	156(2)
CHAUTAUQUA	123 (3)	95 (3)	100(3)
ECOLOGICAL SERVICES OFFICE			
ROCK ISLAND	215 (5)	177 (5)	177(5)
ECO SYS CARBONDALE	12 (1)	67 (1)	67(1)
ANIMAL DAMAGE CONTROL			
SPRINGFIELD	50 (2)	84 (2)	87(2)
STATE TOTAL	1,765 (51)	1,867 (51)	1,793(51)
INDIANA			
FISHERY SERVICES			
CENTRAL STATES FISH STA	102 (2)	123 (2)	123(2)
WILDLIFE REFUGES			
MUSCATATUCK NWR	171 (5)	170 (5)	199(5)

	FY 1980 ACTUAL $(FTP)	FY 1981 ESTIMATE $(FTP)	FY 1982 ESTIMATE $(FTP)
INDIANA			
ECOLOGICAL SERVICES OFFICE BLOOMINGTON	161 (5)	140 (5)	140(5)
ANIMAL DAMAGE CONTROL WEST LAFAYETTE	123 (3)	149 (3)	154(3)
STATE TOTAL	557(15)	582(15)	616(15)
IOWA			
WILDLIFE REFUGES			
LANSING DISTRICT	54 (2)	53 (2)	66(2)
DESOTO	470 (9)	509 (9)	553(9)
UNION SLOUGH	86 (3)	88 (3)	105(3)
LOUISA DIST- WAPIELLO	71 (3)	97 (3)	105(3)
COOPERATIVE FISHERY UNIT IOWA STATE UNIV	79 (2)	74 (2)	74(2)
COOPERATIVE WILDLIFE UNIT IOWA STATE UNIV	99 (2)	76 (2)	76(2)
STATE TOTAL	859(21)	897(21)	979(21)
KANSAS			
FISH HATCHERIES			
CEDAR BLUFF NFH	115 (4)	124 (4)	138(4)
WILDLIFE REFUGES			
FLINT HILLS	111 (3)	108 (3)	116(3)
KIRWIN	139 (4)	143 (4)	149(4)
QUIVIRA	154 (6)	165 (6)	179(6)
LAW ENFORCEMENT OFFICE KANSAS CITY	113 (4)	122 (4)	139(4)
STATE TOTAL	632(21)	662(21)	721(21)
KENTUCKY			
FISH HATCHERIES			
FRANKFORT	99 (4)	137 (4)	137(4)
WOLF CREEK	101 (2)	122 (2)	212(2)
LAW ENFORCEMENT OFFICE LOUISVILLE	90 (3)	133 (3)	133(3)

	FY 1980 ACTUAL $(FTP)	FY 1981 ESTIMATE $(FTP)	FY 1982 ESTIMATE $(FTP)
KENTUCKY			
ANIMAL DAMAGE CONTROL			
LEXINGTON	39 (1)	40 (1)	40(1)
STATE TOTAL	329(10)	432(10)	522(10)
LOUISIANA			
FISH HATCHERIES			
NATCHITOCHES	120 (5)	124 (5)	142(5)
WILDLIFE REFUGES			
CATAHOULA	134 (3)	120 (3)	128(3)
D'ARBONNE	129 (4)	122 (4)	122(4)
UPPER OUACHITA NWR	84 (2)	160 (4)	167(4)
DELTA-BRETON	101 (5)	120 (4)	133(4)
LACASSINE	156 (6)	163 (6)	167(6)
BOGUE CHITTO	( )	( )	170(3)
LAFAYETTE BIOLOGIST	41	21	
SABINE	189 (7)	213 (7)	222(5)
LAW ENFORCEMENT OFFICE			
NEW ORLEANS DIST B	315 (3)	200 (3)	286(3)
NEW ORLEANS	155 (5)	206 (5)	206(5)
BATON ROUGE	109 (4)	122 (4)	122(4)
WILDLIFE SERVICES			
WILDLIFE ASSISTANCE	123 ( )	145 ( )	160( )
ECOLOGICAL SERVICES OFFICE			
LAFAYETTE	234 (1)	175 (1)	175(1)
ANIMAL DAMAGE CONTROL			
BATON ROUGE	57 (1)	61 (1)	61(1)
COOPERATIVE FISHERY UNIT			
LOUISIANA STATE	76 (2)	78 (2)	78(2)
COOPERATIVE WILDLIFE UNIT			
LOUISIANA STATE	60 (2)	53 (1)	53(1)
STATE TOTAL	2,083(50)	2,083(50)	(51)
MAINE			
FISH HATCHERIES			
CRAIG BROOK	186 (5)	211 (5)	249(5)
EAST ORLAND BIOLOGIST	79 (2)	82 (2)	82(2)
GREEN LAKE	321 (6)	321 (6)	352(6)
WILDLIFE REFUGES			
MOOSEHORN	172 (5)	178 (5)	205(5)

	FY 1980 ACTUAL $(FTP)	FY 1981 ESTIMATE $(FTP)	FY 1982 ESTIMATE $(FTP)
MAINE			
WILDLIFE SERVICES AUGUSTA	71 (2)	72 (2)	74(2)
COOPERATIVE FISHERY UNIT UNIV OF MAINE	68 (2)	69 (2)	69(2)
COOPERATIVE WILDLIFE UNIT UNIV OF MAINE	74 (3)	70 (3)	70(3)
STATE TOTAL	971(25)	1,003(25)	1,101(25)
MARYLAND			
WILDLIFE REFUGES			
BLACKWATER	323 (8)	315 (8)	344(8)
MARTIN	27 (1)	28 (1)	32(1)
EASTERN NECK	104 (4)	118 (4)	135(4)
LAW ENFORCEMENT OFFICE			
BALTIMORE DIST 11	219 (6)	347 (6)	347(6)
CAMBRIDGE	101 (3)	99 (3)	99(3)
WILDLIFE SERVICES ANNAPOLIS	62 (2)	66 (1)	68(2)
ECOLOGICAL SERVICES OFFICE ANNAPOLIS	280 (13)	432 (15)	432(15)
WILDLIFE RESEARCH			
PATUXENT WDLF RES CENTER	5,831 (109)	5,277 (111)	5,423(111)
MIGRATORY BIRD RES LAB	1,357 (23)	1,675 (23)	1,922(23)
STATE TOTAL	8,304(169)	8,357(172)	8,802(173)
MASSACHUSETTS			
FISH HATCHERIES			
BERKSHIRE	92 (2)	89 (2)	139(2)
NO.ATTLEBORO	133 (3)	131 (3)	153(3)
WILDLIFE REFUGES			
GREAT MEADOWS	189 (2)	181 (2)	190(2)
PARKER RIVER	343 (9)	353 (9)	382(9)
LAW ENFORCEMENT OFFICE			
BOSTON DIST 13	155 (5)	162 (5)	174(5)
BOSTON	159 (3)	159 (3)	171(3)
ANIMAL DAMAGE CONTROL HADLEY	50 (2)	51 (2)	53(2)

	FY 1980 ACTUAL $(FTP)	FY 1981 ESTIMATE $(FTP)	FY 1982 ESTIMATE $(FTP)
MASSACHUSETTS			
COOPERATIVE FISHERY UNIT			
UNIV OF MASSACHUSETTS	53 (2)	69 (2)	69(2)
COOPERATIVE WILDLIFE UNIT			
UNIV OF MASSACHUSETTS	72 (1)	68 (1)	68(1)
STATE TOTAL	1,246(29)	1,263(29)	1,399(29)
MICHIGAN			
FISH HATCHERIES			
JORDAN RIVER NFH	327 (7)	329 (7)	329(7)
PENDILLS CREEK NFH	276 (7)	310 (7)	326(7)
WILDLIFE REFUGES			
SENEY	223 (5)	228 (5)	244(5)
SHIAWASSEE NWR	253 (4)	267 (4)	282(4)
ECOLOGICAL SERVICES OFFICE			
EAST LANSING	227 (4)	208 (4)	208(4)
ANIMAL DAMAGE CONTROL			
EAST LANSING	72 (2)	90 (2)	94(2)
FISHERY RESEARCH			
GREAT LAKES FISHERY LAB	2,491 (68)	2,550 (68)	2,722(68)
POWER PLANTS TEAM			
NATL POWERPLANT TEAM	346 (9)	404 (9)	( )
STATE TOTAL	4,215(106)	4,386(106)	4,205(97)
MINNESOTA			
FISH HATCHERIES			
NEW LONDON NFH	116 (3)	109 (3)	143(3)
FISHERY SERVICES			
BEMIDJI	35 (1)	69 (1)	69(1)
WILDLIFE REFUGES			
AGASSIZ NWR	328 (5)	281 (5)	296(5)
RICE LAKE NWR	129 (4)	133 (4)	150(4)
SHERBURNE NWR	299 (7)	311 (7)	342(7)
TAMARAC NWR	203 (6)	183 (6)	200(6)
UPPER MISS.	43 (2)	82 (2)	102(2)
WINONA	232 (1)	59 (1)	81(1)
UPPER MISS HQ	(1)	109 (1)	109(1)
FERGUS FALLS COMPLEX	84 (2)	65 (2)	73(2)
MORRIS WMD	276 (6)	389 (6)	416(6)

	FY 1980 ACTUAL $(FTP)	FY 1981 ESTIMATE $(FTP)	FY 1982 ESTIMATE $(FTP)
MINNESOTA			
WILDLIFE REFUGES			
MID-CONTINENT	103 (2)	95 (2)	95(2)
FERGUS FALLS WMD	237 (5)	297 (5)	340(5)
DETROIT LAKES	259 (3)	372 (3)	381(3)
NEW ULM WMD	( )	53 (1)	53(1)
LITCHFIELD WMD	223 (4)	237 (4)	268(4)
MINNESOTA VALLEY NWR	308 (3)	414 (3)	418(3)
BIG STONE	121 (4)	118 (4)	127(4)
LAW ENFORCEMENT OFFICE			
MINNEAPOLIS DIST 7	1,370 (28)	1,400 (28)	1,506(28)
ECOLOGICAL SERVICES OFFICE			
ST PAUL	207 (10)	210 (10)	210(10)
ANIMAL DAMAGE CONTROL			
ST PAUL	127 (3)	152 (3)	157(3)
STATE TOTAL	4,700((100)	5,138(101)	5,535(101)
MISSISSIPPI			
FISH HATCHERIES			
MERIDIAN	118 (3)	123 (3)	134(3)
TUPELO	122 (4)	123 (4)	123(4)
WILDLIFE REFUGES			
HILLSIDE	161 (2)	123 (2)	144(2)
PANTHER SWAMP	47 (1)	100 (1)	100(1)
MORGAN BRAKE NWR	50 ( )	35 ( )	35( )
MATHEWS BRAKE	( )	( )	54( )
MISS SANDHILL CRANE	134 (2)	109 (2)	126(2)
NOXUBEE	268 (8)	206 (8)	215(7)
YAZOO	130 (5)	136 (5)	140(5)
LAW ENFORCEMENT OFFICE			
JACKSON	83 (2)	90 (2)	90(2)
ECOLOGICAL SERVICES OFFICE			
VICKSBURG	105 (8)	105 (8)	105(8)
BAY ST LOUIS	79 (2)	70 (2)	
ANIMAL DAMAGE CONTROL			
MISSISSIPPI STATE	90 (1)	83 (1)	83(1)
ENDANGERED SPECIES			
NATL COASTAL ECOSYSTEM TM	790 (13)	790 (13)	790(13)
FISH & WILDLIFE COOP UNIT			
COOP UNIT MISS. STATE	149 (2)	100 (2)	100(2)
STATE TOTAL	2,336((53)	2,193(53)	2,242(51)

	FY 1980 ACTUAL $(FTP)	FY 1981 ESTIMATE $(FTP)	FY 1982 ESTIMATE $(FTP)
MISSOURI			
FISH HATCHERIES			
NEOSHO	122 (3)	122 (3)	158(3)
WILDLIFE REFUGES			
MINGO	220 (6)	223 (6)	240(5)
SQUAW CREEK	153 (5)	153 (5)	170(5)
SWAN LAKE NWR	216 (4)	237 (4)	248(4)
CLARENCE CANNON	121 (2)	156 (2)	156(2)
ECOLOGICAL SERVICES OFFICE			
ECO SVS NO KANSAS CITY	159 ( )	81 (2)	81(2)
ECO SVS KANSAS CITY	( )	77 (4)	77(4)
FISHERY RESEARCH			
COLUMBIA NATL FISH RES LAB	3,434 (45)	3,571 (45)	3,571(45)
COOPERATIVE FISHERY UNIT			
UNIV OF MISSOURI	74 (2)	74 (2)	74(2)
COOPERATIVE WILDLIFE UNIT			
UNIV OF MISSOURI	86 (2)	85 (2)	85(2)
STATE TOTAL	4,585 (69)	4,779 (75)	4,860(75)
MONTANA			
FISH HATCHERIES			
FISH CULTURAL DEVEL CENTER	176 (5)	190 (5)	221(5)
CRESTON	123 (4)	118 (4)	145(4)
ENNIS	142 (5)	166 (5)	211(5)
MILES CITY	87 (2)	87 (2)	96(2)
FISHERY SERVICES			
KALISPELL	87 (2)	117 (2)	117(2)
HARDIN	49 (1)	54 (1)	54(1)
WILDLIFE REFUGES			
BENTON LAKE	133 (4)	175 (4)	218(4)
CHARLES M RUSSELL	619 (22)	731 (22)	771(21)
MEDICINE LAKE	181 (6)	213 (4)	221(4)
NATIONAL BISON RANGE	263 (7)	269 (5)	291(5)
RAVALLI	91 (2)	95 (1)	95(1)
RED ROCK LAKES	128 (4)	140 (4)	140(4)
BOWDOIN	123 (4)	155 (4)	163(4)
CMR PLANNING LEWISTON	168 ( )	( )	( )
LAW ENFORCEMENT OFFICE			
BILLINGS	135 (4)	150 (4)	168(4)

	FY 1980 ACTUAL $(FTP)	FY 1981 ESTIMATE $(FTP)	FY 1982 ESTIMATE $(FTP)
MONTANA			
ECOLOGICAL SERVICES OFFICE BILLINGS	186 (5)	269 (5)	269(5)
ANIMAL DAMAGE CONTROL BILLINGS	562 (8)	533 (8)	561(8)
COOPERATIVE FISHERY UNIT UNIV OF MONTANA	82 (2)	74 (2)	74(2)
COOPERATIVE WILDLIFE UNIT UNIV OF MONTANA	91 (2)	74 (2)	74(2)
STATE TOTAL	3,426 (89)	3,610 (89)	3,889(88)
NEBRASKA			
FISH HATCHERIES CRAWFORD	87 (3)	98 (3)	107(3)
FISHERY SERVICES VALENTINE	67 (2)	72 (2)	72(2)
WILDLIFE REFUGES			
CRESCENT LAKE	126 (3)	130 (3)	140(3)
FORT NIOBRARA	283 (8)	279 (8)	301(8)
KEARNEY WMD	183 (4)	186 (4)	202(4)
LAW ENFORCEMENT OFFICE OMAHA	78 (2)	86 (2)	96(2)
ECOLOGICAL SERVICES OFFICE GRAND ISLAND	52 (4)	55 (4)	55(4)
ANIMAL DAMAGE CONTROL LINCOLN	223 (5)	225 (5)	236(5)
STATE TOTAL	1,099(31)	1,131(31)	1,209(31)
NEVADA			
FISH HATCHERIES LAHONTAN NFH	330 (5)	351 (6)	351(6)
FISHERY SERVICES RENO	108 (2)	140 (2)	140(2)
WILDLIFE REFUGES DESERT NW RANGE	220 (4)	242 (4)	269(4)

	FY 1980 ACTUAL $(FTP)	FY 1981 ESTIMATE $(FTP)	FY 1982 ESTIMATE $(FTP)
NEVADA			
WILDLIFE REFUGES			
RUBY LAKE NWR	152 (3)	145 (3)	145(3)
STILLWATER NWR	133 (3)	141 (3)	141(3)
LAW ENFORCEMENT OFFICE			
RENO	88 (2)	95 (2)	95(2)
ANIMAL DAMAGE CONTROL			
RENO STATE OFFICE	440 (6)	422 (6)	447(6)
STATE TOTAL	1,471(25)	1,536(26)	1,588(25)
NEW HAMPSHIRE			
FISH HATCHERIES			
BERLIN	180 (5)	198 (5)	226(5)
NASHUA	144 (3)	134 (3)	161(3)
FISHERY SERVICES			
LACONIA	70 (3)	90 (4)	116(4)
ANADROMOUS FISH PLANNING	37 (1)	39 (1)	39(1)
LAW ENFORCEMENT OFFICE			
CONCORD	131 (3)	135 (3)	146(3)
ECOLOGICAL SERVICES OFFICE			
CONCORD	244 (12)	294 (8)	294(8)
ANIMAL DAMAGE CONTROL			
CONCORD	53 (1)	54 (1)	56(1)
STATE TOTAL	859(28)	944(25)	1,038(25)
NEW JERSEY			
FISHERY SERVICES			
DELAWARE RVR ANAD PROGRAM	70 (3)	69 (3)	69(3)
WILDLIFE REFUGES			
BRIGANTINE	208 (7)	262 (7)	290(7)
GREAT SWAMP	231 (6)	246 (6)	258(6)
WILDLIFE SERVICES			
TRENTON	45 (1)	51 (1)	53(1)
STATE TOTAL	554(17)	628(17)	670(17)
NEW MEXICO			
FISH HATCHERIES			
DEXTER NFH	165 ( )	164 (1)	188(1)

	FY 1980 ACTUAL $(FTP)	FY 1981 ESTIMATE $(FTP)	FY 1982 ESTIMATE $(FTP)
NEW MEXICO			
FISH HATCHERIES			
MESCALERO NFH	137 (4)	165 (4)	195(4)
FISHERY SERVICES			
GALLUP	90 (3)	112 (3)	112(3)
WILDLIFE REFUGES			
GRULLA NWR	5 (1)	6 (1)	6(1)
BITTER LAKE NWR	139 (4)	149 (4)	157(4)
BOSQUE DEL APACHE NWR	334 (9)	314 (9)	321(9)
SAN ANDRES NWR	36 (1)	34 (1)	43(1)
SEVILLETA NWR	78 (1)	78 (1)	87(1)
LAS VEGAS	119 (2)	113 (2)	113(2)
MAXWELL	77 (2)	81 (2)	85(2)
LAW ENFORCEMENT OFFICE			
ALBUQUERQUE DIST 6	232 (4)	255 (4)	275(4)
ECOLOGICAL SERVICES OFFICE			
ALBUQUERQUE	66 (3)	94 (3)	94(3)
RIPARIAN HABITAT ANAL GR	150 (2)	73 (2)	50(1)
ANIMAL DAMAGE CONTROL			
ALBUQUERQUE	750 (9)	741 (9)	767(9)
STATE TOTAL	2,378(45)	2,879(46)	2,493(45)
NEW YORK			
WILDLIFE REFUGES			
IROQUOIS	221 (6)	228 (6)	252(6)
MONTEZUMA	249 (6)	236 (6)	275(6)
TARGET ROCK	197 (5)	199 (5)	211(5)
LAW ENFORCEMENT OFFICE			
LAWRENCE DIST 12	318 (8)	389 (10)	467(10)
ALBANY	135 (3)	157 (3)	196(3)
JFK AIRPORT	263 (9)	315 (9)	367(9)
WILDLIFE SERVICES			
ALBANY	73 (1)	66 (1)	68(1)
ECOLOGICAL SERVICES OFFICE			
CORTLAND	221 (6)	220 (6)	220(6)
FISHERY RESEARCH			
TUNISON LAB	581 (10)	556 (10)	556(10)
COOPERATIVE FISHERY UNIT			
CORNELL UNIV	69 (1)	41 (1)	41(1)

74-939 O—80——73

	FY 1980 ACTUAL $(FTP)	FY 1981 ESTIMATE $(FTP)	FY 1982 ESTIMATE $(FTP)
NEW YORK			
COOPERATIVE WILDLIFE UNIT			
CORNELL UNIV	70 (2)	71 (2)	71(2)
STATE TOTAL	2,397(57)	2,478(59)	2,724(59)
NORTH CAROLINA			
FISH HATCHERIES			
EDENTON	131 (8)	149 (8)	149(8)
MCKINNEY LAKE	65 (3)	104 (3)	104(3)
PISGAH FOREST	211 (6)	255 (6)	255(6)
PISGAH FOREST BIOLOGIST	54 (1)	56 (1)	56(1)
FISHERY SERVICES			
CHEROKEE	43 (1)	53 (1)	53(1)
WILDLIFE REFUGES			
MATTAMUSKEET	329 (9)	323 (9)	355(9)
PEA ISLAND	120 (3)	121 (3)	138(3)
PEE DEE	146 (5)	140 (5)	155(5)
PUNGO	159 (5)	164 (5)	163(5)
WASHINGTON BIOLOGIST	49 (1)	41 (1)	41(1)
WASHINGTON FORESTER	40 (1)	40 (3)	40 (1)
LAW ENFORCEMENT OFFICE			
RALEIGH	142 (5)	175 (5)	175(5)
ECOLOGICAL SERVICES OFFICE			
RALEIGH	118 (3)	105 (3)	105(3)
ANIMAL DAMAGE CONTROL			
RALEIGH	66 (1)	65 (1)	65(1)
COOPERATIVE FISHERY UNIT			
N CAROLINA STATE	73 (2)	76 (2)	76(2)
STATE TOTAL	1,746 (54)	1,867 (54)	1,930(54)
NORTH DAKOTA			
FISH HATCHERIES			
GARRISON	135 (8)	153 (8)	221(8)
VALLEY CITY	130 (5)	177 (5)	191(5)
FISHERY SERVICES			
BISMARCK	56 (1)	25 (1)	25(1)
WILDLIFE REFUGES			
ARROWWOOD	304 (9)	338 (8)	356(8)
AUDUBON	164 (3)	184 (3)	201(3)

	FY 1980 ACTUAL $(FTP)	FY 1981 ESTIMATE $(FTP)	FY 1982 ESTIMATE $(FTP)
NORTH DAKOTA			
WILDLIFE REFUGES			
DES LACS	309 (8)	315 (8)	335(8)
DEVILS LAKE WMD	218 (1)	230 (1)	251(1)
J. CLARK SLAYER	238 (7)	250 (7)	271(7)
KULM	157 (6)	171 (6)	197(6)
TEWAUKON	148 (2)	165 (2)	181(2)
UPPER SOURIS	162 (4)	172 (4)	189(4)
LAW ENFORCEMENT OFFICE			
BISMARK	112 (3)	117 (3)	129(3)
ECOLOGICAL SERVICES OFFICE			
BISMARCK	196 (7)	287 (7)	287(7)
ANIMAL DAMAGE CONTROL			
BISMARCK	265 (2)	224 (2)	235(2)
WILDLIFE RESEARCH			
ND PRAIRIE WI RES CNTR	2,242 (44)	1,973 (45)	1,973(45)
STATE TOTAL	4,837(110)	4,781(110)	5,032(110)
OHIO			
FISH HATCHERIES			
HEBRON NFH	102 (2)	105 (2)	136(2)
SENECAVILLE	115 (3)	111 (3)	142(3)
WILDLIFE REFUGES			
OTTAWA NWR	230 (4)	242 (4)	263(4)
ECOLOGICAL SERVICES OFFICE			
COLUMBUS	160 (5)	147 (5)	147(5)
ANIMAL DAMAGE CONTROL			
COLUMBUS	134 (2)	135 (3)	140(3)
COOPERATIVE FISHERY UNIT			
OHIO STATE	64 (2)	67 (2)	67(2)
COOPERATIVE WILDLIFE UNIT			
OHIO STATE	77 (1)	74 (1)	74(1)
STATE TOTAL	882(19)	881(20)	969(20)
OKLAHOMA			
FISH HATCHERIES			
TISHOMINGO NFH	196 (5)	228 (5)	228(5)

	FY 1980 ACTUAL $(FTP)		FY 1981 ESTIMATE $(FTP)		FY 1982 ESTIMATE $(FTP)	
OKLAHOMA						
WILDLIFE REFUGES						
OPTIMA NWR	64	(1)	69	(1)	69	(1)
SALT PLAINS NWR	190	(6)	199	(6)	199	(6)
SEQUOYAH NWR	172	(4)	184	(4)	184	(4)
TISHOMINGO NWR	247	(5)	234	(5)	234	(5)
WASHITA NWR	149	(5)	153	(5)	153	(5)
WICHITA MOUNTAINS	658	(20)	680	(20)	697	(20)
LAW ENFORCEMENT OFFICE						
OKLAHOMA CITY	80	(2)	78	(2)	78	(2)
ECOLOGICAL SERVICES OFFICE						
TULSA	102	(5)	152	(5)	152	(5)
ANIMAL DAMAGE CONTROL						
OKLAHOMA CITY	437	(7)	414	(7)	434	(7)
COOPERATIVE FISHERY UNIT						
OKLAHOMA STATE	87	(2)	71	(2)	71	(2)
COOPERATIVE WILDLIFE UNIT						
OKLAHOMA STATE	69	(2)	48	(2)	48	(2)
STATE TOTAL	2,451	(64)	2,510	(64)	2,547	(64)
OREGON						
FISH HATCHERIES						
EAGLE CREEK NFH	17	(3)	16	(3)	16	(3)
WARM SPRINGS NFH	277	(3)	299	(3)	324	(3)
WILDLIFE REFUGES						
MALHEUR NWR	388	(11)	409	(11)	421	(11)
UMATILLA NWR	241	(4)	201	(4)	214	(4)
WILLIAM F. FINLEY NWR	283	(8)	266	(8)	279	(8)
SHELDON-HART MOUNTAIN	655	(9)	497	(7)	573	(7)
LAW ENFORCEMENT OFFICE						
PORTLAND DIST 2	194	(4)	256	(4)	382	(4)
SALEM	117	(3)	116	(3)	116	(3)
ECOLOGICAL SERVICES OFFICE						
PORTLAND	231	(12)	232	(12)	232	(12)
ANIMAL DAMAGE CONTROL						
PORTLAND STATE OFFICE	596	(6)	575	(6)	608	(6)
COOPERATIVE FISHERY UNIT						
OREGON STATE	82	(2)	69	(2)	69	(2)

	FY 1980 ACTUAL $(FTP)	FY 1981 ESTIMATE $(FTP)	FY 1982 ESTIMATE $(FTP)
OREGON			
COOPERATIVE WILDLIFE UNIT OREGON STATE	102 (2)	92 (2)	92(2)
STATE TOTAL	3,183(67)	3,028(65)	3,325(65)
PENNSYLVANIA			
FISH HATCHERIES			
ALLEGHENY	245 (4)	302 (4)	314(5)
LAMAR DEVELOPMENT CENTER	126 (4)	122 (4)	131(4)
TYLERSVILLE	175 (3)	148 (3)	148(3)
FISHERY SERVICES			
WARREN	70 (2)	77 (2)	77(2)
WILDLIFE REFUGES			
ERIE	124 (4)	136 (4)	152(4)
TINICUM MARSH ENVIRN CNTR	159 (6)	163 (6)	171(6)
LAW ENFORCEMENT OFFICE			
HARRISBURG	97 (3)	98 (3)	98(3)
ECOLOGICAL SERVICES OFFICE			
STATE COLLEGE	275 (12)	328 (6)	328(6)
ANIMAL DAMAGE CONTROL			
STATE COLLEGE	42 (1)	43 (1)	45(1)
FISHERY RESEARCH			
NE RES DEL LAB	569 (10)	565 (10)	565(10)
COOPERATIVE FISHERY UNIT			
PENN STATE UNIV	85 (2)	45 (1)	45(1)
COOPERATIVE WILDLIFE UNIT			
PENN STATE UNIV	76 (1)	43 (1)	43(1)
STATE TOTAL	2,043(52)	2,070(45)	2,117(46)
RHODE ISLAND			
WILDLIFE REFUGES			
NINIGRET	89 (3)	118 (3)	118(3)
STATE TOTAL	89(3)	118(3)	118(3)
SOUTH CAROLINA			
FISH HATCHERIES			
CHERAW	83 (6)	103 (6)	103(6)

	FY 1980 ACTUAL $(FTP)	FY 1981 ESTIMATE $(FTP)	FY 1982 ESTIMATE $(FTP)
SOUTH CAROLINA			
FISH HATCHERIES			
ORANGEBURG	170 (6)	192 (6)	212(6)
WALHALLA	166 (4)	155 (4)	182(4)
WILDLIFE REFUGES			
CAPE ROMAIN	205 (5)	190 (5)	200(5)
CAROLINA SANDHILLS	208 (9)	211 (9)	220(9)
SANTEE	213 (8)	242 (8)	232(8)
LAW ENFORCEMENT OFFICE			
COLUMBIA	75 (1)	93 (1)	93(1)
WILDLIFE SERVICES			
CHARLESTON	51 (1)	45 (1)	45(1)
ECOLOGICAL SERVICES OFFICE			
CHARLESTON	101 (2)	105 (2)	105(2)
ANIMAL DAMAGE CONTROL			
COLUMBIA	57 (1)	65 (1)	65(1)
STATE TOTAL	1,329(43)	1,401(43)	1,457(43)
SOUTH DAKOTA			
FISH HATCHERIES			
GAVINS POINT	195 (5)	197 (5)	220(5)
SPEARFISH CNTR	344 (9)	384 (9)	478(9)
WILDLIFE REFUGES			
LACREEK	158 (4)	163 (4)	178(4)
LAKE ANDES NWR	190 (3)	204 (4)	221(4)
MADISON	124 (3)	144 (3)	161(3)
SAND LAKE	261 (7)	271 (7)	288(7)
WAUBAY	156 (3)	174 (3)	191(3)
LAW ENFORCEMENT OFFICE			
PIERRE	79 (2)	86 (2)	97(2)
ECOLOGICAL SERVICES OFFICE			
PIERRE	146 (8)	187 (8)	187(8)
ANIMAL DAMAGE CONTROL			
PIERRE	299 (1)	287 (1)	290(1)
COOPERATIVE FISHERY UNIT			
SOUTH DAKOTA STATE	69 (2)	71 (2)	71(2)
COOPERATIVE WILDLIFE UNIT			
SOUTH DAKOTA STATE	140 (1)	72 (1)	72(1)
STATE TOTAL	2,160(48)	2,240(49)	2,454(49)

	FY 1980 ACTUAL $(FTP)	FY 1981 ESTIMATE $(FTP)	FY 1982 ESTIMATE $(FTP)
TENNESSEE			
FISH HATCHERIES			
DALE HOLLOW	219 (6)	227 (6)	267(6)
ERWIN	174 (4)	149 (4)	155(4)
FISHERY SERVICES			
GATLINBURG	61 (1)	66 (1)	82(1)
NORRIS	62 (1)	76 (1)	88(1)
WILDLIFE REFUGES			
CROSS CREEKS	186 (4)	174 (4)	182(4)
HATCHIE	159 (3)	152 (5)	139(5)
BROWNSVILLE	40 (1)	40 (1)	50(1)
REELFOOT	177 (6)	189 (6)	202(6)
TENNESSEE	341 (10)	341 (10)	364(10)
LOWER HATCHIE		97 (1)	98 (1)
LAW ENFORCEMENT OFFICE			
NASHVILLE	266 (3)	175 (3)	244(3)
ECOLOGICAL SERVICES OFFICE			
ECO SVCS COOKVILLE	107 (3)	105 (3)	105(3)
ANIMAL DAMAGE CONTROL			
NASHVILLE	76 (2)	81 (2)	81(2)
JACKSON TENNESSEE	32 (1)	36 (1)	36(1)
COOPERATIVE FISHERY UNIT			
TENN TECH UNIV	97 (2)	53 (1)	53(1)
STATE TOTAL	1,997(47)	1,961(49)	2,146(49)
TEXAS			
FISH HATCHERIES			
INKS DAM NFH	241 (5)	252 (5)	314(5)
SAN MARCOS FCDC	225 (4)	271 (4)	271(4)
SAN MARCOS HAB BIOL	29 (1)	44 (1)	80(1)
UVALDE NFH	164 (4)	214 (4)	256(4)
WILDLIFE REFUGES			
ANAHUAC NWR	159 (5)	201 (5)	201(5)
MC FADDIN NWR	169 (2)	175 (2)	197(2)
SEA RIM NWR	59 (1)	65 (1)	65(1)
ARANSAS NWR	437 (11)	447 (11)	500(11)
BRAZORIA NWR	100 (1)	109 (1)	109(1)
SAN BERNARD NWR	107 (1)	117 (1)	117(1)
LAGUNA ATASCOSA	238 (6)	256 (6)	278(6)
SANTA ANA NWR	127 (3)	138 (3)	153(3)

	FY 1980 ACTUAL $(FTP)	FY 1981 ESTIMATE $(FTP)	FY 1982 ESTIMATE $(FTP)
TEXAS			
WILDLIFE REFUGES			
RIO GRANDE VALLEY NWR	95 (1)	105 (2)	122(2)
ATTWATER PRAIRIE CHICKEN	126 (1)	142 (1)	142(1)
BUFFALO LAKE NWR	56 (1)	56 (1)	56(1)
HAGERMAN NWR	126 (3)	130 (3)	130(3)
MULESHOE NWR	97 (2)	98 (2)	106(2)
LAW ENFORCEMENT OFFICE			
CORPUS CHRISTI	159 (4)	151 (4)	151(4)
FORT WORTH	99 (9)	339 (9)	339(9)
HOUSTON	158 (3)	142 (3)	142(3)
ECOLOGICAL SERVICES OFFICE			
CORPUS CHRISTI	139 (4)	160 (4)	160(4)
FORT WORTH	169 (7)	164 (7)	164(7)
GALVESTON	254 (14)	272 (15)	272(15)
ANIMAL DAMAGE CONTROL			
SAN ANTONIO	1,221 (14)	1,192 (14)	1,263(14)
STATE TOTAL	4,754(107)	5,240(109)	5,588(109)
UTAH			
FISH HATCHERIES			
JONES HOLE	228 (4)	251 (4)	310(4)
FISHERY SERVICES			
VERNAL	29 (1)	45 (1)	45(1)
COL RIVER FISH INV SALT LK	94 (2)	97 (2)	131(2)
WILDLIFE REFUGES			
BEAR RIVER	239 (8)	250 (8)	250(8)
FISH SPR	108 (6)	112 (3)	116(3)
OURAY	144 (5)	146 (5)	152(5)
WETLANDS ASST OFFICE UT	38 (1)	35 (1)	35(1)
LAW ENFORCEMENT OFFICE			
SALT LAKE CITY	157 (4)	170 (4)	193(4)
ECOLOGICAL SERVICES OFFICE			
SALT LAKE CITY	184 (6)	217 (6)	217(6)
ANIMAL DAMAGE CONTROL			
SALT LAKE CITY	578 (4)	558 (4)	590(4)
ENDANGERED SPECIES			
END SPEC CONSUL TEAM	102 (7)	156 (7)	191(7)
COOPERATIVE FISHERY UNIT			
UTAH STATE	69 (2)	72 (2)	72(2)

	FY 1980 ACTUAL $(FTP)	FY 1981 ESTIMATE $(FTP)	FY 1982 ESTIMATE $(FTP)
UTAH			
COOPERATIVE WILDLIFE UNIT UTAH STATE	75 (2)	75 (2)	75(2)
STATE TOTAL	2,045(52)	2,184(49)	2,377(49)
VERMONT			
FISH HATCHERIES PITTSFORD	126 (4)	147 (4)	171(4)
FISHERY SERVICES MONTPELIER	119 (3)	91 (3)	91(3)
WILDLIFE REFUGES WHITE RIVER NWR	205 (4)	226 (4)	241(4)
MISSISQUOI	81 (2)	88 (2)	108(2)
STATE TOTAL	531(13)	552(13)	611(13)
VIRGINIA			
FISH HATCHERIES HARRISON LAKE	126 (5)	134 (5)	157(5)
PAINT BANK	168 (4)	177 (4)	225(4)
WYTHEVILLE	219 (6)	231 (6)	246(6)
FISHERY SERVICES YORKTOWN	93 (3)	92 (3)	92(3)
WILDLIFE REFUGES BACK BAY	217 (8)	216 (8)	240(8)
MACKAY ISLAND	80 (2)	77 (2)	94(2)
CHINCOTEAGUE	428 (11)	439 (11)	478(11)
DISMAL SWAMP	293 (6)	299 (7)	308(7)
MASON NECK	69 (3)	72 (3)	89(3)
PRESQUILE	74 (2)	77 (2)	101(2)
LAW ENFORCEMENT OFFICE RICHMOND	99 (4)	97 (4)	97(4)
WILDLIFE SERVICES BLACKSBURG	47 (1)	49 (1)	51(1)
COOPERATIVE FISHERY UNIT VIRGINIA TECH	67 (2)	72 (2)	72(2)
COOPERATIVE WILDLIFE UNIT VIRGINIA TECH	71 (1)	73 (1)	73(1)
STATE TOTAL	2,051(58)	2,105(59)	2,323(59)

	FY 1980 ACTUAL $(FTP)		FY 1981 ESTIMATE $(FTP)		FY 1982 ESTIMATE $(FTP)	
WASHINGTON						
FISH HATCHERIES						
ABERNATHY SALMON CDC	144	(4)	149	(4)	217	(4)
CARSON NFH	42	(3)	36	(3)	36	(3)
ENTIAT NFH	115	(2)	115	(2)	115	(2)
LEAVENWORTH NFH	381	(3)	310	(4)	370	(4)
LITTLE WHITE SALMON	62	(3)	64	(3)	64	(3)
LITTLE WHITE SALMON LAB		( )	13	(1)	13	(1)
MAKAH NFH		( )	69	(1)	197	(1)
QUILCENE NFH	204	(5)	197	(5)	217	(5)
QUINAULT NFH	201	(3)	212	(3)	212	(3)
SPRING CREEK NFH	15	(1)	12	(1)	12	(1)
WINTHROP NFH	164	(3)	170	(3)	180	(3)
YAKIMA FISH SCREENS	98	(2)	85	(2)	85	(2)
OLYMPIA DIAG LAB		( )	46	(1)	46	(1)
FISHERY SERVICES						
VANCOUVER FAO	234	(5)	240	(6)	240	(6)
OLYMPIA	428	(7)	367	(8)	367	(8)
LEAVENWORTH	39	(1)	42	(1)	42	(1)
NORDLAND	55	(1)	61	(1)	61	(1)
WILDLIFE REFUGES						
COLUMBIA NWR	231	(8)	253	(8)	266	(8)
MCNARY NWR	187	(4)	170	(4)	178	(4)
NISQUALLY	215	(6)	237	(6)	261	(6)
LOWER COLUMBIA RIVER	498	(10)	541	(10)	574	(10)
TURNBULL NWR	175	(5)	182	(5)	194	(5)
LITTLE PEND OREILLE NWR	57	( )	55	( )	64	( )
LAW ENFORCEMENT OFFICE						
SEATTLE	276	(5)	276	(5)	276	(5)
ECOLOGICAL SERVICES OFFICE						
OLYMPIA	176	(13)	239	(13)	239	(13)
ANIMAL DAMAGE CONTROL						
OLYMPIA STATE OFFICE	37	(1)	42	(1)	42	(1)
FISHERY RESEARCH						
NATL FISH RES LAB	1,296	(41)	1,509	(41)	1,577	(41)
COOPERATIVE FISHERY UNIT						
UNIV OF WASH	82	(2)	86	(2)	86	(2)
STATE TOTAL	5,412	(138)	5,778	(144)	6,231	(144)
WEST VIRGINIA						
FISH HATCHERIES						
BOWDEN	199	(6)	200	(6)	235	(6)

	FY 1980 ACTUAL $(FTP)	FY 1981 ESTIMATE $(FTP)	FY 1982 ESTIMATE $(FTP)
WEST VIRGINIA			
FISH HATCHERIES			
KEARNEYSVILLE BIOLOGIST	36 (1)	37 (1)	37(1)
WHITE SULPHUR SPRINGS	143 (4)	151 (4)	152(4)
LAW ENFORCEMENT OFFICE			
CLARKSBURG	36 (1)	41 (1)	52(1)
WILDLIFE SERVICES			
ELKINS	44 (1)	49 (1)	51(1)
FISHERY RESEARCH			
NATIONAL FISH CENTER WV	1,180 (23)	625 (23)	683(23)
NAT FISH HEALTH LAB	609 (10)	741 (10)	741(10)
EXPERIMENTAL HATCHERY	144 (3)	197 (3)	197(3)
FISHERIES ACADEMY	282 (5)	293 (5)	293(5)
EASTERN ENERGY & LAND USE TEAM			
NATL ENERGY TEAM-EASTERN	905 (12)	1,047 (11)	1,400(13)
STATE TOTAL	3,578(66)	3,381(65)	3,851(67)
WISCONSIN			
FISH HATCHERIES			
GENOA NFH	107 (3)	106 (3)	146(3)
LAKE MILLS NFH	133 (3)	128 (3)	155(3)
IRON RIVER NFH	3 ( )	302 (1)	302(1)
FISHERY SERVICES			
ASHLAND	81 (2)	110 (2)	110(2)
WILDLIFE REFUGES			
HORICON NWR	368 (6)	354 (6)	351(6)
NECEDAH NWR	182 (4)	167 (4)	184(4)
LACROSSE DISTRICT	72 (2)	68 (2)	90(2)
CASSVILLE DISTRICT	60 (3)	66 (2)	88(2)
TREMPEALEAU DISTRICT	111 (1)	125 (1)	127(1)
MADISON WI	( )	18 ( )	18( )
ECOLOGICAL SERVICES OFFICE			
GREEN BAY	181 (5)	165 (4)	165(4)
ANIMAL DAMAGE CONTROL			
MADISON	70 (4)	70 (4)	70(4)
FISHERY RESEARCH			
FISH CONTROL LAB	1,041 (28)	1,071 (28)	1,228(28)
COOPERATIVE FISHERY UNIT			
UNIV OF WISC	80 (1)	47 (1)	47(1)

	FY 1980 ACTUAL $(FTP)	FY 1981 ESTIMATE $(FTP)	FY 1982 ESTIMATE $(FTP)
WISCONSIN			
COOPERATIVE WILDLIFE UNIT			
UNIV OF WISC	52 (1)	53 (1)	53(1)
WILDLIFE RESEARCH			
NATL F/W HEALTH LAB	493 (13)	414 (13)	414(13)
STATE TOTAL	3,034(76)	3,264(75)	3,558(75)
WYOMING			
FISH HATCHERIES			
JACKSON	121 (4)	133 (4)	184(4)
SARATOGA	97 (3)	88 (3)	104(3)
FISHERY SERVICES			
LANDER	115 (2)	132 (2)	132(2)
MAMMOUTH	97 (3)	97 (3)	97(3)
WILDLIFE REFUGES			
NATIONAL ELK REFUGE	290 (14)	317 (14)	357(14)
SEEDSKADEE	111 (2)	117 (2)	121(2)
ECOLOGICAL SERVICES OFFICE			
COAL COORD CHEYENNE	46 (1)	101 (1)	101(1)
ANIMAL DAMAGE CONTROL			
CASPER	618 (6)	588 (6)	619(6)
FISH & WILDLIFE COOP UNIT			
UNIVERSITY OF WYOMING	79 (1)	107 (1)	107(1)
STATE TOTAL	1,574(36)	1,680(36)	1,822(36)
PUERTO RICO			
WILDLIFE REFUGES			
CULEBRA NWR, PR	72 (2)	126 (2)	132(2)
LAW ENFORCEMENT OFFICE			
MAYAGUEZ	95 (2)	110 (2)	110(2)
ECOLOGICAL SERVICES OFFICE			
MAYAGUEZ	42 ( )	60 ( )	60( )
STATE TOTAL	209(3)	296(3)	302(3)

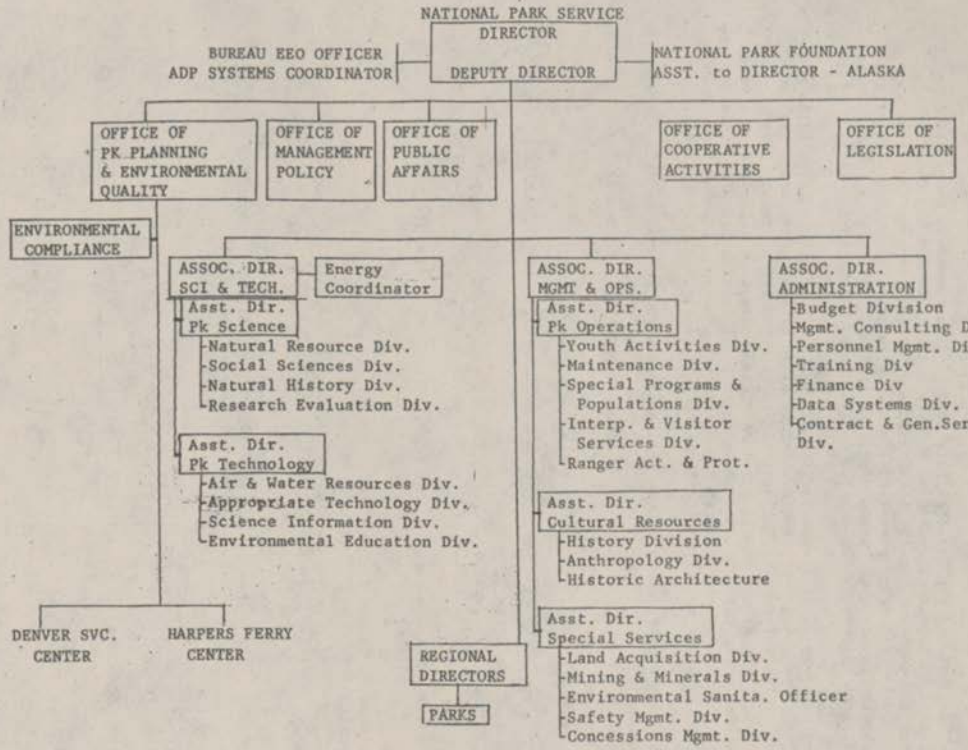
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

FISCAL 1982 BUDGET JUSTIFICATIONS

Table of Contents

Item	Page Number
Organization chart	NPS-1
General Statement	NPS-2
Summary of Appropriations, Revenues and Visits - 1971-1982	NPS-4
Statements of Receipts	NPS-5
Appropriation: Operation of the National Park System	
Appropriation Summary Statement	NPS-6
Justification of Proposed Language Change	NPS-7
Summary of Requirements	NPS-8
Justification of Adjustments to Base and Built-in Changes	NPS-10
Justification of Program and Performance by Activity:	
Park Management	NPS-11
Forest Fire Suppression and Rehabilitation of Burned Areas	NPS-50
Executive Direction	NPS-51
Park, Recreation and Wilderness Planning	NPS-52
Statutory or Contractual Aid for Other Activities	NPS-60
Common Program Services	NPS-67
Summary of Requirements by Object Class	NPS-71
Park and Program Summary	NPS-72
Appropriation: Construction	
Justification of Changes - Construction	NPS-110
Summary of Requirements - Construction	NPS-111
Justification of Program and Performance by Activity:	
Construction	NPS-113
Emergency and Unscheduled Projects	NPS-115
Planning	NPS-116
Fiscal 1982 Construction Programs	NPS-117
Construction Program Detail	NPS-124
Appropriation: Road Construction	NPS-152
Appropriation: Planning, Development and Operation of Recreation Facilities	NPS-157
Appropriation: John F. Kennedy Center for the Performing Arts	
Appropriation Summary Statement	NPS-162
Summary of Requirements	NPS-163
Justification of Adjustments to Base and Built-in Changes	NPS-164
Justification of Program and Performance by Activity:	
John F. Kennedy Center for the Performing Arts	NPS-165
Summary of Requirements by Object Class	NPS-167

Item	Page Number
Appropriation: Construction (Trust Fund)	
Construction Obligation Availability	NPS-173
Appropriation: Miscellaneous Permanent Appropriations	
Justification of Program and Performance by Activity	NPS-179
Appropriation: Trust Funds	
Justification of Program and Performance by Activity	NPS-183
Administrative Provisions	NPS-188
Detail of Permanent Positions	NPS-190
Consulting Service	NPS-191
Fiscal 1981 Supplemental	NPS-192


NATIONAL PARK SERVICE
DIRECTOR
BUREAU EEO OFFICER
ADP SYSTEMS COORDINATOR
DEPUTY DIRECTOR
NATIONAL PARK FOUNDATION
ASST. to DIRECTOR - ALASKA
OFFICE OF PK PLANNING & ENVIRONMENTAL QUALITY
OFFICE OF MANAGEMENT POLICY
OFFICE OF PUBLIC AFFAIRS
OFFICE OF COOPERATIVE ACTIVITIES
OFFICE OF LEGISLATION
ENVIRONMENTAL COMPLIANCE
ASSOC. DIR. SCI & TECH.
Energy Coordinator
Asst. Dir. Pk Science
-Natural Resource Div.
-Social Sciences Div.
-Natural History Div.
-Research Evaluation Div.
Asst. Dir. Pk Technology
-Air & Water Resources Div.
-Appropriate Technology Div.
-Science Information Div.
-Environmental Education Div.
ASSOC. DIR. MGMT & OPS.
Asst. Dir. Pk Operations
-Youth Activities Div.
-Maintenance Div.
-Special Programs & Populations Div.
-Interp. & Visitor Services Div.
-Ranger Act. & Prot.
Asst. Dir. Cultural Resources
-History Division
-Anthropology Div.
-Historic Architecture
Asst. Dir. Special Services
-Land Acquisition Div.
-Mining & Minerals Div.
-Environmental Sanita. Officer
-Safety Mgmt. Div.
-Concessions Mgmt. Div.
ASSOC. DIR. ADMINISTRATION
-Budget Division
-Mgmt. Consulting Div.
-Personnel Mgmt. Div.
-Training Div
-Finance Div
-Data Systems Div.
-Contract & Gen.Serv. Div.
DENVER SVC. CENTER
HARPERS FERRY CENTER
REGIONAL DIRECTORS
PARKS

NPS-1

General Statement

Congress established the National Park Service as a bureau in the Department of the Interior on August 25, 1916 (16 U.S.C. 1). Its mission has remained the same over the years--to manage nationally significant parks so that they may be used today while being preserved for use by future generations. There are 327 areas in the National Park System; the National Park Service estimates that these will be visited by 307 million people during fiscal 1982.

Managing parks requires a wide variety of skills. Some of the large parks are as demanding of management as are moderate-sized cities. Many activities are comparable; law enforcement, maintaining roads, sewerage systems, other physical facilities, and managing a workforce. Other park activities are more complex than those faced by city managers; e.g., balancing use with preservation. Although the mission of the Service has remained constant, its functions have changed in response to burgeoning demand and the environmentalist ethics.

The following summary compares the 1981 Appropriation enacted to date and the 1982 request:

(dollar amounts in thousands)

Appropriation		1981 Appropriation	1982 Estimate	Inc. (+) or Dec. (-)	Perm. Employ. 11/30
Operation of the National Park System	($)	444,828	495,811	+50,983	
	(FTP)	(8,414)	(8,469)	(+55)	7,370
Construction	($)	43,367	61,635	+18,268	
	(FTP)	(386)	(386)	--	355
John F. Kennedy Center for the Performing Arts	($)	4,541	4,544	+3	
	(FTP)	(75)	(75)	--	67
Subtotal, Appropriations Requested	($)	492,736	561,990	+69,254	
	(FTP)	(8,875)	(8,930)	(+55)	7,792
Permanent and Trust Funds					
Miscellaneous Permanent	($)	400	405	+5	
Trust Funds	(FTP)	1,500	1,500	--	
	(FTP)	(3)	(3)	--	3
Other Accounts	(FTP)	(775)	(775)	--	635
Budget Authority, Total NPS	($)	494,636	563,895	+69,259	
	(FTP)	(9,653)	(9,708)	(+55)	8,430

Highlights of 1982 Request

The changes between the 1981 programs and the requested 1982 budget are highlighted below by appropriation.

Operation of the National Park System

The Service is requesting funds to expand operations in new park areas including those in Alaska. Significantly increased funding is being requested to protect parks from environmental threats, to comply with the Clean Air Act, as amended, and to make parks more energy efficient. Major emphasis is also being given in this budget request to providing additional funds to improve maintenance and restore programs and services cut in recent years due to the impact of rapidly escalating costs. Funds for providing direct support to the National Symphony and other performing arts in the Washington area, for maintaining the Corcoran Gallery and Folger Shakespeare Library, and for supporting the police force at Harpers Ferry, are not being requested.

Construction

The Service's request for construction funds proposes major projects for correction of health and safety deficiencies at 17 parks. It provides for rehabilitation of water and sewerage systems, reconstruction of unsafe roads, tunnels, and bridges, structural repairs and fire protection for several visitor use buildings. Completion of several segments of the Natchez Trace Parkway is also proposed.

John F. Kennedy Center for the Performing Arts

The Service is requesting funding for the Kennedy Center at the 1982 base level to continue maintenance and operations at the monument.

Improvements in Operations

A major improvement in operations will be implemented by FY 1982 that involves the way in which the Service handles employees uniform allowance. Currently, each uniformed employee is given an annual cash allowance to buy uniforms. Employees purchase their uniforms from one of a number of vendors resulting in wide differences in quality, price and uniformity. The Service is developing a new approach whereby a contractor will operate a centralized uniform supply system to insure better quality control, standardization and availability.

Also, a new accounting system will be put into effect in 1982 to comply with General Accounting Office requirements and to make accounting data more useful to managers. The Service has implemented the Policies for Acquiring Commercial or Industrial Products and Services in accordance with the Office of Management and Budget Revised Circular A-76. Costs savings as well as the most effective utilization of available resources for commercial and industrial activities will economically and effectively improve operations in park areas.

Authorizations

The major authorizing legislation for the National Park Service is included in 16 U.S.C. 1-470. The only legislation which expires for fiscal 1982 is that which authorizes National Park Service maintenance of the John F. Kennedy Center for the Performing Arts. It expires on September 30, 1981.

74-939 O—80——74

NATIONAL PARK SERVICE

SUMMARY OF APPROPRIATIONS, REVENUES, AND VISITS

Fiscal Year	Appropriations[a/]				Revenues		
	Operating Programs	Grants and Assistance Programs	Planning and Development Programs	Total	General Fund	Land and Water Conservation Fund	Visits
1971.....	114,363,900	8,321,600	41,643,300	164,328,800	2,182,501	12,093,209	186,188,000
1972.....	127,655,400	10,043,600	103,742,800	241,441,800	2,114,753	12,989,286	206,441,900
1973.....	162,666,000	17,759,000	55,362,000	235,787,000	2,425,692	12,780,975	215,051,300
1974.....	201,833,000	22,642,000	72,590,000	297,065,000	2,773,839	11,101,946	209,251,200
1975.....	230,746,000	31,422,000	83,123,000	345,291,000	3,410,551	13,796,382	228,985,800
1976.....	260,385,000	31,379,000	72,322,000	364,086,000	4,295,046	15,268,967	255,821,700
Transition	82,798,000	8,074,000	18,407,000	109,279,000	1,282,000	6,760,000	105,000,000
1977.....	304,833,000	35,048,000	152,073,000	491,954,000	4,605,109	16,645,952	260,120,000
1978.....	341,155,000	10,109,000	199,550,000	550,814,000	5,608,000	17,281,000	267,137,555
1979(Act.)	393,450,000	8,869,000	123,428,000	525,747,000	5,942,000	15,121,000	279,210,110
1980(Act.)	399,337,000	7,624,000	128,029,000	534,990,000	6,131,750	14,956,369	294,582,280
1981(Est.)	452,752,000	7,442,000	49,214,000	509,408,000	6,288,000	16,780,000	297,985,700
1982(Est.)	487,067,000	6,524,000	69,642,000	563,233,000	6,558,000	17,405,000	307,368,024

a/ Adjusted to include supplemental appropriations and to reflect appropriation transfers.

NPS-4

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

STATEMENT OF RECEIPTS

General Fund Receipts Deposited to the Credit of the United States Treasury during the Fiscal Year 1980 and Estimated for the Fiscal Year 1981 and Fiscal Year 1982

(in thousands of dollars)

	Actual 1980	Estimated 1981	Estimated 1982
Permits and licenses	$ 16	$ 18	$ 20
Fines, penalties and forfeitures	11	22	22
Gifts and contributions	1	1	1
Rents, royalties and other earnings	768	786	834
Sale of Government property and products	272	234	250
Business concessions	4,699	5,000	5,200
Fees for services	134	166	169
Recoveries and refunds	204	61	62
Total	6,105	6,288	6,558

Recreation Fee Revenues Deposited to the Credit of the Land and Water Conservation Fund during the Fiscal Year 1980 and Estimated for the Fiscal Year 1981 and Fiscal Year 1982

(in thousands of dollars)

	Actual 1980	Estimated 1981	Estimated 1982
Admission Fees (Annual Permits)	$1,301	$1,600	$1,700
Other (Short-term Entrance, Admissions, Guide, Elevator, and User Fees, Surplus Property Sales)	14,809	15,180	17,200
Total	16,110	16,780	18,900

Appropriation Summary Statement

Appropriation: Operation of the National Park System

The National Park System contains 327 areas which cover approximately 72 million acres of land. Parks are located in 49 States, the District of Columbia, Puerto Rico, the Virgin Island, Guam, and in the Trust Territory of the Pacific Islands. The System is diverse, ranging from Federal Hall National Memorial (located in downtown Manhattan) to remote, million-acre monuments located in Alaska. These parks have in common their national significance as determined by the Congress and the President.

Funds from this appropriation are used to operate the parks. Programs conducted include: (1) Park Management, (2) Forest Fire Suppression and Rehabilitation of Burned Areas, (3) Executive Direction, (4) Park, Recreation and Wilderness Planning, and (5) Statutory and Contractual Aid for Other Activities. As a result of congressional action, the fiscal 1982 budget structure is different from that used in fiscal 1981. The Planning, Development and Operation of Recreation Facilities appropriation has been eliminated and its functions and funding have been transferred to the Operation of the National Park System appropriation under the Park Management, Interpretation and Visitor Services function. In addition, Public Law 96-487 authorized the establishment of ten new park areas in Alaska and expanded three other existing Alaska areas. In fiscal 1981 Congress appropriated $3.0 million to operate new and expanded Alaska parks. The Service is requesting a total of $11.0 million for this purpose in fiscal 1982.

Major changes for fiscal 1982 include:

Park Management: (+$25,022,000)

By activity, the increase for Park Management is distributed as follows: Management of park areas (+$1,312,000); interpretation and visitor services (+$271,000); visitor protection and safety (+$3,912,000); maintenance (+$6,270,000); and resources management (+$13,257,000). The requested increase will be used to initiate or augment operations in newer park areas including Alaska (+$9,600,000); to monitor air quality and continue research on the sources and effects of "acid rain" (+$2,500,000); to improve the energy efficiency of Service facilities in park areas (+$4,200,000); to enhance Servicewide efforts to mitigate and prevent threats to park resources (+$4,900,000); to provide expanded cyclic maintenance and repair and rehabilitation of park facilities (+$7,500,000); and to restore funding for visitor service, protection and patrol, and maintenance programs curtailed in recent years due to the impact of rising costs(+$12,700,000). These increases will be partially funded by redirecting $16,300,000 used in fiscal 1981 for non-recurring needs.

Park, Recreation and Wilderness Planning: (+$615,000)

This increase will be used to improve the Service's water resources management programs to assure the protection and proper utilization of water and related land resources in park areas.

Statutory and Contractual Aid for Other Activities: (-$1,421,000)

An increase of $179,000 will fund the United States' share of operating costs for Roosevelt Campobello International Park (+$31,000) and the National Park Service share of development and operation costs for Ice Age National Scientific Reserve in Wisconsin (+$148,000). This increase is offset by reductions in support for the Folger Shakespeare Library (-$300,000), the Corcoran Gallery of Art (-$300,000), and the National Symphony Orchestra (-$1,000,000) which the Service is not requesting for fiscal 1982.

Justification of Proposed Language Changes

Deletion: "Provided, That not to exceed $5,000,000 may be available for operation of the National Visitor Center and of that amount not to exceed $3,500,000 may be used for payment of rent: Provided further, That the Park Service shall not enter into future concessionaire contracts, including renewals, that do not include a termination for cause clause that provides for possible extinguishment of possessory interests excluding depreciated book value of concessionaire investments without compensation: Provided further, That $150,000 shall be available for the National Park Service to assist the town of Harpers Ferry, West Virginia, for police force use: Provided further, That $1,000,000 shall be available for assistance to the National Symphony Orchestra of Washington, D.C., such assistance to be available only to the extent matched by the National Symphony Orchestra with a like amount of contributions or pledges derived from non-Government sources which have not previously been used for Federal matching purposes: Provided further, That not to exceed $200,000 shall be available for commemoration of the 200th anniversary of the Battle of Yorktown at Colonial National Historical Park."

The cost of operating the National Visitor Center does not remain constant from one fiscal year to the next. Increases in employee salaries as well as the effects of inflation must be taken into consideration in developing a reasonable operating budget for this facility. The National Park Service prefers to retain the funding flexibility it needs to respond to emergency or unforeseen situations by eliminating the limitation on operating costs for the Center.

The Service has responded to congressional interest in concessionaire contracting by amending its standard contract language to include the required clause. Therefore, this language is no longer necessary.

Funds for assistance to the National Symphony Orchestra and for the Harpers Ferry, West Virginia, police force are not being requested in fiscal 1982. Accordingly, this language is unnecessary.

The bicentennial commemoration of the Battle of Yorktown will take place during fiscal 1981. Since funding for this program will not be needed in fiscal 1982, this language can be deleted.

Summary of Requirements
(Dollar amounts in thousands)

Appropriation: Operation of the National Park System

Page No.	Summary of adjustments to base and built-in changes:	Perm. Pos.	Amount	Perm. Pos.	Amount
	Appropriation enacted to date, 1981	--	--	8,414	444,828
NPS-10	Adjustments to base and built-in changes:				
	Adjustment for 1981 pay increases and related costs	--	16,672		
	Annualization of 1981 pay increase	--	8,713		25,385
	Subtotal, adjustments for 1981 pay increase			8,414	470,213
	Other increases:				
	Employee Compensation Fund	+382			
	GSA space cost increases	1,000			
	Subtotal, adjustments to base and built-in changes				1,382
	1982 base			8,414	471,595

Page No.	Comparison by activities:	1980 Actual Perm. Pos.	1980 Actual Amount	1981 Appropriation Enacted to Date Perm. Pos.	1981 Appropriation Enacted to Date Amount	1982 Base Perm. Pos.	1982 Base Amount	1982 Estimate Perm. Pos.	1982 Estimate Amount	Inc.(+) or Dec.(-) Over 1982 Base Perm. Pos.	Inc.(+) or Dec.(-) Over 1982 Base Amount
NPS-11	Park management:										
	Management of park areas	1,407	$61,019	1,419	$64,588	1,419	$69,745	1,431	$71,057	+12	+1,312
	Concessions management	67	2,093	67	2,567	67	2,717	67	2,717	--	--
	Interpretation and visitor services	1,040	44,334	1,171	59,593	1,171	63,068	1,175	63,339	+4	+271
	Visitor protection and safety	1,651	56,189	1,675	59,520	1,675	62,995	1,688	66,907	+13	+3,912
	Maintenance	2,838	159,166	2,852	181,627	2,852	192,201	2,861	198,471	+9	+6,270
	Resources management	914	48,538	914	57,228	914	60,578	929	73,835	+15	+13,257
	Informational publications	26	2,950	26	2,947	26	3,122	26	3,122	--	--
	International park affairs	--	--	10	370	10	394	10	394	--	--
	Volunteers-in-the-Parks	--	240	--	250	--	250	---	250	--	--
	Employees' Compensation	--	[1,788]	--	[2,195]	--	[2,577]	---	[2,577]	--	[--]
	GSA Space Rental	--	[6,405]	--	[6,478]	--	[7,478]	---	[7,478]	--	[--]
	Subtotal	7,943	374,529	8,134	428,690	8,134	455,070	8,187	480,092	+53	+25,022
NPS-50	Forest fire suppression and rehabilitation of burned areas	--	2,288	--	1,200	--	1,200	---	1,200	--	--
NPS-51	Executive direction	167	6,195	166	6,294	166	6,575	166	6,575	--	--
NPS-52	Park, recreation and wilderness planning:										
	Rivers and trails	30	821	30	1,053	30	1,072	30	1,072	--	--
	New area studies	--	10	--	100	--	100	---	100	--	--

Page No.	Comparison by activities:	1980 Actual Perm. Pos.	1980 Actual Amount	1981 Appropriation Enacted to Date Perm. Pos.	1981 Appropriation Enacted to Date Amount	1982 Base Perm. Pos.	1982 Base Amount	1982 Estimate Perm. Pos.	1982 Estimate Amount	Inc.(+) or Dec.(-) Over 1982 Base Perm. Pos.	Inc.(+) or Dec.(-) Over 1982 Base Amount
	Land cost studies	--	9	--	--	--	--	--	--	--	--
	Water resources	11	624	11	934	11	952	13	1,567	+2	+615
	General management plans	56	2,877	67	3,656	67	3,725	67	3,725	--	--
	Subtotal	97	4,341	108	5,743	108	5,849	110	6,464	+2	+615
	Cooperative activities:										
	Environmental impact statement review	11	230	--	--	--	--	--	--	--	--
	Alaska Native Claims Settlement Act	19	852	--	--	--	--	--	--	--	--
	International Park Affairs	10	336	--	--	--	--	--	--	--	--
	Subtotal	40	1,418	--	--	--	--	--	--	--	--
NPS-60	Statutory and contractual aid:										
	Roosevelt Campobello Park	--	319	--	341	--	341	--	372	--	+31
	Hampton National Historic Site	--	100	--	--	--	--	--	--	--	--
	Ice Age National Scientific Reserve	--	405	--	440	--	440	--	588	--	+148
	Lowell Historic Preservation Commission	6	399	6	400	6	400	6	400	--	---
	Grand Canyon School District	--	250	--	--	--	--	--	--	--	--
	Folger Theater	--	300	--	300	--	300	--	--	--	-300
	Corcoran Gallery	--	300	--	300	--	300	--	--	--	-300
	Falls of Clyde	--	--	--	100	--	100	--	100	--	--
	National Symphony	--	--	--	1,000	--	1,000	--	--	--	-1,000
	Ozette Village	--	--	--	20	--	20	--	20	--	--
	Subtotal	6	2,073	6	2,901	6	2,901	6	1,480	--	-1,421
NPS-67	Common Program Services	[582]	[21,020]	[582]	[24,652]	[582]	[26,052]	[582]	[26,052]	[--]	[--]
	Increases									+55	+24,216
	Total requirements	8,253	390,844	8,414	444,828	8,414	471,595	8,469	495,811		

Justification of Adjustments to Base and Built-in Changes
(dollar amounts in thousands)

Adjustment for 1981 pay increase and related cost	Perm. Pos.	Amount
Total cost in FY 1981 of anticipated FY 1981 pay increase supplemental	--	$+16,672
Additional amount in FY 1982 to provide full-year cost of pay increase	--	+8,713
Total	--	+25,385

The anticipated supplemental in 1981 of $16,672,000 includes $11,373,000 for the general schedule pay increase and $1,219,000 for U.S. Park Police pay increase, both effective October 1, 1980, and $4,080,000 for wage board pay increases to be granted during 1981.

An additional $3,420,000 is required in 1982 to cover the full-year cost of the 1981 pay supplemental and includes $715,000 for general schedule, $18,000 for U.S. Park Police, and $2,687,000 for wage board.

An additional $5,293,000 was not allowed in the FY 1981 pay supplemental request which included $3,954,000 for general schedule, $309,000 for U.S. Park Police and $1,030,000 for wage board.

Other increases

Employees' Compensation Fund	--	+382
GSA Space Rental	--	+1,000
Total, other increases	--	+1,382

Justification of Program and Performance

Activity: Park Management
Function: Management of Park Areas

		1981 Appropriation Enacted to Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Management of Park Areas	$	64,588	69,745	71,057	+1,312
	(FTP)	(1,419)	(1,419)	(1,431)	(+12)
(Common Program Services)	$	(3,668)	(3,916)	(3,916)	(--)
	(FTP)	(103)	(103)	(103)	(--)
Total Requirements	$	64,588	69,745	71,057	+1,312
	(FTP)	(1,419)	(1,419)	(1,431)	(+12)

Authorization: 16.U.S.C. 1; P.L. 92-203

Objectives: To manage parks so that resources are protected, visitors served, and applicable regulations are observed.

To provide sufficient Regional and Washington Office professional support to park managers so that the first objective can be accomplished.

Base Program: The NPS uses the money from this function to pay for in-park management and administration. Each park has a superintendent and an administrative staff as support. In a small park such a staff might be limited to a secretary or an administrative clerk. Most larger parks have an administrative officer, procurement and personnel clerks, and other administrative specialists as required. The large number of seasonals hired and the amount of goods and services purchased locally mean that support in purchasing and personnel is usually needed in larger parks. Within the base, the Service proposes to spend $41.3 million for these in-park activities.

The Service also pays for certain Regional and Washington Office support personnel from this function. They are experts in maintenance, visitor services, resource management, and other park operating functions. These support personnel help parks solve particularly difficult problems; help small parks which do not have specialists on hand; and work on problems which affect more than one park. They also advise the Regional Director and the Director of emerging problems. Also paid from this function are such items as leave and transfer pay, information programs, Servicewide training, and other indirect park support programs. To provide all of these out-of-park services costs $28.4 million.

Increase for 1982:	1982 Base	1982 Est.	Increase
$	69,745	71,057	+1,312
(FTP)	(1,419)	(1,431)	(+12)

The majority of the additional funds and staff requested for 1982 ($886,300 and 8 positions) will be for 17 new areas in the System which are not now or only minimally staffed and funded. The new areas increases will provide the professional and technical expertise needed to guide and support initial maintenance and protection efforts. Sizeable expansions at Channel Islands National Park and New River Gorge National River require additional site management personnel. Frederick Law Olmsted and Eugene O'Neill National Historic Sites are located in large population centers making high visitation and the accompanying management workload inevitable. Four new Alaskan areas will receive permanent positions for management and administrative support indispensable for launching onsite operations. Another 6 Alaskan areas will receive operating funds and seasonal clerical support staff.

Onsite management and administrative support for all park areas is essential in assuring that funds and staff are managed efficiently, problems encountered are dealt with immediately, and that Service policies and directives are complied in reaching mission goals and objectives. To illustrate how the fiscal 1982 increases will be used in achieving these program aims, the Service has identified four major categories in which funds and staff will be used:

1. Initial funding for 17 new areas not currently base funded with insufficient management funds and staff

Park	Amount ($000)
American Memorial Park	25.0
Aniakchak National Monument and Preserve	21.6
Bering Land Bridge National Preserve	82.3
Cape Krusenstern National Monument	38.3
Ebey's Landing National Historical Reserve	50.0
Eisenhower National Historic Site	9.5
Eugene O'Neill National Historic Site	22.4
Frederick Law Olmsted National Historic Site	48.6
Gates of the Artic National Park and National Preserve	119.1
Kenai Fjords National Park	41.1
Kobuk Valley National Park	30.0
Lake Clark National Park and National Preserve	35.4
Monocacy National Battlefield	87.7
Noatak National Preserve	57.8
Rio Grande Wild and Scenic River	105.0
Wrangell-St. Elias National Park and National Preserve	59.2
Yukon-Charley Rivers National Preserve	53.3
Subtotal	886.3

2. Increased workload due to new facilities or expansion of park acreage.

Park	Amount ($000)
Channel Islands National Park	36.8
Cuyahoga Valley National Recreation Area	29.0
Denali National Park and Preserve (formerly Mt. McKinley National Park)	25.3
Harpers Ferry National Historical Park	22.0
New River Gorge National River	27.4
Santa Monica Mountains National Recreation Area	22.5
Voyageurs National Park	76.0
William Howard Taft National Historic Site	1.0
Subtotal	240.0

3. Restoration of former administrative support services eliminated or curtailed because of higher operating costs in other functions.

Park	Amount ($000)
Bandelier National Monument	7.6
Capulin Mountains National Monument	3.5
Fort Frederica National Monument	3.6
Grand Canyon National Park	45.1
Katmai National Park	23.4
Mammoth Cave National Park	30.9
Ozark National Scenic Riverways	5.0
Shenandoah National Park	5.4
Subtotal	124.5

4. Increased workload due to additional concessioner-generated activities and compliance with health regulations.

Park	Amount ($000)
Buffalo National River	39.7
Virgin Islands National Park	21.5
Subtotal	61.2
Total, all categories and parks	$ 1312.0

Object Classification Distribution

The object class breakdown for the $1,312,000 increase is as follows:

Position Title	GS Grade	No.	Actual Salary
Park Manager	GS-12	1	$ 26,951
Site Manager	GS-11	1	22,486
Administrative Officer	GS-11	2	44,972
Park Manager	GS-9	1	18,585

Position Title	GS Grade	No.	Actual Salary
Procurement and Property Management Specialist	GS-9	1	$ 18,585
Administrative Clerk	GS-6	3	41,016
Administrative Clerk	GS-5	1	12,266
Secretary	GS-5	1	12,266
Clerk Typist	GS-4	1	10,963
			208,090
Lapse			-8,090
Permanent positions		12	200,000
Positions other than permanent			245,000
Other Personnel Compensation			2,000
Total Compensation			447,000
Personnel Benefits			134,000
Travel and transportation of persons			62,000
Transportation of things			45,000
Communications, utilities and other rent			43,000
Other services			500,000
Supplies and materials			81,000
Total			1,312,000

Justification of Program and Performance

Activity: Park Management
Function: Interpretation and Visitors Services

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Interpretation and Visitors Services	$	59,593	63,068	63,339	+271
	(FTP)	(1,171)	(1,171)	(1,175)	(+4)
(Common Program Services)	$	(3,384)	(3,564)	(3,564)	(--)
Total Requirements	$	59,593	63,068	63,339	+271
	(FTP)	(1,171)	(1,171)	(1,175)	(+4)

Authorization: 16 U.S.C. 1

Objectives: To make available to all park visitors information, services and programs that will assist and encourage them to (1) develop understanding and appreciation of national parks and their significant cultural, natural and recreational values; (2) participate in thoughtful, safe minimum impact use of the park's resources; and (3) understand and suppprt the Service's policies and programs that the preservation of the park's resources imposes on the use and management of those resources.

Short-term objectives of this program include:

Increase the utilization and effectiveness of interpretation and visitor services personnel and programs in protecting and preserving the park's significant natural and cultural resources.

Increase the Service's ability to be responsive to the special needs of handicapped visitors, non-English speaking and international visitors and other special populations that come to the parks.

Expand the Service's environmental/energy education effort through the development of programs based on preserving and managing park resources and by capitalizing on our own examples of environmental/energy conservation oriented operations and activities.

Base Program: The National Park Service is charged with preserving and protecting the natural and cultural resources within the areas under its jurisdiction while at the same time allowing for public use and enjoyment. But public use constitutes a major impact on park resources and makes the achievement of a balance between resource preservation and public enjoyment difficult. Also, while in parks, visitors are often in an unfamiliar and sometimes hazardous environment with a resulting high potential for accidents and injuries.

Interpretation and visitor services, with its information, orientation, and environmental education programs and services, which can influence visitor

behavior, is the most effective way for management to deal with these problems. Interpretation and visitor services operate at the interface of the public and National Park Service and, in most instances, provide the only contact the public has with park management. Interpreters provide information to park visitors, prior to and during their visit, about the options open to them while visiting the park, including information on special situations, conditions or regulations, and specific safety information regarding the particular resource they are visiting. Interpretation also introduces visitors to the National Park Service and its mission, the significance and value of the particular resource they are visiting, and the visitors personal relationship to that resource. By making the above services available to all park visitors, visitor impact on the resource is decreased, as are visitor related accidents and maintenance, protection, and resource management problems.

Personally conducted programs and services have been found to be the most effective means for imparting information and affecting visitor behavior in the parks. For that reason, the majority of services and programs available to park visitors through the interpretation and visitor services function are personally conducted by a professional staff of park rangers, naturalists, historians, archeologists, and interpretive technicians. These programs and services are specially designed to meet the above general program objectives. They include: manned information and orientation stations; information and orientation talks; general interpretive talks and evening programs; guided tours through caves, archeological ruins, historic buildings, and fragile natural resources; interpretive demonstrations; environmental/energy education programs; and offsite programs and services. The Service's professional interpretation and visitor services personnel also provide, operate, and/or maintain a variety of nonpersonal services, facilities, and programs for park visitors. These include information and orientation publications, self-guiding trails and tours, exhibits and audiovisual presentations.

During 1979, the Service's professional uniformed interpretation and visitor services staff of 1,040 permanent and 2,300 seasonal employees provided over 7,500 different types of personally conducted programs and services to approximately 90 million visitors. Nonpersonal facilities, programs, and services accounted for an additional 150 million visitor contacts.

Some measures of workload include:

	1980 estimate	1981 estimate	1982 estimate
1. Direct interpretive cost per recreational visit	.21	.27	.29
2. Number of recreational visits per permanent interpretive positions (000)	208.5	187.0	185.9

Conference action on the Service's fiscal 1981 appropriation request eliminated the "Planning, Development and Operation of Recreation Facilities" appropriation and transferred $14,000,000 to the "Operation of the National Park System" appropriation under the interpretation and visitors services function. These funds are used to collect entrance and user fees from visitors as authorized

by P.L. 92-347, to operate visitor transportation systems in park areas and to provide for the repair or replacement of exhibits, audiovisual projects and historic furnishings. The distribution of the funds transferred by major activity is as follows:

Activity	Amount (000)
Fee Collections	$ 5.5
Visitor Transportation Systems	5.3
Exhibits, Audiovisual projects, and historic furnishings program	3.2
— Total Transfer	14.0

The Service is not requesting additional funds for these activities in fiscal 1982.

The above programs are described in more detail as follows:

1. Interpretation and visitor services - $35.3 million base funding (56 percent of total). Basic interpretation and visitor service concentrates on ensuring that park visitors have a safe and enjoyable visit, preventing visitor related resource damage, and forming a positive relationship between park visitors and the mission of the National Park Service and consists of:

   a. Orientation and information services provided through personally conducted talks, uniformed personnel at visitor information stations and visitor centers, audiovisual presentations, and publications.

   b. Personally conducted tours that cannot be self-guiding because of safety needs of visitors and security needs to prevent potential damage by visitors, (e.g., historic buildings, caves, archeological ruins and other fragile or potentially hazardous resources open to visitors).

   c. Self-guiding building tours, self-guiding trails and exhibits.

2. Other interpretive services - $5.9 million base funding (9 percent of total).

   a. Conducted walks, hikes, evening programs, and general interpretive talks.

   b. Special interpretive programs provided in response to visitor interest and requests.

3. Demonstrations - $4.9 million base funding (8 percent of total).

   a. Backpacking, fishing, canoeing and other outdoor recreational skills with special emphasis on safety.

   b. Living history and living farms, which highlight how our forebearers lived.

4. Outreach programs - $2.0 million base funding (3 per of total).

   a. Services that provide potential visitors with p al information about the park and surrounding attractions.

   b. Programs that maintain community relations and the reasons for management policies and programs.

5. Formal education activities - $1.0 million base fund (2 percent of total).

   a. In-park, resource-based activities involving school children and teachers using park environmental study areas and other environmental facilities.

   b. Offsite programs given at schools near parks.

6. Programs previously funded from entrance and user fees - $14.0 million (22 percent of total).

   a. Fee collection

   b. In-park visitor transportation systems

   c. Refurbishment and/or replacement of exhibits, audiovisual installations, and historic furnishings.

The types of interpretive programs and visitor services offered in any particular areas will depend upon two factors:

1. The particular park resource involved, including how much visitor use it can withstand without being damaged; and

2. The types of actual and/or potential park visitors expected, their numbers and their needs. Every effort will be made to identify and meet the needs of all park visitors within the limits imposed by existing resources. A particular effort will be made to provide for the needs of physically and culturally handicapped visitors, minorities, non-English speaking visitors and children.

Increase for 1982:	1982 Base	1982 Estimate	Increase
$	63,068	63,339	+271
(FTP)	(1,171)	(1,175)	(+4)

The requested increase will be used primarily for the restoration of programs curtailed in previous years due to rising costs. These additional funds will enable the Service to improve services to special visitor groups such as handicapped or non-English speaking persons, to enhance public understanding and appreciation of park resources, and to more effectively promote safe minimum impact use of park areas. The increase also provides $213,500 in program funds and staffing for newly constructed, acquired or restored facilities including visitor centers at Allegheny Portage Railroad National Historic Site, Biscayne National Park, and Channel Islands National Park; the Newhalen campground

facility in North Cascades National Park; and the Santa Bonita Lighthouse in the Golden Gate National Recreation Area. Minimum level interpretive and visitor service programs will be established at three new areas: Monocacy National Battlefield, Frederick L. Olmsted National Historic Site, Eisenhower National Historic Site and in the new Alaska park areas. The increase also includes a transfer of $300,000 in budget authority from the Department of the Navy to the National Park Service to fund the shuttle-boat service for the USS Arizona Memorial at Pearl Harbor. The Navy will continue to operate the shuttle-boat, but on a reimbursable basis.

The total increase of $1,706,000 is partially offset by reductions of $1,435,000 in direct support for the performing arts which the Service plans to discontinue in fiscal 1982 for the following:

Capitol Hill Concerts	$-350,000
Wolftrap Farm Park	-625,000
Ford's Theatre	-225,000
Carter Barron	-35,000
Shakespeare in the Parks	-200,000
Total reductions	-1,435,000

Parks receiving increases include:

Park	Amount (000)
Allegheny Portage Railroad National Historic Site	$ 6.2
Arches National Park	12.8
Bandelier National Monument	15.6
Biscayne National Park	44.7
Channel Islands National Park	36.3
De Soto National Memorial	7.0
Edison National Historic Site	14.5
Effigy Mounds National Monument	6.2
Eisenhower National Historic Site	181.2
Fort McHenry National Monument and National Historic Site	15.0
Fort Vancouver National Historic Site	26.8
Fredericksburg/Spotsylvania National Military Park	30.0
Frederick Law Olmsted National Historic Site	85.6
Glacier Bay National Monument	65.3
Golden Gate National Recreation Area	44.6
Grand Canyon National Park	29.2
Harpers Ferry National Historical Park	36.9
Homestead National Monument of America	13.0
Hubbell Trading Post National Historic Site	10.8
Monocacy National Battlefield	6.0
National Capital Region Parks	49.0
North Cascades National Park	13.7
Petersburg National Battlefield	12.2
Saint-Gaudens National Historic Site	12.7
Santa Monica Mountains National Recreation Area	28.9
Shiloh National Military Park	10.0

74-939 O—80——75

Park	Amount (000)
Valley Forge National Historical Park	49.4
Alaska Parks (new areas)	502.4
All other (13 parks)	40.0
Subtotal, parks	1,406.0
Transfer from Department of Navy for USS Arizona Memorial	300.0
Total increase	1,706.0
Less savings in support for performing arts	-1,435.0
Total request	271.0

Object Class Distribution

The object class breakdown for the $271,000 increase is as follows:

Position Title	GS Grade	No.	Actual Salary
Park Ranger	GS-11	1	$ 22,486
Park Ranger	GS-9	2	37,170
Supervisory Park Technician	GS-7	1	15,193
			74,849
Lapse			-2,849
Permanent positions		4	72,000
Positions other than permanent			51,000
Other personnel compensation			9,000
Total compensation			132,000
Personnel benefits			40,000
Travel and transportation of persons			11,000
Transportation of things			3,000
Communications, utilities and other rent			13,000
Printing and reproduction			2,000
Other services			-6,000
Supplies and materials			76,000
Total			271,000

Justification of Program and Performance

Activity: Park Management
Function: Visitor Protection and Safety

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Visitor Protection and Safety	$	59,520	62,995	66,907	+3,912
	(FTP)	(1,675)	(1,675)	(1,688)	(+13)
(Common Program Services)	$	(3,380)	(3,669)	(3,669)	(--)
Total Requirements	$	59,529	62,995	66,907	+3,912
	(FTP)	(1,675)	(1,675)	(1,688)	(+13)

Authorization: 16 U.S.C. 1, and 16 U.S.C. 1a-6

Objectives: Conduct a law enforcement, security and protection program which effectively provides for the security and protection of park visitors, employees, and the resources of the National Park System.

Base Program: Law enforcement and protection operations, including U.S. Park Police and park ranger activities, are conducted to provide a secure environment for visitors, employees, and other park populations as well as to provide security and protection for property and resources. This includes emergency preparedness, and search and rescue operations (2,143 search and rescue operations involving 2,972 visitor victims were conducted in 1979). Where possible, National Park Service law enforcement activities are coordinated with local, State, and other Federal law enforcement agencies to maximize public benefit. Actual accomplishments and workload factors which impact on visitor, employee, and resource safety and protection activities include:

Factor	1979 (Actual)
Number of areas administered	323 1/
Number of visitors (millions)	282.4
Motor vehicle accident investigations	7,583
Citations issued	93,176
Courtesies issued	91,990
Vandalism incidents reported	8,773
Number of felonies per million visits	31.9
Number of petty crimes per million visits	294.2
Public assistance incidents reported per million visits	584.5
Physical arrests per million visits	23.7
Visitor Protection and Safety cost per visit	.18

Fiscal 1982 base funds are allocated by purpose as follows:

1/ This is a 1979 figure. Currently, there are 327 areas in the System.

Purpose	Amount ($ millions)	Percent of Total
--Safety services and occupational health	3.8	6.0
--Emergency services	4.7	7.4
--Traffic Control	4.8	7.6
--Patrol and enforcement	34.9	55.4
--Criminal investigations	3.1	5.0
--Search and rescue	1.2	1.9
--Visitor recreation supervision	10.5	16.7
Total	63.0	100.0

Increase in 1982	1982 Base	1982 Estimate	Increase
$	62,995	66,907	+3,912
(FTP)	(1,675)	(1,688)	(+13)

The increase will be used to augment patrol and enforcement activities in 43 parks primarily to restore services cut due to the adverse impact of inflation on existing programs. These program restorations will improve the Service's management of back-country areas, provide more timely and effective emergency services, and expand law enforcement and resource protection activities in a number of congested park areas. Improvements will also be made in visitor safety programs at Cape Hatteras, Cape Cod, and Gulf Islands National Seashore, and Indiana Dunes National Lakeshore by increasing seasonal lifeguard staffs at these heavily used areas. In addition the increase will provide $2,180,000 to initiate visitor protection and safety programs in new Alaskan parks. The total increase of $3,912,000 is partially offset by a reduction of $150,000 in support for the Harpers Ferry Police Force which the Service is not requesting for fiscal 1982.

Parks receiving increases include:

Park	Amount ($000)
Bandelier National Monument	40.7
Big Thicket National Preserve	21.8
Biscayne National Park	37.2
Canyonlands National Park	37.3
Cape Cod National Seashore	41.7
Cape Hatteras National Seashore	81.0
Chattahoochee River National Recreation Area	15.9
Chesapeake and Ohio National Historical Park	22.8
Curecanti National Recreation Area	61.8
Cuyahoga Valley National Recreation Area	53.6
Eisenhower National Historic Site	38.1
Eleanor Roosevelt National Historic Site	16.9
El Morro National Monument	28.9
Everglades National Park	85.0
Fredericksburg and Spotsylvania County Battlefields National Military Park	20.0
Gateway National Recreation Area	26.6
Glacier Bay National Monument	27.7
Glen Canyon National Recreation Area	34.0
Golden Gate National Recreation Area	100.0
Grand Canyon National Park	31.4
Great Smoky Mountains National Park	25.8
Gulf Islands National Seashore	44.1
Haleakala National Park	48.5

Park	Amount ($000)
Harpers Ferry National Historical Park	29.7
Hawaii Volcanoes National Park	47.9
Indiana Dunes National Lakeshore	91.8
Isle Royale National Park	41.7
Lake Mead National Recreation Area	68.0
New River Gorge National River	25.8
North Cascades National Park	26.2
Olympic National Park	62.0
Rio Grande Wild and Scenic River	25.0
Rocky Mountain National Park	21.9
Sleeping Bear Dunes National Lakeshore	50.0
Valley Forge National Historical Park	40.6
Voyageurs National Park	19.0
Yosemite National Park	82.0
Zion National Park	21.6
Alaska Parks (new areas)	2,180.0
All other (27 parks)	191.0
Subtotal, Parks	3,965.0
U.S. Park Police	97.0
Total increase	4,062.0
LESS: Harpers Ferry Police Support	-150.0
Total request	3,912.0

Object Class Distribution

The following class breakdown for the $3,912,000 increase is as follows:

Position Title	GS Grade	No.	Actual Salary
Chief Ranger	GS-12	1	$ 26,951
Chief Ranger	GS-11	3	67,458
District Ranger	GS-11	5	112,430
Park Ranger	GS-9	2	37,170
Park Technician	GS-5	2	24,572
			268,581
Lapse			-10,581
Permanent positions		13	258,000
Positions other than permanent			732,000
Other personnel compensation			73,000
Total compensation			1,063,000
Personnel benefits			131,000
Travel and transportation of persons			184,000
Transportation of things			133,000
Communications, utilities and other rent			129,000
Other services			1,480,000
Supplies and materials			637,000
Equipment			155,000
Total			3,912,000

Justification of Program and Performance

Activity: Park Management
Function: Maintenance

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Maintenance	$	181,627	192,201	198,471	+6,270
	(FTP)	(2,852)	(2,852)	(2,861)	(+9)
(Common Program Services)	$	(10,315)	(10,804)	(10,804)	(--)
	(FTP)	(204)	(204)	(204)	(--)
Total Requirements	$	181,627	192,201	198,471	+6,270
	(FTP)	(2,852)	(2,852)	(2,861)	(+9)

Authorization: 16 U.S.C. 1

Objective: The Service is faced with the application of professional codes and practices to facilities of all ages, including those of historic value and those containing complex mechanical and electrical components. The maintenance program is aimed at protecting the life, health, and safety of visitors and employees. Additionally, prudent and economical maintenance management practices are more economical than corrective action programs for facilities after deterioration or breakdown has occurred. The Service's objectives for its maintenance program must therefore advocate a long term objective of cost reduction and facility preservation based on near term goals of preventative action.

The Service's FY 1982 objectives are therefore: (1) Conduct maintenance activities to provide a safe, sanitary and comfortable environment for park visitors (307 million estimated visits), employees, and other users of the National Park System. (2) Conduct a professional program of preventative and rehabilitative maintenance and preservation to preserve the physical integrity of natural and cultural resources in 327 areas of the National Park System. (3) Continue a proactive maintenance management program of functional inventories and assessments of facilities so as to permit programs to be reviewed and assigned priorities consistent with fire, life, safety, and health.

Base Program: The Service's base maintenance program includes funds for (a) payment of utility costs, (b) custodial maintenance to buildings, roads, trails, and grounds, and (c) routine preventative and rehabilitative maintenance activities intended to keep park facilities from further deterioration or from irreversible damage and loss.

Maintenance projects and programs are designed in a professional manner to preserve facilities from failure or decline. Projects are designed and accomplished in accordance with appropriate policy and environmental regulations and guidelines. Federal, State, and local regulations govern many

of these activities such as air and water quality, solid waste disposal, building and vehicle safety codes, and employee safety and health requirements. Projects for maintenance purposes are limited to those for which funds can be obligated within a single fiscal year. The Service's maintenance program is divided into three categories:

1. Operational Maintenance. This is defined as day-to-day inspection, upkeep, repair, operation, and purchase of utility services (electric power, fuel, water, sewerage systems, etc.).

   Typical work performed in this category includes: janitorial services, garbage collection, operation of utility systems or purchase of utilities, road grading and patching, snow removal, tree and grounds care, service and repair of fixed or moveable equipment, painting, and minor building repair.

   The scope and frequency of the work performed in this category is usually determined by local park management based on professional maintenance recommendations as needed. Most of this work is accomplished by park personnel or through locally managed contracts.

2. Cyclic Maintenance. This is defined as specific maintenance activities that are performed on a fixed periodic basis when the work is predictable and the cycle is less than once a year. Programs for cyclic maintenance are based on an inventory of facilities requiring cyclic maintenance and on a documented Regionwide, park-by-park cyclic maintenance schedule. Typical work performed in this category includes road resealing, repainting or reroofing of buildings and replacement of motors and other mechanical components.

   The work performed may require plans and specifications prepared by engineers, architects, or landscape architects. The cyclic maintenance program is managed by the Regional Offices. The majority of the work is accomplished by contract.

3. Repair/Rehabilitation. This is defined as those projects whose specific purpose is to restore damaged or deteriorated facilities to good condition. The projects included in this category are based on planned requirements that are not routine and that are not generally cyclic in nature. Typical projects included in this program include replacement of boilers, road overlay or reconditioning of segments of road bases, repair of bridge structures, and correction of structural problems. A multi-year program is established for each Region, listing the project to be accomplished.

The Service estimates that base funding (including Common Program Services) is allocated among the following major categories of work:

Category	Amount ($ millions)	Percent of Total
Maintain primary roads	35.1	17
Public use buildings	28.5	15
Grounds care	19.3	10
Cyclic maintenance	13.9	9
Shop operations	11.5	6
Solid waste disposal	10.8	6
Campgrounds & picnic areas	9.7	5
Trails	9.1	5
Sewer systems	8.4	4
Water systems	7.9	4
Electric systems	7.1	4
Other buildings	6.1	3
Recreation facilities	4.0	2
Maintain secondary roads	3.8	2
Communication systems	3.6	2
Energy conservation	3.0	1
Other utilities	2.8	1
Interpretive exhibits	2.4	1
Other structures	2.3	1
Roadsides	1.6	1
Quarters and trailers	1.3	1
Total	192.2	100

Increase for 1982:	1982 Base	1982 Est.	Increase
$	192,201	198,471	+6,270
(FTP)	(2,852)	(2,861)	(+9)

The Service's 1982 maintenance program increases are designed to address these major needs:

1. To provide new and developing parks with sufficient funds and staff to begin adequate maintenance programs in light of emerging visitation patterns and other impacts on park facilities and resources +2,587,100.

2. To provide older established parks with funds to help restore lost preventative and routine maintenance programs which have been eliminated or sharply curtailed +7,486,100.

3. The increase amount for energy conservation will provide the Service with the ability to reduce energy consumption by an estimated 15%. Retrofit projects will be done on over 4,600 buildings Servicewide +$4,217,000.

4. The regional cyclic maintenance/repair and rehabilitation programs will be expanded to provide for improved preventive maintenance and correct health, safety and other facility deficiencies +$5,864,300.

5. Beginning in fiscal 1982, the Service will initiate a long-overdue program to improve dam safety throughout the System by conducting inspections and inventories of needed repairs and safety modifications +$425,000.

To partially fund the increases for park base operations and the other maintenance programs listed above, the Service is reallocating $14,309,000 used in fiscal 1981 to fund Systemwide non-recurring repair and rehabilitation projects. Therefore, the net increase request for fiscal 1982 is $6,270,000.

New and developing parks receiving increases for new facilities and initial base operations:

Park	Amount ($000)
Allegheny Portage Railroad National Historic Site	25.2
Aniakchak National Monument and Preserve	50.8
Big South Fork National River and Recreation Area	42.9
Big Thicket National Preserve	48.9
Buffalo National River	39.6
Chesapeake and Ohio Canal National Historical Park	46.0
Cape Lookout National Seashore	26.9
Channel Islands National Park	100.6
Chattahoochee River National Recreation Area	93.2
Curecanti National Recreation Area	95.5
Cuyahoga Valley National Recreation Area	181.2
Delaware Water Gap National Recreation Area	150.0
Denali National Park and Preserve	181.2
Eisenhower National Historic Site	72.9
Gates of the Artic National Park and National Preserve	127.9
Golden Gate National Recreation Area	293.9
Guadalupe Mountains National Park	28.8
Indiana Dunes National Lakeshore	121.3
Lake Clark National Park and National Preserve	44.0
Lowell National Historical Park	209.6
New River Gorge National River	34.3
Monocacy National Battlefield	34.3
North Cascades National Park	68.7
Ozark National Scenic River	58.0
Perry's Victory and International Peace Memorial	27.8
Santa Monica Mountains National Recreation Area	38.6
U.S.S. Arizona National Memorial	48.0
Valley Forge National Historic Park	90.9
Voyageurs National Park	76.0
William Howard Taft National Historic Site	10.4
Nine other parks receiving increases in this category account for an additional	119.7
Subtotal, new and developing parks	2,587.1

To counteract the effects on aging facilities of reduced maintenance and increased use, forty-nine older, established parks are requesting the following increases:

Park	Amour
Acadia National Park	
Amistad National Recreation Area	
Arches National Park	
Bandelier National Monument	
Bent's Old Fort National Historic Site	
Big Bend National Park	242.3
Bighorn Canyon National Recreation Area	63.0
Blue Ridge Parkway	440.0
Cape Cod National Seashore	39.2
Chaco Canyon National Monument	44.9
Chickamauga and Chattanooga National Military Park	33.8
Crater Lake National Park	64.8
Everglades National Park	269.0
Fire Island National Seashore	73.3
Fort McHenry National Monument and Historic Shrine	25.0
George Washington Carver National Monument	25.5
George Washington Memorial Parkway	415.0
Gettysburg National Military Park	206.0
Glacier Bay National Monument	91.3
Glacier National Park	255.5
Glen Canyon National Recreation Area	104.0
Grand Canyon National Park	166.4
Grand Teton National Park	154.0
Great Smoky Mountains National Park	275.0
Gulf Islands National Seashore	153.9
Hampton National Historic Site	69.1
Isle Royale National Park	73.0
Jefferson National Expansion Memorial	51.6
Katmai National Monument	66.1
Lake Mead National Recreation Area	151.2
Lassen Volcanic National Park	43.5
Mammoth Cave National Park	35.9
Mesa Verde National Park	119.6
Mount Rainier National Park	250.3
Natchez Trace Parkway	384.0
National Capital Parks	340.3
National Visitor Center	50.0
Nez Perce National Historical Park	32.6
Padre Island National Seashore	67.7
Prince William Forest Park	77.1
Rock Creek Park	96.0
Rocky Mountain National Park	227.0
Sequoia National Park	185.3
Shenandoah National Park	119.3
Vicksburg National Military Park	30.0
Virgin Islands National Park	39.0
Wind Cave National Park	43.4
Yellowstone National Park	472.5
Yosemite National Park	306.0

An additional 59 smaller established parks are requesting a total of $720,600 in increases for 1982 in furtherance of the above program goals.

	Amount ($000)
Subtotal, established parks	7,486.1
Energy Conservation	4,217.0
Cyclic Maintenance	5,864.3
Dam Safety Program	425.0
Less amount of non-recurring projects for fiscal 1981	-14,309.5
Total increase need for fiscal 1982	6,270.0

Object Class Distribution

The object class breakdown for the $6,270,000 increase is as follows:

Position Title	GS Grade	No.	Actual Salary
Facility Manager	GS-12	1	$ 26,951
Maintenance Mechanics	Ungraded	2	32,300
Maintenance worker	Ungraded	2	30,800
Maintenance Foreman	Ungraded	2	33,600
Maintenance Leader	Ungraded	1	16,300
Laborer	Ungraded	1	11,200
			151,151
Lapse			-6,151
Permanent Positions		9	145,000
Positions other than permanent			1,172,000
Other personnel Compensation			20,000
Total compensation			1,337,000
Personnel benefits			218,000
Travel and transportation of persons			249,000
Transportation of things			344,000
Communications, utilities and other rent			174,000
Other services			3,534,000
Supplies and materials			3,252,000
Equipment			1,270,000
Lands and Structures			-4,108,000
Total			6,270,000

Justification of Program and Performance

Activity: Park Management
Function: Informational Publications

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Informational Publications	$	2,447	3,122	3,122	--
	(FTP)	(26)	(26)	(26)	(--)
(Common Program Services)	$	(167)	(172)	(172)	(--)
Total Requirements	$	2,447	3,122	3,122	--
	(FTP)	(26)	(26)	(26)	(--)

Authorization: 16 U.S.C. 1

Objectives: To supply each park with current folders and maps for free distribution to visitors at a ratio of one folder for each 10 visitors.

To produce, for sale through the Government Printing Office, inexpensive posters and charts for parks needing such publications to supplement onsite interpretation.

Base Program: The NPS supplies free park folders to visitors upon their entrance to a park. A park folder is a compact guide consisting of a map, text and pictorial information. Each folder briefly presents the purpose of the park; the resources and facilities available; and provides basic information about safety, travel and other essentials. It is especially useful in parks where personal guides are not available.

Folders, maps and other printed items are prepared by an interpretive center at Harpers Ferry, West Virginia, and printed by the Government Printing Office.

Users of this information include individuals, families, school children and tour groups from this country and abroad. For some parks having a high foreign or ethnic visitation, publications are also produced in other languages.

Pressure for new folders has increased because of the special information and mapping requirements of the new Alaska parks, the emphasis on parks in or near urban centers, from an increase of foreign visitors and from new parks designated by Congress. The NPS also produces inexpensive posters and handbooks for those parks requiring such publications to supplement onsite interpretation. These are printed and sold by the Government Printing Office.

Justification of Program and Performance

Activity: Park Management
Function: Concessions Management

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Concessions Management	$	2,567	2,717	2,717	--
	(FTP)	(67)	(67)	(67)	(--)
(Common Program Services)	$	(146)	(156)	(156)	(--)
Total Requirements	$	2,567	2,717	2,717	--
	(FTP)	(67)	(67)	(67)	(--)

Authorization: Public Law 89-249

Objectives: In accordance with Public Law 89-249, the National Park Service is responsible for taking such action as may be appropriate to: (1) encourage and enable private persons and corporations (concessioners) to provide and operate facilities and services which are deemed necessary and appropriate for the accommodation of visitors in areas administered by the National Park Service; (2) ensure that concessioners provide quality facilities and services at reasonable rates; and (3) ensure a reasonable opportunity for the concessioner to realize a profit for its operation as a whole commensurate with the capital invested and obligations assumed.

Base Program: The concessions management program exists to satisfy a need for commercial services by the public for their enjoyment of the National Park System in a manner that will leave the parks unimpaired for the enjoyment of future generations. In many cases, parks are located in remote areas where lodging, food, gasoline, vehicle repairs, transportation, and general merchandise are not conveniently available. Thus, it becomes necessary to have concessioner operated facilities within park areas to provide such commercial services to the public. Consistent with this, concessions management emphasis must be on: (1) determining what facilities and services are necessary and appropriate; (2) establishing policies and procedures for Servicewide planning to assure provision of necessary concession facilities and services; (3) evaluating performance of concessioners' delivery of services and quality of facilities maintained; (4) approving rates charged to the public for services offered based on comparability as defined by law; (5) integrating planning and contracting processes to insure proper level and quality of services rendered; (6) analyzing financial data pertaining to concession activities including sales and franchise fees; (7) providing for other special programs consistent with concession activities; (8) providing economic analysis consistent with contracting and planning needs; and (9) training of concessions management personnel to perform duties better and more efficiently and to orient new concession employees to the goals, policies, and principles of the National Park Service.

We have 364 concession permits and 134 concession contracts, making a total of 498 concessioners operating in 95 areas of the National Park System. The total number of concessioners fluctuates because the concession permits, by their very nature, are more flexible than the concession contracts, and the total changes from month-to-month. Total sales from concession operations amounted to an excess of $232 million in 1979. The Service collects franchise fees from park concessioners which are deposited in the general fund account of the U.S. Treasury. These fees, which are not available for use by the National Park Service, amounted to $4.5 million in 1979.

Justification of Program and Performance

Activity: Park Management
Function: Resources Management

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc.(+) or Dec. (-)
Resources Management	$	57,228	60,578	73,835	+13,257
	(FTP)	(914)	(914)	(929)	(+15)
(Common Program Services)	$	(3,250)	(3,406)	(3,406)	(--)
Total Requirements	$	57,228	60,578	73,835	+13,257
	(FTP)	(914)	(914)	(929)	(+15)

Authorization: 16 U.S.C. 1

Objectives: To preserve, protect, and manage the natural and cultural resources in the National Park System.

Base Program: (1) Cultural Resources Management: Cultural resources management activities are conducted to preserve, protect, and maintain historical and prehistoric sites, structures and collection of objects of the National Park System for the enjoyment and understanding of the public. The program is accomplished by:

(a) Protecting cultural resources from unwarranted development, visitor use or natural impacts

(b) Acquiring the information necessary to:

--support management decisions
--evaluate and interpret the historical and cultural significance of the parks' resources
--execute preservation and maintenance activities on historic structures
--protect the resources from unwarranted impacts

(c) Conducting preservation and maintenance work on the authentic physical remains of cultural resources to assure their preservation.

The cultural resources of the Park System are diverse, fragile, and deteriorating because of the impacts of weather, adjacent land uses, air pollution, normal aging, and visitor use. Nearly 70,000 culturally significant properties and over 10 million objects have been inventoried and require preservation, periodic maintenance, and protection. Included are such items as fortifications, canals, mansions, barns, industrial buildings, log cabins, monuments, and tombstones which require preservation for the long-term protection of the resource. This diversity of resources requires a wide range of specialized professionals and skilled craftsmen to carry out the work of the program.

The duties of these professionals and craftsmen are as varied as the resources entrusted to the Service. They determine what is needed to protect historic buildings, sites, structures, and objects and take needed measures to accomplish this. They determine the historic facts necessary to guide development and interpretation of historic sites accurately. These actions are done so that visitors, now and in the future, will better understand our Nation's history and heritage. They locate, inventory, and determine the significance of these resources. The funds will be used for:

	Amount ($ millions)	Percent of Total
Maintenance and Operation of Cultural Resources	21.6	63
Cyclic Maintenance of Cultural Resources	2.2	20
Investigations and Studies	1.2	5
Preservation Fund Projects	2.1	12
Total	27.1	100

(2) Natural Resources Management: The purpose of the natural resources management program within the National Park Service is to protect the resources and to assure the continuity of the natural processes. This Systemwide program of resource management includes data-gathering, analysis and monitoring, information management and planning, and when necessary, the rehabilitation of resources.

Data-gathering is required first to provide an inventory of the resources that exist and require protection and maintenance; second, to provide baseline data for use in long-term monitoring programs that can serve as early warning systems for the parks to assure the perpetuation of the resources; and third, as an information base to support the functions of park planning and management.

Information necessary to protect and manage a park's natural resources and the ecosystem within which they exist involves a wide range of physical, chemical, and physiological processes and their interactions with one another. Areas of particular interest include geology, air and water quality, vegetation and wildlife.

Monitoring is necessary to detect and assess the significance of changes in park ecosystems and natural processes. Such changes can be man-induced (e.g., impacts from park-adjacent transportation activities, urban sprawl and development with their associated pollutant loads, increasing population pressures, etc.) or they may be natural (e.g., violent storms and floods). Identifying such changes and understanding their significance requires comprehensive and continuing monitoring data.

Daily management of the national parks requires levels of expertise that were not necessary when the parks were surrounded and protected by vast wilderness buffer zones. The extremely complex nature of the problems facing today's park managers requires highly trained resource specialists who are able to detect and respond to park threats before they cause irreversible damage.

Park natural resource management activities include a wide variety of functions including the management of aquatic resources and fisheries, ungulates, bears and other wildlife, vegetation, wildland fire, caves, backcountry, endangered and threatened species, exotic animals and plants, and biocide use and monitoring. Additional activities include the management of agreements with other agencies, special use permits, research in natural areas, ecosystem maps, and a variety of management information systems.

Base funding is used as follows:

	Amount ($ millions)	Percent of Total
Manage abiotic resources	5.9	17
Monitor approved land use (grazing, etc.)	5.0	15
Fire management	5.3	16
Vegetative resources management	2.9	9
Wildlife resources management	3.4	10
Resources management studies	11.0	33
Total	33.5	100

Natural resource management work is done at the park, regional, and Servicewide level. Funding by level is as follows:

Level	Amount ($ millions)
Parks	25.6
Regionwide	4.6
Servicewide	3.3
Total	33.5

In July 1979, the House Subcommittee on National Parks and Insular Affairs requested that the National Park Service undertake an overview of existing and potential activities which may be damaging or threatening the natural and cultural resources of each unit of the National Park System. In response to this request, the National Park Service, in May 1980, submitted the requested study to the Congress: "State of the Parks - 1980: A Report to the Congress." The most significant findings developed in this study were that: (1) park units representing all size and use categories, and all types of ecosystems, reported a wide range of threats affecting their resources. These threats, which emanate from both external and internal sources, are causing severe degradation of park resources; (2) a surprising 75 percent of the more than 4,000 reported threats to park resources have been classified by onsite park observers as inadequately documented by either private or government research; and (3) the Service must significantly expand its research and resource management capabilities to deal with known or suspected threats to park resources.

74-939 O—80——76

In July 1980, the House Subcommittee requested that the Service take immediate steps to respond to documented problems identified in the State of the Parks Report and asked that the Service submit a subsequent report outlining the results of our followup efforts to prevent and mitigate threats to park resources. The Service has completed a second report titled "State of the Parks: A Report to the Congress on a Servicewide Strategy for Prevention and Mitigation of Natural and Cultural Resource Management Problems." This report summarizes prevention/mitigation activities currently underway within parks and also presents an overall Service strategy for mitigating problems in the long-term.

Increase for 1982	1982 Base	1982 Estimate	Increase
$	60,578	73,825	+13,257
(FTP)	(914)	(929)	(+15)

The Service will use the increases requested as follows:

1. Support implementation of the prevention/mitigation program developed by the Service $+2,758

   A. Natural Resources Management Development Program (+1,140)

   The natural resources of the National Park System have been severely impacted in recent years by a wide range of internal and external threats, as well as by the inability of current park personnel to adequately address the technological implications associated with those threats. There are currently only about 135 general resources managers Servicewide (including those who manage both natural and cultural resources), and many of these personnel serve in park management capacities rather than primarily as resource management specialists. Clearly there is an immediate need for more highly trained resource management staff in the parks.

   The requested increase will be used to establish a Natural Resources Management Specialist Development Program designed to place well qualified resources managers into every major natural area of the System. The program will begin in fiscal 1982 by establishing term appointments for an in-Service comprehensive development program jointly formulated by the Washington Office, Regional Offices, and parks. The development program will last for an 18 to 24-month period, during which time the participants will be assigned to, and be stationed within park areas. Curricula will be developed to include a variety of components reflecting the major needs of the park to which an individual is assigned. At the completion of each program period, the participants will be permanently assigned to vacant positions in parks. It is planned that a new cycle will be initiated each year, through at least fiscal 1990, with the employees who complete the program annually assigned to those parks where the demand for a natural resources specialist has been identified.

   B. Special Initiative Parks (+600)

   The Service has identified a number of park areas which are experiencing resource management problems of special concern. We are requesting $600,000 to initiate critical baseline data collection and monitoring studies and to conduct resource protection activities at such highly threatened parks as the following:

Channel Islands National Park	$200,000
Glacier National Park	170,000
Organ Pipe Cactus National Monument	120,000
Haleakala National Park	110,000
	600,000

Channel Islands National Park has a number of serious resource management concerns including: (1) preservation of archeological and historical sites on the islands and the development of a plan to care for human remains and artifacts eroding from such sites; (2) eradication of exotic black rats from Anacapa Island; (3) removal and trial eradication of exotic plant species within the park; (4) continued study of the impacts of eradicating feral European rabbits on Santa Barbara Island, leading directly toward an elimination program; (5) initiation and continuation of monitoring of marine birds and mammals that utilize the islands, in order to recognize changes in the health or status of the populations; and (6) initiation of monitoring programs for air, water quantity and quality and impacts resulting from human use of the islands.

Glacier National Park requires an expanded research and monitoring program to address threats to park resources. The requested funding will support an expanded research effort to respond to problems resulting from human activities occurring in the wilderness buffer zone surrounding the park. Existing threats include minerals development, strip mining, clear cut logging, road and residential construction, industrial air pollution and trespass livestock grazing.

Organ Pipe Cactus National Monument was established to perpetuate for future generations a representative sample of the Sonoran Desert, its overall scenery, indigenous plants characterized by the saguaro - paloverde association, the distinctive organ pipe cactus, desert wildlife species, and the historic resources associated with man's presence and life within the monument area; while providing for public use and enjoyment. Because of growing concern about the status of natural resources within this International Biosphere Reserve and the problems associated with minerals and energy development in the region and agricultural development south of the park border, the Service is requesting special funding for baseline data collection, monitoring, and support facilities at the park. These funds will be utilized to initiate a critically needed fauna survey/wildlife water-use study; to initiate climatological monitoring; to study hydrological conditions in the La Abra Plain to assess the effects on park biota of ground water pumping for agricultural irrigation on lands adjacent to the park; and to develop support facilities for park researchers.

Haleakala National Park is of special concern. The presence of feral hoofed animals has resulted in severe damage to native plants and ecosystems. Exotic plants that have escaped cultivation or were accidentally introduced have invaded disturbed areas; many are now firmly established. A minimum of 81 exotic plant species have been identified throughout the park. A number of endangered species found within the park require continued special attention. Specific management actions proposed are: control of goats and pigs by fencing and

shooting; endangered bird species protection, including propagation and release pens; exotic predator control; exotic plant control; reintroduction of native plants; and cultural resources site restoration for agriculture. Research actions include continued vegetation monitoring and mapping, competition between native and exotic plants; monitoring of petrel populations and a general bird survey; study of avian diseases and rare and endangered birds; pig study in Kipahula Valley; biological surveys of the Crater and Kipahula Districts; a Kipahula Valley research plan; and a resource-based carrying capacity study. The funding requested will be utilized to initiate a number of the above programs.

C. Regional Natural Science Program (+812)

The Regional Natural Science Programs are administered by the regions to provide technical support for responding to park specific resource management and resource protection problems. Funds and personnel associated with the Regional Natural Science Program are used to: (1) establish quantitative baseline data on park resources; (2) conduct research to define threshold damage levels and to develop exposure versus response relationships; (3) conduct comprehensive monitoring programs to quantify existing environmental and ecosystem conditions and to detect changes in those conditions; and (4) provide the capability to better predict how proposed new visitor and park management activities will affect and impact natural resources, scenic values, and other park attributes. As an internal management tool, the baseline data collected through the Regional Natural Science Program is utilized as a guide for setting priorities and allocating available resources, for knowing how and when to initiate mitigation programs, and as a basis for formulating decisions throughout the System involving management and protection of park natural resources.

The requested increase will be spent on in-park research, monitoring and baseline data collection and to provide essential personnel services support associated with the Regional Natural Science Program.

D. Western Energy Program Assessment (+206)

The Nation's National Energy Plan, designed in part to reduce America's dependence on foreign energy supplies, focuses much of its attention on the vast energy resources of the western United States. These resources include coal, oil shale, natural gas, petroleum, uranium, sunlight, and geothermal resources. Vigorous development of several of these resources already is proceeding, with many new extraction, conversion, and transmission projects underway and others being planned.

Much of the contemplated development is planned in southern and central Utah and the surrounding region, an area that includes eight national parks, 26 national monuments, three national recreation areas, two national historic sites, and one national memorial--approximately one-fifth of the total acreage administered by the National Park Service outside Alaska.

The requested increase will be utilized to initiate an overview environmental and ecological assessment of present and proposed energy development in the general southern/central Utah region with respect

to the potential impact of this development on the national parks. The assessment will review proposed and ongoing projects in relationship to their potential impacts on park resources, identifying and documenting the information needs of the park management decision-making process as well as the questions and issues which must be addressed in order to assure protection of this national heritage while simultaneously meeting the very real energy needs of the country.

2. Acid Rain Monitoring and Research +469

The phenomenon of "acid rain" or acid precipitation is now widely recognized as a matter of serious concern, not only because of fish kills in lakes of the northeastern United States and elsewhere, but also because of its suspected, but largely undocumented damage to plants, animals, soils, natural waters, and man's structures.

As an example, monitoring studies recently initiated in 12 National Park Service areas (Great Smoky Mountains, Glacier, Isle Royale, Rocky Mountains, Organ Pipe Cactus, Sequoia and Kings Canyon, Olympic, Yellowstone, Channel Islands, Big Bend, Everglades, and Mt. McKinley) indicate that rainfall is much more acid than expected in National Park Service areas. In Great Smoky Mountains National Park, there is positive evidence of adverse effects to brook trout and salamander populations in acidified stream waters, although this level of acidification has not yet been quantitatively linked to acid precipitation.

The Department of the Interior is working together with other Federal agencies on a coordinated Governmentwide acid rain program. The National Park Service has a major role in this effort and is particularly involved in work related to establishing the adverse effects of acid rain on the natural and the cultural resources of the national parks. The National Park Service has participated fully in the acid rain planning of this and other Departments and has a specific role in the Department of the Interior Acid Rain Plan and in the broader Federal Acid Rain Plan.

The proposed funding increase will be used to support the following activities:

(a) Expanded participation in the National Atmospheric Deposition Program. Monitoring and analysis of the chemical composition of rain and snowfall in parks continue to be important both to the understanding of processes of change and succession in parks and to the greater national and international understanding of the effects of acid precipitation deposition on ecosystems.

(b) Research to assess acid rain deposition effects. Inputs and changes as materials are transported through the watershed will be monitored in order to better understand the chemical transformations that acid rain is causing in the soils, lakes, and streams of national park areas.

(c) Establishment of a long-term ecological monitoring and research pilot program in cooperation with other bureaus and agencies to assess and mitigate the effects of acid rain in natural systems. Primarily pristine remote national park sites will serve as indicators of change and thus can serve as valuable predictors to managers.

(d) Historic structures and artistic monuments represent the single most visible aspect of our history and culture. These monuments are universally threatened by the effects of pollution, urbanization, public access, as well as weathering cycles and other natural phenomena. During the past several years, studies have been conducted on the weathering of stone and adobe. Current and future funding is planned for evaluating stone-consolidating materials in a variety of environments, monitoring of micro-environments of historic buildings, and a comprehensive evaluation of environmental conditions to form a solid data base of "weathering" conditions.

3. Air Quality — $+2,000

The Clean Air Act specifically assigns the National Park Service the affirmative responsibility to protect air quality and air quality related values in the 48 national parks which the Congress designated as Class I air quality areas. The Service is required to monitor air quality in these Class I parks and to establish baseline data against which changes in air quality can be referenced. The Service also is required to review and comment on all permit applications which have the potential to cause violations of statutory pollution control increments in the Service's Class I parks.

The requested increases will be used in the Class I parks to monitor air quality; to identify potential problems as they develop; and to expand cooperative activities with State environmental agencies and with private developers so as to facilitate the processing and approval of Federal land leases and private development construction permit applications. During fiscal 1981, air quality monitoring data will be collected at only 23 of the 48 Class I parks. The additional funds will permit air quality monitoring activities to be initiated at an additional 12 to 14 Class I parks in fiscal 1982. Failure to provide at least 1 year of baseline air quality data for the Class I parks will lead in many instances to extensive delays not only in securing State and Federal approval of company "Prevention of Significant Deterioration" construction permits but also in preparation of Environmental Impact Statements required for leasing of Federal lands to private interests for high priority energy and mineral development activities.

4. Alaska areas +3,912.5

In fiscal 1981, the Service received funding needed to begin the enormous task of managing and protecting the 10 new Alaskan park areas. The requested increase will be used both to initiate new and expand programs to protect natural and historic resources. Service efforts will continue to focus on:

(a) Regulating commercial operations within park areas to prevent illegal activities

(b) Collecting the baseline scientific data needed for the sound management of wildlife populations and ecological systems

(c) Monitoring subsistence hunting, fishing, and gathering activities by local residents and measuring the impact of such activities on park resources

(d) Assuring continued public involvement in the resolution of major resource management issues.

5. Subsistence Management and Research $500

The requested increase will be used to fund baseline research on the extent and effect of subsistence uses on National Park Service lands as authorized by section 812 of P.L. 97-487, and to make the results of such research available to interested individuals and groups.

6. New Area initiatives and program restorations $553

The increase will allow the Service to initiate resources management programs in several new parks including Santa Monica Mountains National Recreation Area, New River Gorge National River, and Piscataway Park. Funds will be used to upgrade critical activities in a number of parks where inflation has forced program cutbacks as well as to augment programs in park areas where recent land acquisitions necessitate natural resource management efforts beyond current funding levels.

Parks receiving increases include:

Park	Amount ($000)
Badlands National Park	$ 33.6
Bandelier National Monument	26.6
Big Cypress National Preserve	93.0
Big South Fork National River and Recreation Area	75.0
Bighorn Canyon National Recreation Area	33.6
Biscayne National Park	85.3
Bryce Canyon National Park	18.5
Buffalo National River	23.0
Canyonlands National Park	43.4
Cape Cod National Seashore	33.6
Chaco Canyon National Monument	33.6
Channel Islands National Park	200.0
Chickasaw National Recreation Area	33.6
Colonial National Historical Park	33.8
Cuyahoga Valley National Recreation Area	40.0
Fire Islands National Seashore	33.6
Gateway National Recreation Area	40.0
Glacier Bay National Monument	100.0
Glacier National Park	170.0
Glen Canyon National Recreation Area	51.4
Grand Canyon National Park	27.9
Guadalupe Mountains National Park	16.6
Haleakala National Park	33.6
Hawaii Volcanoes National Park	33.6

Park	Amount ($000)
Joshua Tree National Monument	$ 33.6
Katmai National Monument	33.6
Lake Mead National Recreation Area	33.6
Lassen Volcanic National Park	33.6
Lava Beds National Monument	33.6
Mammoth Cave National Park	33.6
New River Gorge National River	40.0
North Cascades National Park	20.0
Organ Pipe Cactus National Monument	100.1
Pictured Rocks National Lakeshore	40.0
Pinnacles National Monument	33.6
Redwood National Park	40.0
Rock Creek Park	21.4
Saint Croix National Scenic River	59.6
Santa Monica Mountains National Recreation Area	40.0
Sequoia National Park	46.9
Shenandoah National Park	42.2
Theodore Roosevelt National Park	33.6
Voyageurs National Park	45.5
Whiskeytown National Recreation Area	33.6
Yosemite National Park	63.4
Alaska parks (new areas)	3,912.5
All other (15 parks)	84.5
Subtotal, Parks	6,171.8
Regional programs	1,051.7
Air Quality Program	2,000.0
Acid rain	469.0
Alaska Subsistence Program	500.0
Total Request	10,192.5

7. Cultural Resources Management $+3,064.5

The requested increase will correct deficiencies in Service efforts to preserve and maintain historic grounds, structures, and museum collections in park areas. It provides funds needed to initiate cultural resource management programs in several new parks, to augment existing programs in established and developing parks, particularly in cases where inflation has led to a steady decline in regular resource maintenance and protection activities, and to increase regionwide cyclic maintenance of cultural resources.

Some examples of specific projects funded by the increase include:

Blue Ridge Parkway: Upgrade maintenance and preservation of historic structures at Humpback Rocks, Johnson Farms, Mabry Mill, and the Moses H. Cone Manor House, and provide minimum curatorial maintenance for the park museum collection of 30,000 objects.

Chesapeake and Ohio Canal National Historical Park: Provide funds and staffing for the restoration and regular maintenance of 78 miles of deteriorating towpath and various historic structures including the Abner Cloud House.

Eugene O'Neill National Historic Site: Maintain and preserve the buildings and grounds of Tao House, the circa 1937 estate of playwright Eugene O'Neill.

Frederick Law Olmsted National Historic Site: Initiate a program for the restoration and regular maintenance of historic grounds and structures, and for the refurbishment of the park collection of over 225,000 prints, drawings, and photographs.

Valley Forge National Historical Park: Stabilize, rehabilitate, and preserve 125 public and historic structures to avoid continuing deterioration.

Western Archeological Center: Increase engineering program support for studies in locating critical structural problems that threaten 172 historic structures.

Parks receiving increases include:

Park	Amount ($000)
Arches National Park	$ 11.7
Bandelier National Monument	20.3
Big Bend National Park	26.9
Blue Ridge Parkway	52.9
Bryce Canyon National Park	36.5
Buffalo National River	17.7
Chesapeake and Ohio Canal National Historical Park	251.6
Canyonlands National Park	36.8
Cape Cod National Seashore	11.6
Christiansted National Historic Site	52.0
Clara Barton National Historic Site	40.7
Dorchester Heights National Historical Park	16.2
Edison National Historic Site	46.7
Eisenhower National Historic Site	20.0
Eugene O'Neill National Historic Site	74.5
Fire Island National Seashore	31.6
Fort Pulaski National Monument	11.5
Fredericksburg and Spotsylvania County Battlefields Memorial National Military Park	31.2
Frederick Law Olmsted National Historic Site	177.9
George Washington Memorial Parkway	41.9
Glen Canyon National Recreation Area	71.8
Golden Gate National Recreation Area	30.4
Grant-Kohrs Ranch National Historic Site	29.8
Gulf Islands National Seashore	45.1
Lowell National Historical Park	79.4
Minute Man National Historical Park	26.0
Monocacy National Battlefield	16.2
Mound City Group National Monument	16.2
Petersburg National Battlefield	12.7

Park	Amount ($000)
Sagamore Hill National Historic Site	$ 22.0
San Juan National Historic Site	88.6
Saugus Iron Works National Historic Site	15.0
Scotts Bluff National Monument	15.0
Valley Forge National Historical Park	130.9
Virgin Islands National Park	11.9
Yellowstone National Park	31.0
All Other Parks	159.6
Subtotal, Parks	1,811.8
Cyclic Maintenance for Cultural Resources	1,612.7
Western Archeological Center	55.0
Total Increases	3,479.5
Less non-recurring costs for acquisition of Frederick Law Olmsted Collection	-415.0
Total Request	3,064.5

Object Class Distribution

The object class detail for the $13,257,000 increase is as follows:

Position Title	GS Grade	No.	Actual Salary
Biologists	GS-12	2	$ 53,902
Fire Management Officers	GS-11	2	44,972
Resource Management Specialists	GS-11	1	22,486
Museum Specialist	GS-11	1	22,486
Resource Management Specialist	GS-9	1	18,585
Park Ranger	GS-9	2	37,170
Museum Specialist	GS-7	1	15,193
Maintenance Worker	Ungraded	3	47,800
Gardener (Historic Landscape)	Ungraded	1	19,000
Maintenance Mechanic	Ungraded	1	15,500
Lapse			297,094
Permanent positions		15	-12,094
Positions other than permanent			285,000
Other personnel compensation			2,259,000
Total compensation			12,000
Personnel benefits			2,556,000
Travel and transportation of persons			361,000
Transportation of things			623,000
Communications, utilities and other rent			296,000
Printing and reproduction			437,000
Other services			12,000
Supplies and materials			5,614,000
Equipment			772,000
Total			2,586,000
			13,257,000

Justification of Program and Performance

Activity: Park Management
Function: Volunteers-in-Parks

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Volunteers-in-Parks	$	250	250	250	—
	(FTP)	(--)	(--)	(--)	(--)
Total Requirements	$	250	250	250	—
	(FTP)	(--)	(--)	(--)	(--)

Authorization: P.L. 91-357

Objective: To make use of volunteers so that visitors may more fully appreciate and enjoy the cultural and natural resources of the National Park System.

Base Program: The Service employs interested citizens who are willing to donate their time and specialized expertise. The authorizing legislation prohibits the use of volunteers in place of permanent and seasonal employees but within this constraint thousands of people have contributed their time and talent to improve the Service's living history, crafts, and environmental studies programs. By law volunteers are reimbursed only for incidental expenses such as the cost of historic costumes, uniforms, meals, lodging, and local travel. These costs are extremely low.

VIP Costs

	Fiscal 1980 (Actual)
Number of hours volunteered	503,000
Cost	$250,000
Cost per hour	.50

Justification of Program and Performance

Activity: Park Management
Function: International Park Affairs

		1981 Appropriation Enacted To Date	FY 1981 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
International Park Affairs	$	370	394	394	--
	(FTP)	(10)	(10)	(10)	(--)
(Common Program Services)	$	(21)	(24)	(24)	(--)
Total Requirements	$	370	394	394	
	(FTP)	(10)	(10)	(10)	(--)

Authorization: 42 U.S.C. 4321-4347 (National Environmental Policy Act of 1969); 16 U.S.C. 1531-1543 (Endangered Species Act of 1973); Executive Order 11911, April 13, 1976 (Preservation of Endangered Species); Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere, 1942; Convention Concerning the Protection of the World Cultural and Natural Heritage.

Objectives: (1) To assist the Service in carrying out its primary mission to the American Public by importing international advances in park management; (2) to assist in protecting and interpreting National Park System areas on the Mexican and Canadian borders; and (3) to effectively implement international cooperative programs that are in the interests of the United States involving technical and professional assistance for the protection and management of national parks and other protected areas of national and world significance.

Base Program: The Service responds to Executive (U.S. bilateral environmental and economic agreements) and Congressional (conventions, treaties, and acts) direction to cooperate with other nations, international organizations, other U.S. departments and agencies, universities, and private organizations and foundations in the enhancement of the world's environment through the protection of outstanding natural and cultural resources and critical habitats.

The International Park Affairs activity provides the staff to plan, manage, and coordinate the Service's international cooperative programs:

Cooperation with Parks Canada in protection of national parks and reserves on the United States-Canada border has resulted in ongoing interaction which is mutually beneficial to both nations. Recent results include discussions, at the Secretarial level, of joint designations of wild rivers which cross the international border; the addition of the jointly nominated Wrangell-St. Elias National Park, Alaska, and Kluane National Park, Yukon, to the World Heritage List; and planning for cooperative development and interpretation at St. Croix Island National Monument in Maine.

Cooperation with the National Parks Department of Mexico and other Mexican agencies in the protection of national parks and reserves on the United States-Mexico border continues to promote programs of cultural interchange at Chamizal National Memorial, Texas; Cabrillo National Monument, California; and Coronado National Memorial, Arizona.

In response to the President's call for renewed emphasis on the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere, to Section 8 of the Endangered Species Act (P.L. 93-205), and to Executive Order 11911, the Service carried out technical assistance projects in more nations of the Western Hemisphere in 1980. In all cases costs were borne by, or shared with, host nations or international organizations.

	1980	Proposed 1981	Projected 1982
Western Hemisphere Technical Assistance Projects	10	9	10

The Service plans an active role in the Convention Concerning the Protection of the World Cultural and Natural Heritage, and provides backup to the Deputy Assistant Secretary in his role as Vice-Chairman of the World Heritage Committee. In 1980 one NPS area was nominated and added to the World Heritage List (Redwood National Park). In 1981, three NPS areas will be nominated (Mammoth Cave National Park, Olympic National Park, and Wright Brothers National Memorial).

	1980	1981	1982
World Heritage Nominations, Total U.S.	1	3	3
World Heritage Nominations, National Park System Areas	1	3	3

In addition, the Service provides technical assistance to states parties to the World Heritage Convention to aid in protecting natural and cultural resources of value to all mankind. Currently, NPS is engaged in curriculum and staff development at the Regional College of African Wildlife Management, located in Mweka, Tanzania under article 23 of this convention. The college trains national park and wildlife personnel from 15 African nations.

The Service, upon request, provides orientation and training opportunities for foreign professional park officials and staff. Individual training programs are designed and implemented on a wide variety of park management and planning subjects, and for various periods of time (1 or 2 weeks up to a year). An example of efficient and effective training is the month-long International Seminar on National Parks and Equivalent Reserves. Held annually with cosponsorship of the Service, Parks Canada, and The University of Michigan, the seminar is designed for park leaders from other countries. Since 1965, 491 park executives and conservation leaders from 94 countries have participated. Trainees' costs are borne by their own governments or other funding agencies.

	1980	Projected 1981	Projected 1982
Training programs	65	71	71
Orientation/Programming of individual foreign officials in parks, wildlife, tourism, and related fields	290	300	300

The International Park Affairs staff manages information exchanges on national park planning and management between the Service and foreign national park agencies. Technical information is sent out, upon request, and is received both on a regular and as-needed basis. A reference collection is maintained, and information is promulgated internally as applicable. A professional park manager's journal, cosponsored by the Service, Parks Canada, Food and Agricultural Organization, United National Educational, Scientific and Cultural Organization, Organization of American States, the International Union for the Conservation of Nature and Natural Resources (IUCN), and the World Wildlife Fund provides systematic communication between national park systems around the world.

	1980	Projected 1981	Projected 1982
Technical Information Requests Received and Answered	153	165	175

The Service participated in the following ongoing U.S. Government scientific, economic, and environmental agreements with foreign nations:

U.S.-Saudi Arabia Joint Economic Cooperation Agreement
U.S.-Spain Treaty of Friendship and Cooperation
U.S.-Japan Cooperation on Development and Utilization of Natural Resources
U.S.-USSR Agreement on Cooperation in the Field of Environmental Protection
U.S.-Peoples Republic of China Accord for Cultural Exchange
U.S.-Peoples Republic of China Science and Technology Agreement

and cooperates in park and protected areas conservation programs with international organizations (UNESCO, OAS). Programs include technical assistance and two-way exchanges. The U.S.-Saudi Arabia program is completely funded by Saudi Arabia and the U.S.-Spain program is funded by the U.S. Department of State.

Projects/Missions under Formal U.S. Bilateral, Multilateral Agreements	1980	1981	1982
Saudi Arabia	2	2	3
Spain	3	6	12
Japan	3	1	1
Peoples Republic of China	1	4	2
USSR	2	2	1
UNESCO	1	1	
OAS	1	2	1

Under authority of P.L. 83-480 (Agricultural Trade Development and Assistance Act) and P.L. 93-205 (Endangered Species Act) NPS provides technical assistance to India Egypt, and Pakistan in management of national parks and critical habitats. These programs are managed and monitored by International Park Affairs staff, but costs in each of the foreign nations are funded through the Special Foreign Currency Program.

SFCP Activities	1980	1981	1982
Egypt	7	3	2
India	4	5	6
Pakistan	2	9	3

NPS cooperated with the Agency for International Development (AID) and the U.S. Man and the Bioshpere Program (MAB) in activities designed to enhance AID's expertise in and knowledge of natural resources conservation around the world. Under an agreement with AID/MAB, NPS has detailed an employee to MAB on a reimbursable basis to develop environmental protection research and training programs. In addition, the International Park Affairs Division in managing AID funded contracts with universities and conservation organizations on a study of minimum critical ecosystem size, an assessment of environmental training needs in Latin America, and environmental profiles of 27 lesser developed countries.

NPS also cooperates with AID in reimbursable activities designed to provide information, case studies and training to 50 missions and developing countries on the management of natural resources so that AID development projects are designed and executed inan environmentally sound manner.

Approximately 350 Peace Corps Volunteers are working around the world in natural and cultural resource conservation. The NPS supplies training and technical information resources, upon request, to these volunteers under an interagency agreement with ACTION/Peace Corps; and, at ACTION's request, NPS has detailed an Environmental Programs Specialist to Peace Corps to assist in natural resource conservation programs and volunteer training.

Justification of Program and Performance

Activity: Forest Fire Suppression and Rehabilitation of Burned Areas

(Dollar Amounts is Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Forest fire suppression and rehabilitation of burned areas	$	1,200	1,200	1,200	—
	(FTP)	(--)	(--)	(--)	(--)

Authorization: 16 U.S.C. 1

Objectives: Prevent or suppress wildifre in or near park areas when human life, natural and cultural resources, or park facilities are threatened.

Rehabilitate burned areas to their natural state in order to preserve park environments and eliminate hazards which endanger people, resources, or facilities.

Base Program: In order to perpetuate the natural resources and protect visitors and adjacent properties, man-caused wildfires must be prevented or suppressed. Following wildfires, the burned area may need rehabilitation to control erosion, minimize the impace of the necessary control action, and remove hazards to the public. In some severe cases, replanting and reseeding may be required in order to prevent unacceptable soil losses or flood hazard.

The individual parks routinely program funds for fire prevention and presuppression activities in their areas. Emergency presuppression action may be needed in various parks when unusual periods of high fire danger occur. These stretches of hotter and drier weather increase the chance of wildfires and pose a threat to park resources. During such periods emergency presuppression funds are used to improve the parks preparedness to deal with wildfires.

Funding for this activity also provides for National Park Service participation on the Department of the Interior fire overhead teams. The teams, composed of the most experienced firefighters of the Department, serve as a fire management team for major fires. This coordinated approach has proven to be an efficient use of personnel and limited dollar resources.

Justification of Program and Performance

Activity: Executive Direction

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Executive Direction	$	6,294	6,575	6,575	--
	(FTP)	(166)	(166)	(166)	(--)

Authorization: 16 U.S.C. 1

Objectives: To manage the National Park System so that resources are preserved, visitors served, and applicable regulations are enforced in the most cost-effective way possible.

Base Program: These funds are used to pay the salaries and expenses of National Park Service management in Washington and in ten regional headquarters. These executives are responsible for setting broad objectives, for coordinating NPS actions with others, for seeing to it that funds and staff are used well, for evaluating the results of NPS programs, and for ensuring compliance with legislation affecting the National Park System.

The money goes to the following:

Office	Amount
Washington	$2,890,000
Rocky Mountain Region	392,500
North Atlantic Region	342,900
National Capital Region	589,200
Mid-Atlantic Region	408,200
Southeast Region	391,600
Midwest Region	370,400
Southwest Region	291,400
Western Region	345,700
Pacific Northwest Region	388,600
Alaska Region	164,500
Total	6,575,000

74-939 O—80——77

Justification of Program and Performance

Activity: Parks, Recreation and Wilderness Planning
Function: Rivers and Trails

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Rivers and Trails	$	1,053	1,072	1,072	--
	(FTP)	(30)	(30)	(30)	(--)
(Common Program Services)	$	(60)	(65)	(65)	(--)
Total Requirements	$	1,053	1,072	1,072	--
	(FTP)	(30)	(30)	(30)	(--)

Authorization: Public Laws: 89-72 (as amended), 90-542 (as amended), 90-543 (as amended).

Objectives: As expeditiously as possible, prepare and submit to the President reports and recommendations on the potential designation and management of rivers and trails which have been designated by Congress or identified by the President or the Secretary as potential additions to the National Wild and Scenic Rivers or National Trails Systems.

Base Program: Under authority delegated by the Secretary of the Interior, the National Park Service conducts studies of rivers identified in section 5(a) of the Wild and Scenic Rivers Act and prepares reports in accord with the requirements of section 4 on their suitability as potential components of the National Wild and Scenic River Systems. Rivers listed in section 5(a) have been identified by the Congress as appearing to have potential for designation to the National System as wild, scenic or recreational rivers. The Service coordinates its studies with other Federal, State, local and private interests to ensure that all interests are involved when the studies are prepared, that alternative uses for the resource are identified, that the impacts which would result if the river were designated as a component of the National System are fully evaluated, and that the appropriate State, local, or Federal agencies are identified as the potential manager of the area.

The National Park Service fulfills the Secretary's responsibility for studying routes identified by Congress in section 5(c) of the National Trails System Act to determine their suitability and feasibility for designation as National Scenic or Historic Trails in the National Trail System. Reports on the studies are prepared in accord with the requirements of section 5(b) of the act. The studies are coordinated with other Federal, State, local and private interests to ensure that all interests have an opportunity to make their views known, that conflicts are identified and evaluated, and the appropriate level of management and management agency is identified.

Justification of Program and Performance

Activity: Park, Recreation and Wilderness Planning
Function: New Area Studies

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
New Area Studies	$	100	100	100	--
	(FTP)	(--)	(--)	(--)	(--)
Total Requirements	$	100	100	100	--
	(FTP)	(--)	(--)	(--)	(--)

Authorization: The principal authority for studies is contained in Section 8 of the Act of August 18, 1970, as amended by P.L. 94-458.

Funding authority of not to exceed $1,000,000 annually is contained in Section 604(1) of P.L. 95-625, the National Parks and Recreation Act of 1978.

Objectives: The objectives of the program are: (1) to identify nationally significant natural, cultural, and recreational resources which may have potential for inclusion in the National Park System; (2) to prepare studies of alternative means of protection and mangement of selected areas for use of the Secretary, the Administration and the Congress in determining the role, (if any), of the Federal government in protecting these resources; and (3) annually report to Congress the status of new area studies.

Base Program: The program contains three elments: (1) identification and analysis of significant areas qualifying for study as a possible addition to the National Park System; (2) study of alternative means of protection for the qualified areas; and (3) the generation of supplemental legislative support data, as required, for those areas acted upon by Congress.

Brief reconnaissance surveys are used to determine resource significance, integrity, and threats. These assist the Department in determining which areas should and should not be the subject of alternative studies.

The alternative study identifies viable means of protecting and managing the significant resources including management by other public agencies and of providing protection through such means as regulation, less than fee and fee acquisition singly or in combination as appropriate.

The economic and environmental effects of the alternatives are assessed as are costs and benefits.

Prior to fiscal 1981 the National Park Service was required to submit to Congress at the beginning of each fiscal year no less than 12 new area studies in general order of priority. Because of the recent rapid growth of the National Park System during a period of budgetary constraints, Congress has relieved the Service of this continuing requirement. Only studies mandated by Congress or requested by the Administration will be undertaken in fiscal 1981. The Service plans to continue this practice in fiscal 1982.

Workload factors for the new area studies program are:

	1980	1981	1982
Reconnaissance surveys completed[1/]	15	10	10
Alternatives Studies completed	10	4	4

1/ Includes surveys initiated in previous fiscal years.

Justification of Program and Performance

Activity: Park, Recreation and Wilderness Planning
Function: Water Resources

		(Dollar Amounts in Thousands) 1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc(+) or Dec. (-)
Water Resources	$	934	952	1,567	+615
	(FTP)	(11)	(11)	(13)	(+2)
(Common Program Services)	$	(53)	(56)	(56)	(--)
Total Requirements	$	934	952	1,567	+615
	(FTP)	(11)	(11)	(13)	(+2)

Authorization: 16 U.S.C. 1

Objectives: Develop water resources to provide water supplies to meet visitor and employee potable water needs and to satisfy other park resource water requirements; collect and analyze surface and subsurface water data to ensure the protection of park water resources and water dependent ecosystems of park areas.

Base Program: The National Park Service has reviewed the history of its water resources program and the capability of that program to respond to the water resource problems and needs of the 327 park units in the System. That review revealed that, in actual dollars, funding for water resources programs has decreased from a high of $1.1 million in fiscal 1967 to $.9 million in fiscal 1981. In view of the rapidly increasing array of legal and administrative requirements and water related problems Servicewide, the review shows clearly that the present water resources program of the Service is inadequate to meet critical program needs. For example, the Service is not meeting the provisions of the Clean Water Act which requires the formulation and implementation of Water Quality Management Plans and the establishment of water quality standards and criteria for all park areas. Monitoring programs are not being conducted in the majority of NPS parks to collect baseline data on water quantity and quality needed to assess possible adverse impact on area water resources and related environments. There are 327 park areas, but to date, only six have completed area-wide comprehensive hydrologic studies inventorying their surface and ground water resources.

Executive Order 11988, Floodplain Management, requires the Service to delineate floodplains and related hazards to assure the protection and preservation of life, property and environment in the parks. Dictates of the Safe Drinking Water Act mandates the replacement of existing surface water supply sources, where feasible, with ground water sources. Service compliance with these and similar requirements has been slow and incomplete due to the present low level of program staffing and funding.

As a result of these and other recognized program deficiencies, the Service, in early fiscal 1981, increased the level of its water resources research and

monitoring activities. Fragmented water resources program responsibilities were consolidated to provide a core of previously unavailable professional expertise to deal with water resource issues. This core group will address a wide range of inpark water problems ranging from the health impacts of small scale leaky septic systems on drinking water supplies to the effects on park resources of large regional hydroelectric projects. They involve toxic discharges from mining and industrial operations, organic pollution from municipalities and new residential encroachments or other malfunctioning sewage treatment facilities. Also, park water supplies are threatened by domestic, municipal and industrial withdrawals which reduce surface flows, lower ground water tables, and in coastal areas possibly produce salt water intrusion. This group will continue to assess the Servicewide water data needs and priorities.

The water resources studies requiring expertise beyond the cope of NPS staff are conducted under agreement with other Federal agencies, principally the U.S. Geological Survey, or by contract with State agencies, universities or private consultants.

The following workload factors are representative of the scope of activities presently conducted in the water resources program:

	1980 (Actual)	1981 (Actual)	1982 (Estimate)
Number of comprehensive water resource studies conducted	9	8	14
Number of potable water sources located	--	4	3
Number of water quality standards and water quality management plans developed	2	8	10
Number of water use studies conducted	1	--	--
Number of water monitoring programs conducted	7	9	13
Number of ground water sources located	2	1	1
Number of flood hazard surveys conducted	1	2	3

Increase for 1982:	1982 Base	1982 Est.	Increase
$	952	1,567	+615
(FTP)	(11)	(13)	(+2)

The requested increase will be used to help correct important deficiencies in the Service's Water Resources Program and will produce more complete information on park water resources as a tool for supporting improved management of park waters and water-related ecosystems. A high priority activity will be to initiate preparation of a Servicewide evaluation of the status and utility of water resources information on a park-by-park basis, including recommended actions to remedy program deficiencies. Additionally, the increased funds will be used for the following activities:

-- Development and protection of park visitor drinking water supplies in compliance with the provisions of the Safe Drinking Water Act (P.L. 93-523);

-- Flood hazard studies in accordance with E.O. 11988 to protect life and property in National Park Service areas;

-- Water monitoring as required by the Clean Water Act (P.L. 92-500) to develop water quality management plans for Service areas and to assure compliance with Federal and State water quality standards;

-- Surface and subsurface water studies relating to threats to water-related plant and other ecological systems in the parks;

-- Collection and analysis of surface and subsurface water data to support development of water management plans for the parks; and

-- Water monitoring and analysis associated with toxic substances known to be harmful to aquatic resources in the parks.

Object Classification Distribution

The object class detail for the $615,000 increase follows:

Position Title	GS Grade	No.	Actual Salary
Hydrologist	13	1	32,048
Hydrologist	12	1	26,951
			58,999
Lapse			-2,360
Permanent positions			56,639
Positions other than permanent			81,000
Total compensation			137,639
Personnel benefits			13,961
Printing and reproduction			45,000
Other services			402,400
Supplies and materials			16,000
Total			615,000

Justification of Program and Performance

Activity: Park, Recreation and Wilderness Planning
Function: General Management Plans

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
General Management Plans	$	3,656	3,725	3,725	--
	(FTP)	(67)	(67)	(67)	(--)
(Common Program Services)	$	(208)	(220)	(220)	(--)
	(FTP)	(5)	(5)	(5)	(--)
Total Requirements	$	3,656	3,725	3,725	(--)
	(FTP)	(67)	(67)	(67)	(--)

Authorization: 16 U.S.C. 1; Public Law 95-625, section 604; The National Environmental Policy Act (42 U.S.C. 4321).

Objectives: Prepare and revise in a timely manner, general management plans to guide the National Park Service in the protection, use, development and management of each unit of the National Park System. Review environmental statements prepared by others to determine if proposed actions would adversely effect the National Park System.

Base Program: General management plans and associated plans provide the basic guidance for the management of each unit of the National Park System.

These plans provide the means for complying with park legislation, other basic legal documents and the Service's Management Policies, general compliance requirements and regulations affecting all Federal land management agencies.

The need for park plans is identified annually. When a general management plan is programmed, a multidisciplinary team begins preparation of the plan, a process that may take 3 years to complete in large and complex parks. Basic data on resources and visitor use are gathered and analysed. Regional conditions and trends affecting the park are identified and alternative strategies are prepared to meet park objectives. The impacts of each alternative on the cultural and natural environment and the relative costs are displayed. Public involvement in the planning process is required and for complex plans can be very involved and time consuming. The general management plan treats park access and circulation, resource protection, visitor use activities and capacities. It provides the justification for park development and thus serves an essential programming function.

At present, there are over 300 units of the System qualifying for general management plans. Of these, 244 have plans at present though 126 plans are 10 years of age or older. In the last few years, the Congress has mandated the submission of plans to the Congress for newly authorized parks by a certain date. These plans contain the management and development needs of these new parks and thus their timely completion and approval are necessary in order to program funds to provide

for the protection and public use of new parks. At present, 36 parks have congressional deadlines for general management plans or related planning documents.

The benefits of park plans are that they provide the basis for fulfilling the legal mandate authorizing the park and for the protection and use of nationally significant resources. Parks have variable economic impacts on their surrounding regions in the form of tourism and, where development is involved, construction activity in the park. Little or no development takes place in a park without an approved plan. Thus, a primary benefit of general management plans is that they provide an agreed-upon document among interested parties to record how a park will be developed and used. This eliminates the possibility of arbitrary decisions and reduces the likelihood of litigation on Service actions. The process also involves the public in decisionmaking and facilitates coordination of planning and management activities with land managing agencies and other interests in the park vicinity.

The following workload factors are indicative of the scope of activities in the General Management Plan function. An increase of 3 plans for fiscal 1982 is due to the additions of Frederick Law Olmsted National Historic Site, Eugene O'Neill National Historic Site and Martin Luther King National Historic Site. Also, planning will begin on the 10 new Alaskan areas as authorized in The Alaska National Interest Lands Conservation Act of 1980.

	1980	1981	1982
Number of plans approved	20	20	20
Number of plans in the General Management Plan program	42	47	50

The Service reviews other agencies' environmental impact statements to facilitate (1) Early awareness of actions that may have an effect on parks; (2) development of a NPS position on other agencies' proposals; and (3) timely cooperation to minimize or eliminate adverse effects.

Justification of Program and Performance

Activity: Statutory or Contractual Aid for Other Activities
Subactivity: Roosevelt Campobello International Park Commission

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Roosevelt Campobello International Park Commission	$	341	341	372	+31
	(FTP)	(--)	(--)	(--)	(--)

Authorization: Public Law 88-363

Objective: To provide for the United States' share of the operating cost of Roosevelt Campobello International Park.

Base Program: As a youngster, Franklin Roosevelt spent many summers on Campobello Island, New Brunswick Province, Canada. The park commemorates this part of the President's life. It is operated jointly by the United States and Canada which share the costs equally.

Increase for 1982:	1982 Base	1982 Estimate	Increase
$	341	372	+31
(FTP)	(--)	(--)	(--)

This increase will cover the United States' share of the additional costs of operating the park in compliance with the statutory requirement of providing matching funds with the Canadian contribution.

Object Classification Distribution

The object class detail for the increase is as follows:

	1982 Estimate
Other Services	+31

Justification of Program and Performance

Activity: Statutory or Contractual Aid for Other Activities
Subactivity: Ice Age National Scientific Reserve

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Ice Age National Scientific Reserve	$	440	440	588	+148
	(FTP)	(--)	(--)	(--)	(--)

Authorization: P.L. 88-655, 91-483

Objectives: To operate Ice Age National Scientific Reserve.

Base Program: The park contains nationally significant examples of the effect of glaciers. In accordance with the authorizing legislation, the National Park Service pays for up to half the cost of acquisition, development and operations; the State of Wisconsin pays the balance.

Increase for 1982:	1982 Base	1982 Estimate	Increase
$	440	588	+148
(FTP)	(--)	(--)	(--)

This increase will provide visitor facilities and interpretive programs for the public, and maintenance funds for the Devils Lake (visitation of 1,246,000), Kettif Moraine (visitation of 801,000) and Mill Bluff (visitation of 68,000) units of the park.

Object Classification Distribution

The object class detail for the increase is:	1982 Estimate
Other Services	$ +148

Justification of Program and Performance

Activity: Statutory or Contractual Aid for Other Activities
Subactivity: Lowell Historic Preservation Commission

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Lowell Historic Preservation Commission	$	400	400	400	--
	(FTP)	(6)	(6)	(6)	--

Authorization: P.L. 95-290

Objective: To pay for the operational requirements of the Lowell Historic Preservation Commission.

Base Program: Public Law 95-290 established both the Lowell National Historical Park and the Lowell Historical Preservation Commission in Lowell, Massachusetts. The Commission is funded through the National Park Service and is responsible for directing and assisting in the preservation of identified significant properties throughout the preservation district, which surrounds the park. The costs incurred by the Commission include such items as: rental of office space, utilities, salaries and benefits of permanent full-time and temporary employees, per diem and travel costs of the Commission members, and office supplies.

Justification of Program and Performance

Activity: Statutory or Contractural Aid for Other Activities
Function: Support for Folger Shakespeare Library and Corcoran Gallery of Art

(Dollar amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Folger Library	$	300	300	--	-300
	(FTP)	(--)	(--)	(--)	(--)
Corcoran Gallery	$	300	300	--	-300
	(FTP)	(--)	(--)	(--)	(--)
Total Requirements	$	600	600	--	-600
	(FTP)	(--)	(--)	(--)	(--)

Authorization: P.L. 96-344

Objectives: To help these institutions maintain their buildings and grounds.

Base Program: The Congress added funds in 1981 to provide assistance to these two institutions.

Decrease for 1982	1982 Base	1982 Est.	Decrease
$	600	--	-600
(FTP)	(--)	(--)	(--)

Although now authorized, the Administration has consistently taken the position that such private institutions should be supported by private contributions rather than receiving direct Federal assistance through the National Park Service.

Object Class Distribution

The object class breakdown for the $600,000 decrease is as follows:

	1982 Estimate
Grants, subsidies and contributions	-600,000

Justification of Program and Performance

Activity: Statutory or Contractual Aid for Other Activities
Function: Ozette Village Archeological Site

(dollar amount in thousands)

	1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Ozette Village Archeological Site	$ 20	20	20	(--)
	(FTP) (--)	(--)	(--)	(--)

Authorization: Historic Sites, Buildings, and Antiquities Act of August 21, 1935 (49 Stat. 666)

Objectives: To support the Makah Indian Tribe's resource interpretation and protection activities at the Ozette Village archeological site.

Base Program: Congressional action on the Service's fiscal 1981 appropriations request specified funds to assist the Makah Indian Tribe in the protection and interpretation of the Ozette Village archeological site. The Service plans to continue its current level of support in fiscal 1982.

Justification of Program and Performance

Activity: Statutory or Contractural Aid for Other Activities
Function: National Symphony Orchestra

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
National Symphony Orchestra	$	1,000	1,000	--	-1,000
	(FTP)	(--)	(--)	(--)	(--)
Total requirements	$	1,000	1,000	--	-1,000
	(FTP)	(--)	(--)	(--)	(--)

Authorization: None

Objectives: To provide assistance to the National Symphony Orchestra to the extent matched by private contributions.

Base Program: Federal funds are to be matched dollar for dollar by cash contributions or pledges obtained between October 1, 1980 and September 30, 1981 from nongovernmental sources. Federal funds are to be released in $100,000 increments when like amounts have been reached by accumulated private donations.

Decrease for 1982:

	1982 Base	1982 Estimate	Decrease
$	1,000	--	-1,000
(FTP)	(--)	(--)	(--)

The Administration has consistently taken the position that private institutions should be supported by private contributions rather than receiving direct Federal assistance through the National Park Service.

Object Class Distribution

The object class breakdown for the $1,000,000 decrease is as follows:

	1982 Estimate
Grants, subsidies and contributions	-1,000,000

Justification of Program and Performance

Activity: Statutory or Contractual Aid for Other Activities
Function: Support for the historic sailing vessel, Falls of Clyde

(Dollar Amounts in Thousands)

	1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Maintenance Support for Falls of Clyde historic vessel	$ 100	100	100	--
	(FTP) (--)	(--)	(--)	(--)

Authorization: P.L. 96-565

Objectives: To assist the Bishop Museum in Hawaii with the maintenance of the historic vessel, Falls of Clyde.

Base Program: Conference action on the Service's 1981 appropriations request included funding to assist the Bishop Museum of Hawaii through a cooperative agreement with the maintenance and preservation of the Falls of Clyde, an historic vessel which is on the National Register of Historic Places. The Service plans to continue its current level of support to the Bishop Museum in fiscal 1982.

Justification of Program and Performance

Non-add Activity: Common Program Services

	1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Servicewide Administration	$ 4,242	4,242	4,242	—
	(FTP) (--)	(--)	(--)	(--)
Central Office Administration	$ 5,579	5,911	5,911	--
	(FTP) (150)	(150)	(150)	(--)
Regional Office Administration	$ 13,444	14,425	14,425	--
	(FTP) (444)	(444)	(444)	(--)
Automatic Data Processing	$ 3,334	3,433	3,433	--
	(FTP) (45)	(45)	(45)	(--)
Total Requirements	$ 26,599	28,011	28,011	—
	(639)	(639)	(639)	(--)

Servicewide Administration

Authorization: 16 U.S.C. 1

Objectives: (1) To Provide Systemwide telephone and postal services; (2) to pay for the NPS' share of interagency services such as the Departmental library, audits and inspections, and for certain activities conducted on interdepartmental basis such as Federal Information Centers; (3) to provide Servicewide printing needs.

Base Program: The NPS' share of the costs for the Federal Telecommunications System (FTS) is estimated to be $1,885,000 in fiscal 1982. The FTS is the most economical way to obtain telephone services, including long-distance calls. For postage, the Service estimates it will pay $990,000 for fiscal 1982. This estimate is based on a sample week's mail volume. For interdepartmental and interagency services, the NPS estimates its costs at $901,000 for fiscal 1982. For other services such as printing of standard forms, publishing materials in the Federal Register, and printing and issuing Federal regulations, the estimated cost for fiscal 1982 is $466,000.

74-939 O—80——78

Automatic Data Processing Services

Authorization: 16 U.S.C. 1

Objectives: Provide management with timely information to support efficient operation of the National Park System.

Base Program: ADP services including analysis, design, development, and control of management information and administrative systems utilizing automatic data processing equipment. The ADP Services Division coordinates the automatic data processing program of the Service; ADP equipment and services; provides technical guidance, assistance, and support to all elements of the Service in the areas of computer systems design, data retrieval, data communications, and ADP systems for Service operations. In addition, the division is responsible for operation of the Service's ADP systems and the development and application of data processing standards.

The ADP environment consists of the ten regions and Washington headquarters, plus various other offices, having remote data input and retrieval capabilities. The major computer service is currently being supplied by commercial and Government-owned computer installations, none of which is owned or operated by the National Park Service. Management information collection, processing and reporting capability is provided by ADP services for managers and other National Park Service personnel who have need for complete, current and reliable information for effective performance of Service missions. To maintain and operate ADP systems at a level required to supply ADP users with basic support the following base level support is required:

1. Operation of the 64 production computer systems currently supporting the National Park Service.

2. Maintaining the production systems to ensure the correct execution of the programs and to provide for reliability of operations.

3. To provide control and safeguards to ensure proper system backup, security and disaster recovery capabilities and procedures.

4. To provide technical support in the selection, acquisition, and approval of all ADP equipment and services.

5. To meet the mandatory reporting requirements set by GSA, GAO and the Department of the Interior.

6. Maintenance of ADP standards throughout the Park Service.

7. To plan for the design and installation of all NPS Servicewide data bases and to provide the necessary security and control to ensure the integrity of such data bases.

8. To develop an effective plan for controlling existing resources and for establishing the direction of ADP development within the National Park Service.

9. To provide a minimum level technical support service to field and other organizational units for the resolution of their specific pooblems and inquiries; i.e., consultation/guidance in system use; resolution of file, program and system problems; programming language assistance; and ADP training.

Central Office Administration

Authorization: 16 U.S.C. 1

Objectives: Provide and maintain an administrative system to insure that personnel, financial, procurement and other administrative operations are performed in accordance with applicable laws and in such a way as to promote efficient performance of National Park Service operations.

Base Program: The National Park Service is comprised of 327 park areas, 19 affiliated areas, 10 Regional Offices, 2 planning and design service centers, 5 archeology and preservation centers and several other distinct organization entities. Geographically, these organizations are dispersed throughout 49 States including Alaska and Hawaii as well as Guam, Samoa, and the Virgin Islands. The central office administrative staff of the Service, located in Washington, D.C., must provide overall coordination, direction, and administrative support to each of these organizations. The major administrative functions include personnel management, programming and budgeting, procurement and property management, and financial management.

Regional Office Administration

Authorization: 16 U.S.C. 1

Objectives: (1) To work closely with parks, especially smaller parks, to ensure that fiduciary responsibilities are met; (2) to advise regional management on options concerning funding, staffing and other administrative questions; (3) to work with the Washington Office to ensure that policy directives are communicated to parks and that Washington understands the problems faced by parks.

Base Program: There are ten regional offices, nine of which have a small administrative staff. Administrative services for the new Alaska region are handled by the Pacific Northwest Region. Administrative personnel are allocated by region as follows:

Region	No. Parks/ Field Offices Receiving Funds	No. Regional Administrative Personnel End-of-Year Ceilings	Ratio of No. Administrative Personnel to No. Park Areas
Rocky Mountain 1/	42	56	1.3
North Atlantic	37	40	1.1
National Capital 2/	18	80	4.4
Mid-Atlantic	28	30	1.1
Southeast	52	52	1.0
Midwest	27	30	1.1
Southwest	37	42	1.1
Western	48	51	1.1
Pacific Northwest & Alaska	30	46	1.5

1/ Rocky Mountain Region also does much of the administrative work for the Denver Service Center which greatly increases their administrative workload.

2/ National Capital Region park count includes "conglomerate" parks, such as National Capital Parks-East. Thus, the park count is not entirely compatible to that of other regions.

The Funding Distribution of the
Common Program Services Activity

	Fiscal 1982 Estimate	
	Amount (000)	FTP's
EEO	1,481	34
Programming and Budgeting	2,265	56
Personnel	6,002	148
General Services, Contracting and Property Management	5,431	133
Finance	4,189	156
ADP	3,433	32
Other Functions (e.g. management consulting, management policy)	968	27
Servicewide Administration:		
Federal Telecommunications	1,885	
Postage	990	
Interdepartmental Services	901	
Printing (e.g. publishing materials in Federal Register, Federal regulations, standard forms, etc.)	466	
Total	28,011 (E.O.Y. ceiling)	586
Unfilled positions, end-of-year ceilings		53
Total permanent positions		639

The amounts-for common program services are arrived at by assessing each major function of the National Park Service; i.e., Visitor Protection and Safety, Construction, etc, based on the amount of work generated by that function.

Summary of Requirements by Object Class
(dollar amounts in thousands)

Appropriation: Operation of the National Park System	1982 Base Pos.	1982 Base Avg. No.	1982 Base Amount	1982 Estimate Pos.	1982 Estimate Avg. No.	1982 Estimate Amount	Inc. (+) or Dec. (-) Pos.	Inc. (+) or Dec. (-) Avg. No.	Inc. (+) or Dec. (-) Amount
Object class									
11 Personnel compensation:									
11.1 Permanent positions 1/	8,414	7,801	173,490	8,469	7,854	174,507	+55	+53	+1,017
11.3 Positions other than permanent	7,458	7,458	93,336	7,714	7,714	97,876	+256	--	+4,540
11.5 Other personnel compensation	...	...	10,930	...	....	11,046	...	...	+116
Total personnel compensation	15,872	15,259	277,756	16,183	15,568	283,429	+311	+53	+5,673
Other Objects:									
12.1 Personnel benefits			30,328			31,226			+898
21.0 Travel and transportation of persons			11,015			12,144			+1,129
22.0 Transportation of things			7,092			7,913			+821
23.1 Standard level user charges			7,375			7,375			...
23.2 Communications, utilities, and other rent			22,634			23,430			+796
24.0 Printing and reproduction			3,320			3,379			+59
25.0 Other services			56,325			68,028			+11,703
26.0 Supplies and materials			40,116			44,950			+4,834
31.0 Equipment			9,054			13,065			+4,011
32.0 Lands and structures			4,980			872			-4,108
41.0 Grants, subsidies, and contributions			1,600			...			-1,600
Total requirements			471,595			495,811			+24,216

1/ The total of 8,414 base positions was lapsed based on a 7 percent end-of-month average. Fifty-five (55) new positions are requested for fiscal 1982 for an average number of 53. This calculation is based on an average lapse of 4 percent.

Funds requested in the "Operation of the National Park System" appropriation are proposed for distribution by park areas, office and program as shown in the following pages, the full-time permanent positions (FTP) ceilings shown for fiscal 1980, 1981 and 1982 are those funded from the Park Management Activity in the "Operation of the National Park System" appropriation. The funds and positions in the fiscal 1980 column include "Planning, Development and Operation of Recreation Facilities" appropriation for comparison purposes.

ONPS, PARK MANAGEMENT PARK AREAS BY REGION & OTHER ENTITIES, PROGRAM ITEMS, ETC	FY-1980	1980 EOY CEILING FTP	ESTIMATED AVAILABLE FY-1981	1981 EOY CEILING FTP	FY-1982 INCREASE	BUDGET ESTIMATE FY-1982	1982 EOY CEIL. FTP	VISITOR USE FY-1980 (THOUSANDS)	ACREAGE
ABRAHAM LINCOLN BPL NHS	224,100	7	224,000	7	9,000	233,000	7	253	117
ACADIA NP	1,073,700	18	1,025,400	18	51,700	1,077,100	18	3,146	38,971
ADAMS NHS	325,200	5	321,300	5	0	321,300	5	38	9
AGATE FOSSIL BEDS NM	77,700	2	60,700	2	0	60,700	2	15	3,055
ALASKA REGIONAL OFFICE	1,304,400	47	0	0	0	0	0	0	0
ALIBATES FLINT QUAR NM	32,800	1	32,500	1	0	32,500	1	2	1,333
ALLEGHENY PORT RR NHS	347,900	8	348,700	8	52,700	401,400	8	72	1,135
AMERICAN MEMORIAL PARK	43,200	1	75,300	1	25,000	100,300	1	0	0
AMISTAD RA	740,400	17	736,000	17	90,500	826,500	17	1,119	62,452
ANDERSONVILLE NHS	403,800	13	404,700	13	0	404,700	13	128	476
ANDREW JOHNSON NHS	175,200	5	175,900	5	11,900	187,800	5	64	17
ANIAKCHAK NM & PRESERV	0	0	60,000	1	308,000	368,000	3	0	364,000
ANTIETAM NB	505,000	16	504,300	16	0	504,300	16	352	3,257
APOSTLE ISLANDS NL	729,800	9	680,700	9	32,700	713,400	9	89	42,009
APPOMATTOX CRT HSE NHP	329,400	12	327,300	12	12,000	339,300	12	218	1,319
ARCHES NP	202,200	0	213,700	0	50,000	263,700	0	284	73,379
ARKANSAS POST NMEM	145,600	4	143,000	4	0	143,000	4	61	389
ASSATEAGUE ISLAND NS	953,200	25	963,700	25	37,800	1,001,500	25	1,993	39,631

ONPS, PARK MANAGEMENT PARK AREAS BY REGION & OTHER ENTITIES, PROGRAM ITEMS, ETC	FY-1980	1980 EOY CEILING FTP	ESTIMATED AVAILABLE FY-1981	1981 EOY CEILING FTP	FY-1982 INCREASE	BUDGET ESTIMATE FY-1982	1982 EOY CEIL. FTP	VISITOR USE FY-1980 (THOUSANDS)	ACREAGE
ASSOC REG DIR WHITE HSE	113,700	3	131,400	3	10,000	141,400	3	0	0
AZTEC RUINS NM	125,800	4	126,500	4	2,100	128,600	4	56	27
BADLANDS NP	702,800	14	694,000	14	47,300	741,300	14	970	243,302
BALTO-WASH PKWY	308,000	8	310,000	8	0	310,000	8	0	0
BANDELIER NM	638,200	14	638,500	14	201,600	840,100	14	170	36,971
BENT'S OLD FORT NHS	323,600	11	330,500	11	34,400	364,900	11	73	800
BERING LAND BRIDGE NP	0	0	97,000	1	735,000	832,000	3	0	2,848,000
BIG BEND NP	1,529,100	52	1,529,900	52	269,400	1,799,300	52	240	708,118
BIG CYPRESS NAT PRES	479,100	8	524,900	8	93,000	617,900	8	0	570,000
BIG HOLE NB	103,900	3	110,000	3	10,000	120,000	3	38	656
BIG SOUTH FORK NR&RA	394,300	5	380,500	5	124,900	505,200	6	0	122,960
BIG THICKET NATL PRES	714,600	13	713,100	13	70,700	783,800	14	0	84,550
BIGHORN CANYON NRA	1,055,600	23	1,061,600	23	96,600	1,158,200	23	357	120,280
BISCAYNE NP	565,400	14	650,500	14	179,700	830,200	14	246	180,128
BLACK CANYON OTG NM	215,500	4	218,900	4	8,100	227,000	4	328	13,672
BLUE RIDGE PARKWAY	5,448,100	128	5,312,700	128	492,900	5,805,600	128	16,851	82,329
BOOKER T WASHINGTON NM	211,000	6	216,300	6	0	216,300	6	23	224
BOSTON NHP	3,190,800	67	3,320,500	67	16,200	3,336,700	67	2,198	38

ONPS, PARK MANAGEMENT PARK AREAS BY REGION & OTHER ENTITIES, PROGRAM ITEMS, ETC	FY-1980	1980 EOY CEILING FTP	ESTIMATED AVAILABLE FY-1981	1981 EOY CEILING FTP	FY-1982 INCREASE	BUDGET ESTIMATE FY-1982	1982 EOY CEIL. FTP	VISITOR USE FY-1980 (THOUSANDS)	ACREAGE
BR OF BLDG MAINT	305,000	4	324,800	4	0	324,800	4	0	0
BR OF TRANSPORTATIO	1,425,100	34	1,360,300	34	0	1,360,300	34	0	0
BR OF VISITOR SERVICES	501,800	5	87,000	5	0	87,000	5	0	0
BRYCE CANYON NP	689,900	16	676,800	16	78,800	755,600	16	563	35,835
BUCK ISLAND REEF NM	75,300	0	67,600	0	0	67,600	0	92	880
BUFFALO NR	1,089,200	22	1,132,200	22	120,000	1,252,200	22	585	94,146
C & O CANAL NHP	2,341,600	68	2,265,200	68	320,400	2,585,600	68	3,065	20,781
CABRILLO NM	378,200	12	374,600	12	0	374,600	12	1,351	144
CANAVERAL NS	532,500	13	530,300	13	13,400	543,700	13	864	57,627
CANYON DE CHELLY NM	368,600	7	365,000	7	20,800	385,800	7	631	83,840
CANYONLANDS NP	1,419,200	36	1,442,000	36	124,500	1,566,500	36	57	337,570
CAPE COD NS	1,529,300	30	1,608,500	30	119,800	1,728,300	30	4,603	44,596
CAPE HATTERAS NS	2,489,900	49	2,414,900	49	81,000	2,495,900	49	1,639	30,319
CAPE KRUSENSTERN NM	0	0	316,900	1	580,000	896,900	1	0	677,000
CAPE LOOKOUT NS	600,000	11	618,000	11	33,800	651,800	11	69	28,400
CAPITOL REEF NP	603,900	16	606,600	16	3,600	610,200	16	380	241,904
CAPULIN MOUNTAIN NM	169,000	6	172,500	6	10,500	183,000	6	45	775
CARL SANDBURG HOME NHS	333,500	6	339,100	6	8,000	347,100	6	38	264

ONPS, PARK MANAGEMENT PARK AREAS BY REGION & OTHER ENTITIES, PROGRAM ITEMS, ETC	FY-1980	1980 EOY CEILING FTP	ESTIMATED AVAILABLE FY-1981	1981 EOY CEILING FTP	FY-1982 INCREASE	BUDGET ESTIMATE FY-1982	1982 EOY CEIL. FTP	VISITOR USE FY-1980 (THOUSANDS)	ACREAGE
CARLSBAD CAVERNS NP	1,622,100	55	1,674,400	55	21,600	1,696,000	55	673	46,755
CASA GRANDE NM	185,900	5	189,300	5	0	189,300	5	110	473
CASTILLO DE SAN MARCOS	449,800	16	456,100	16	0	456,100	16	621	20
CASTLE CLINTON NM	93,300	3	93,900	3	0	93,900	3	181	1
CATOCTIN MTN PARK	769,000	21	759,800	21	0	759,800	21	510	5,769
CEDAR BREAKS NM	121,900	3	125,700	3	9,000	134,700	3	409	6,155
CHACO CANYON NM	343,400	8	351,600	8	83,200	434,800	8	59	21,509
CHAMIZAL NMEM	719,600	19	710,000	19	31,100	741,100	19	85	55
CHANNEL ISLANDS NP	390,700	12	490,500	12	373,700	864,200	13	137	249,354
CHATTAHOOCHEE RIVER NRA	614,200	10	902,000	10	109,100	1,011,100	11	300	8,515
CHICK CHATT NMP	809,700	23	805,400	23	44,000	849,400	23	13,644	8,099
CHICKASAW NRA	972,500	28	965,000	28	46,900	1,011,900	28	4,197	9,500
CHIRICAHUA NM	269,300	7	269,300	7	0	269,300	7	50	11,088
CHRISTIANSTED NHS	188,300	7	267,300	7	52,000	319,300	7	102	27
COLONIAL NHP	2,549,500	70	2,535,800	70	38,000	2,573,800	70	8,971	9,486
COLORADO NM	459,400	13	476,600	13	0	476,600	13	691	20,457
CONGAREE SWAMP NM	158,300	3	156,500	3	0	156,500	3	0	15,200
CORONADO NMEM	139,600	5	131,800	5	0	131,800	5	43	4,977

ONPS, PARK MANAGEMENT PARK AREAS BY REGION & OTHER ENTITIES, PROGRAM ITEMS, ETC	FY-1980	1980 EOY CEILING FTP	ESTIMATED AVAILABLE FY-1981	1981 EOY CEILING FTP	FY-1982 INCREASE	BUDGET ESTIMATE FY-1982	1982 EOY CEIL. FTP	VISITOR USE FY-1980 (THOUSANDS)	ACREAGE
COULEE DAM RA	1,168,900	23	1,147,600	23	44,100	1,191,700	23	858	100,059
COWPENS NB	142,200	4	141,300	4	11,900	153,200	4	86	841
CRATER LAKE NP	1,234,400	22	1,301,500	26	64,800	1,366,300	26	474	160,290
CRATERS OF THE MOON NM	269,100	6	262,900	6	0	262,900	6	163	53,545
CUMBERLAND GAP NHP	820,100	20	811,200	20	24,300	835,500	20	980	20,351
CUMBERLAND ISLAND NS	784,800	12	765,700	12	10,500	776,200	12	35	36,978
CURECANTI RA	575,300	13	573,900	13	157,300	731,200	13	824	42,114
CUSTER BATTLEFIELD NM	231,900	8	235,800	8	0	235,800	8	185	765
CUYAHOGA VALLEY NRA	2,333,100	18	2,413,300	18	303,800	2,717,100	18	581	32,460
DE SOTO NMEM	149,600	5	152,800	5	18,400	171,200	5	177	27
DEATH VALLEY NM	2,312,700	42	2,175,200	42	0	2,175,200	42	641	2,067,628
DELAWARE WATER GAP NRA	2,163,400	36	1,405,500	36	150,000	1,555,500	36	2,383	71,000
DENALI NAT PK PRESERVE	2,610,100	21	3,000,800	22	613,600	3,614,400	26	521	5,932,493
DEVILS POSTPILE NM	147,200	0	147,700	0	0	147,700	0	80	798
DEVILS TOWER NM	225,500	4	232,800	4	0	232,800	4	216	1,347
DINOSAUR NM	989,100	22	968,900	22	0	968,900	22	342	211,058
DIV RES & SUPPORT SERV	349,800	10	330,500	10	0	330,500	10	0	0
EBEY'S LANDING NHRES	61,400	1	62,300	1	50,000	112,300	1	0	8,000

ONPS, PARK MANAGEMENT PARK AREAS BY REGION & OTHER ENTITIES, PROGRAM ITEMS, ETC	FY-1980	1980 EOY CEILING FTP	ESTIMATED AVAILABLE FY-1981	1981 EOY CEILING FTP	FY-1982 INCREASE	BUDGET ESTIMATE FY-1982	1982 EOY CEIL. FTP	VISITOR USE FY-1980 (THOUSANDS)	ACREAGE
EDGAR ALLAN POE NHS	229,200	1	200,700	1	0	200,700	1	1	1
EDISON NHS	665,400	20	665,000	20	61,200	726,200	20	98	21
EFFIGY MOUNDS NM	180,800	4	179,400	4	17,200	196,600	4	70	1,475
EISENHOWER NHS	247,800	6	254,100	6	321,700	575,800	7	124	690
EL MORRO NM	132,200	5	133,200	5	28,900	162,100	5	31	1,279
ELEANOR ROOSEVELT NHS	307,700	2	316,500	2	16,900	333,400	2	0	181
ELLIS ISLAND	549,700	6	560,100	6	0	560,100	6	0	0
EUGENE O'NEILL NHS	35,000	0	55,800	0	96,900	152,700	3	0	14
EVERGLADES NP	5,295,500	91	5,190,400	91	354,000	5,544,400	91	787	1,398,800
FEDERAL HALL NMEM	249,100	5	237,100	5	21,100	258,200	5	80	0
FIRE ISLAND NS	1,298,500	30	1,306,400	30	138,500	1,444,900	30	732	19,579
FLORISSANT FOSS BEDS NM	135,000	4	138,500	4	13,300	151,800	4	65	5,998
FORD'S THEATRE NHS	603,500	9	269,700	9	0	269,700	9	642	0
FORT POWIE NHS	64,200	2	66,300	2	0	66,300	2	6	1,000
FORT CAROLINE NMEM	183,700	5	188,300	5	0	188,300	5	142	139
FORT CLATSOP NMEM	193,800	5	202,900	5	6,200	209,100	5	101	130
FORT DAVIS NHS	287,400	7	289,700	7	3,000	292,700	7	66	460
FORT DONELSON NMP	379,800	10	395,000	10	13,000	408,000	10	1,165	551

ONPS, PARK MANAGEMENT PARK AREAS BY REGION & OTHER ENTITIES, PROGRAM ITEMS, ETC	FY-1980	1980 EOY CEILING FTP	ESTIMATED AVAILABLE FY-1981	1981 EOY CEILING FTP	FY-1982 INCREASE	BUDGET ESTIMATE FY-1982	1982 EOY CEIL. FTP	VISITOR USE FY-1980 (THOUSANDS)	ACREAGE
FORT FREDERICA NM	242,800	8	249,300	8	18,100	267,400	8	336	214
FORT JEFFERSON NM	154,400	4	148,000	4	0	148,000	4	19	47,125
FORT LARAMIE NHS	356,700	12	368,500	12	13,200	381,700	12	91	836
FORT LARNED NHS	228,400	7	227,100	7	13,400	240,500	7	24	718
FORT MATANZAS NM	112,700	0	114,000	0	0	114,000	0	261	299
FORT MCHENRY NM & HS	520,800	16	535,100	16	40,000	575,100	16	601	43
FORT NECESSITY NB	359,000	8	365,000	8	23,000	388,000	8	132	903
FORT POINT NHS	184,900	4	181,100	4	0	181,100	4	865	29
FORT PULASKI NM	379,000	10	379,500	10	14,000	393,500	10	291	5,616
FORT RALEIGH NHS	163,500	0	166,500	0	0	166,500	0	351	157
FORT SCOTT NHS	231,300	2	226,900	2	0	226,900	2	34	17
FORT SMITH NHS	176,200	6	176,000	6	6,300	182,300	6	96	63
FORT STANWIX NM	261,600	4	263,500	4	0	263,500	4	68	16
FORT SUMTER NM	541,400	13	537,800	13	0	537,800	13	184	67
FORT UNION NM	195,900	4	194,200	4	0	194,200	4	10	721
FORT UNION TRAD POST	73,500	0	73,900	0	5,000	78,900	0	8	436
FORT VANCOUVER NHS	315,500	9	321,300	9	34,300	355,600	9	198	209
FOSSIL BUTTE NM	62,700	1	63,600	1	0	63,600	1	11	8,198

ONPS, PARK MANAGEMENT PARK AREAS BY REGION & OTHER ENTITIES; PROGRAM ITEMS, ETC	FY-1980	1980 EOY CEILING FTP	ESTIMATED AVAILABLE FY-1981	1981 EOY CEILING FTP	FY-1982 INCREASE	BUDGET ESTIMATE FY-1982	1982 EOY CEIL. FTP	VISITOR USE FY-1980 (THOUSANDS)	ACREAGE
FRED SPOT NMP	861,700	29	865,000	29	100,000	965,000	29	1,089	5,921
FREDERICK OLMSTED NHS	0	0	415,000	0	100,900-	314,100	7	0	2
FRIENDSHIP HILL NHS	202,600	1	202,000	1	0	202,000	1	0	675
GATES OF THE ARCTIC NPP	0	0	539,100	5	1,654,000	2,193,100	8	0	9,432,000
GATEWAY NRA	9,925,900	129	10,062,200	129	66,600	10,128,800	129	8,315	26,172
GENERAL GRANT NMEM	98,600	4	93,700	4	0	93,700	4	35	1
GEO WASH BIRTHPLACE NM	445,200	12	453,000	12	9,000	462,000	12	117	538
GEO WASH CARVER NM	174,800	4	169,200	4	25,500	194,700	4	59	210
GEO WASH MEM PKWY	4,229,900	113	4,059,200	113	497,600	4,556,800	113	6,584	7,284
GEORGE ROGERS CLARK NHP	259,900	7	258,100	7	19,600	277,700	7	78	24
GEORGIA O'KEEFFE NHS	0	0	55,000	0	0	55,000	0	0	0
GETTYSBURG NMP	1,403,500	44	1,446,800	44	206,000	1,652,800	44	1,162	3,883
GILA CLIFF DWELLINGS NM	115,100	0	106,400	0	0	106,400	0	32	533
GLACIER BAY NP & PRESER	665,700	11	718,000	11	519,400	1,237,400	12	130	3,355,269
GLACIER NP	4,039,800	52	4,075,400	52	425,500	4,500,900	52	1,483	1,013,595
GLEN CANYON NRA	2,098,200	53	2,065,600	53	261,200	2,326,800	53	1,680	1,236,880
GLORIA DEI NHS	13,400	0	19,000	0	0	19,000	0	0	4
GOLDEN GATE NRA	7,445,200	124	7,487,500	124	468,900	7,956,400	124	16,626	38,677

ONPS, PARK MANAGEMENT PARK AREAS BY REGION & OTHER ENTITIES, PROGRAM ITEMS, ETC	FY-1980	1980 EOY CEILING FTP	ESTIMATED AVAILABLE FY-1981	1981 EOY CEILING FTP	FY-1982 INCREASE	BUDGET ESTIMATE FY-1982	1982 EOY CEIL. FTP	VISITOR USE FY-1980 (THOUSANDS)	ACREAGE
GOLDEN SPIKE NHS	319,200	8	327,700	8	0	327,700	8	71	2,203
GRAN QUIVIRA NM	172,900	6	171,500	6	3,000	174,300	6	22	611
GRAND CANYON NP	5,771,300	94	5,603,000	94	300,000	5,903,000	94	2,461	1,218,375
GRAND PORTAGE NM	279,200	6	281,600	6	0	281,600	6	42	710
GRAND TETON NP	3,023,500	44	2,919,600	44	154,000	3,073,600	44	3,466	310,516
GRANT-KOHRS RANCH NHS	334,900	7	345,600	7	30,700	376,300	7	20	1,528
GREAT SAND DUNES NM	287,800	7	291,800	7	0	291,800	7	136	38,952
GREAT SMOKY MTNS NP	4,845,200	103	4,926,100	103	300,800	5,226,900	103	11,693	520,269
GREENBELT PARK	295,200	11	284,900	11	0	284,900	11	300	1,176
GUADALUPE MOUNTAINS NP	494,200	14	576,100	14	45,400	621,500	14	111	76,293
GUILFORD COURTHOUSE NMP	265,500	9	265,300	9	0	265,300	9	954	220
GULF ISLANDS NS	2,084,100	42	2,231,900	42	243,100	2,475,000	43	2,272	139,775
GUNBOAT CAIRO	113,200	1	114,500	1	0	114,500	1	0	0
HALEAKALA NP	635,100	14	630,900	14	82,100	713,000	14	610	28,655
HAMILTON GRANGE NMEM	69,300	3	69,300	3	0	69,300	3	0	1
HAMPTON NHS	51,400	2	155,000	2	69,100	224,100	2	63	59
HARPERS FERRY NHP	1,262,800	23	1,466,000	23	36,800-	1,429,200	23	716	1,909
HAWAII VOLCANOES NP	1,259,400	27	1,225,700	27	81,500	1,307,200	27	2,336	229,177

ONPS, PARK MANAGEMENT PARK AREAS BY REGION & OTHER ENTITIES, PROGRAM ITEMS, ETC	FY-1980	1980 EOY CEILING FTP	ESTIMATED AVAILABLE FY-1981	1981 EOY CEILING FTP	FY-1982 INCREASE	BUDGET ESTIMATE FY-1982	1982 EOY CEIL. FTP	VISITOR USE FY-1980 (THOUSANDS)	ACREAGE
HERBERT HOOVER NHS	365,200	9	362,500	9	25,800	388,300	9	228	187
HOHOKAM PIMA NM	23,600	0	22,700	0	0	22,700	0	0	1,690
HOME OF FDR NHS	569,700	19	555,500	19	0	555,500	19	304	264
HOMESTEAD NM OF AMERICA	154,100	5	152,100	5	38,200	190,300	5	16	195
HOPEWELL VILLAGE NHS	369,200	12	366,400	12	13,500	379,900	12	165	848
HORSESHOE BEND NMP	203,600	6	209,800	6	0	209,800	6	216	2,040
HOT SPRINGS NP	941,600	23	936,300	23	5,000	941,300	23	5,241	5,826
HOVENWEEP NM	45,800	0	57,700	0	0	57,700	0	14	785
HUBBELL TRAD POST NHS	185,600	6	186,700	6	25,200	211,900	6	99	160
INDEPENDENCE NHP	4,797,100	164	4,900,000	164	0	4,900,000	164	4,173	45
INDIANA DUNES NL	2,875,300	26	2,997,900	26	213,100	3,211,000	26	1,953	12,535
ISLE ROYALE NP	1,261,000	17	1,232,700	17	114,700	1,347,400	17	15	571,796
JEAN LAFITTE NHP & PRES	932,900	13	912,100	13	0	912,100	13	227	20,000
JEFFERSON N E M NHS	2,322,200	40	2,302,800	40	51,600	2,354,400	40	1,967	91
JEWEL CAVE NM	179,800	0	180,300	0	0	180,300	0	91	1,275
JOHN D ROCKEFELLER PKWY	172,100	3	196,700	3	0	196,700	3	1,332	23,777
JOHN DAY FOSSIL BEDS NM	282,200	5	282,800	5	9,600	292,400	5	101	14,044
JOHN F. KENNEDY NHS	84,800	2	87,000	2	0	87,000	2	18	0

ONPS, PARK MANAGEMENT PARK AREAS BY REGION & OTHER ENTITIES, PROGRAM ITEMS, ETC	FY-1980	1980 EOY CEILING FTP	ESTIMATED AVAILABLE FY-1981	1981 EOY CEILING FTP	FY-1982 INCREASE	BUDGET ESTIMATE FY-1982	1982 EOY CEIL. FTP	VISITOR USE FY-1980 (THOUSANDS)	ACREAGE
JOHN MUIR NHS	174,200	4	175,100	4	0	175,100	4	29	9
JOHNSTOWN FLOOD NMEM	59,600	1	52,100	1	9,900	62,000	1	34	163
JOSHUA TREE NM	1,143,400	24	1,123,600	24	33,600	1,157,200	24	349	559,960
KALOKO-HONOKOHAU NHP	124,600	2	199,600	2	0	199,600	2	0	1,250
KATMAI NAT PK & PRESER	325,600	3	348,300	3	378,600	726,900	3	11	4,293,126
KENAI FJORDS NP	0	0	99,000	1	311,000	410,000	4	0	672,000
KENNESAW MOUNTAIN NBP	471,800	11	472,300	11	0	472,300	11	6,647	2,884
KINGS MOUNTAIN NMP	295,600	7	296,100	7	8,000	304,100	7	433	3,945
KLAMATH FALLS GROUP	241,200	4	0	0	0	0	0	0	0
KLONDIKE GOLD RUSH NHP	558,800	5	590,400	5	0	590,400	5	0	13,270
KLONDIKE GOLD RUSH SEAT	151,200	3	170,700	3	0	170,700	3	48	0
KNIFE R INDIAN VILL NHS	91,900	0	92,500	0	0	92,500	0	0	1,293
KOBUK VALLEY NP	0	0	33,600	1	455,000	488,600	2	0	1,764,000
LAKE CLARK NP & PRESER	0	0	398,800	4	253,000	651,800	6	0	2,930,000
LAKE MEAD NRA	4,165,900	102	4,044,300	102	252,800	4,297,100	102	5,322	1,496,601
LAKE MEREDITH RA	788,300	19	779,000	19	12,000	791,000	19	1,570	44,994
LASSEN VOLCANIC NP	1,554,400	24	1,494,300	24	77,100	1,571,400	24	389	106,372
LAVA BEDS NM	415,500	9	397,200	9	44,800	442,000	9	123	46,821

ONPS, PARK MANAGEMENT PARK AREAS BY REGION & OTHER ENTITIES, PROGRAM ITEMS, ETC	FY-1980	1980 EOY CEILING FTP	ESTIMATED AVAILABLE FY-1981	1981 EOY CEILING FTP	FY-1982 INCREASE	BUDGET ESTIMATE FY-1982	1982 EOY CEIL. FTP	VISITOR USE FY-1980 (THOUSANDS)	ACREAGE
LEHMAN CAVES NM	204,700	7	201,200	7	0	201,200	7	33	640
LINCOLN BOYHOOD MEM	267,500	7	266,500	7	23,300	289,800	7	255	196
LINCOLN HOME NHS	600,900	15	601,300	15	0	601,300	15	403	12
LONGFELLOW NHS	209,500	5	214,700	5	16,500	231,200	5	20	2
LOWELL NHP	1,585,000	12	1,693,200	12	289,000	1,982,200	12	287	137
LYNDON B JOHNSON NHS	1,323,900	35	1,273,500	35	0	1,273,500	35	386	236
MAGGIE L WALKER NHS	127,200	3	128,700	3	0	128,700	3	0	1
MAMMOTH CAVE NP	2,028,700	50	2,051,900	50	100,400	2,152,300	50	1,656	52,452
MANASSAS NBP	429,000	10	452,200	10	0	452,200	10	796	3,032
MANHATTAN SITES HQ	255,300	7	241,500	7	0	241,500	7	0	0
MAR-A-LAGO NHS	0	0	100,000	0	100,000-	0	0	0	17
MARTIN VAN BUREN NHS	395,900	7	402,600	7	15,200	417,800	7	0	40
MESA VERDE NP	1,730,400	37	1,867,000	37	119,600	1,986,600	37	543	52,085
MINUTE MAN NHP	641,700	16	651,500	16	26,000	677,500	16	1,034	752
MONOCACY NB	0	0	21,800	0	152,400	174,200	5	0	1,220
MONTEZUMA CASTLE NM	405,200	5	325,000	5	0	325,000	5	411	858
MOORES CREEK NBP	169,400	5	163,500	5	0	163,500	5	42	87
MORRISTOWN NHP	743,300	19	770,300	19	11,200	781,500	19	609	1,678

ONPS, PARK MANAGEMENT PARK AREAS BY REGION & OTHER ENTITIES, PROGRAM ITEMS, ETC	FY-1980	1980 EOY CEILING FTP	ESTIMATED AVAILABLE FY-1981	1981 EOY CEILING FTP	FY-1982 INCREASE	BUDGET ESTIMATE FY-1982	1982 EOY CEIL. FTP	VISITOR USE FY-1980 (THOUSANDS)	ACREAGE
MOUND CITY GROUP NM	181,800	8	196,900	8	30,800	227,700	8	57	68
MOUNT RAINIER NP	3,569,000	62	3,499,500	62	250,300	3,749,800	62	1,935	235,404
MOUNT RUSHMORE MEM	669,700	15	661,300	15	11,000	672,300	15	1,684	1,278
MUIR WOODS NM	124,400	4	123,500	4	0	123,500	4	1,333	554
NATCHEZ TRACE PARKWAY	3,719,100	92	3,698,900	92	384,000	4,082,900	92	15,445	48,377
NATIONAL VISITOR CENTER	4,249,700	10	4,234,000	10	50,000	4,284,000	10	254	0
NATURAL BRIDGES NM	118,000	0	124,600	0	0	124,600	0	66	7,779
NAVAJO LANDS GROUP	275,800	6	272,100	6	0	272,100	6	0	0
NAVAJO NM	224,700	6	225,900	6	0	225,900	6	69	360
NCP-CENTRAL	8,013,200	221	8,013,800	221	0	8,013,800	221	22,158	6,902
NCP-EAST	4,682,700	140	4,250,000	140	409,300	4,659,300	140	689	4,681
NEW RIVER GORGE N RIVER	259,600	3	206,400	3	127,500	333,900	7	0	62,029
NEZ PERCE NHP	271,400	6	269,600	6	38,700	308,300	6	182	2,109
NINETY SIX NHS	139,800	4	131,300	4	0	131,300	4	0	1,115
NOATAK NAT PRESERVE	0	0	48,300	2	876,000	924,300	4	0	5,800,000
NORTH CASCADES NP	1,779,100	32	1,908,700	32	128,600	2,037,300	33	610	684,245
OBED WILD & SCENIC RIV	185,800	1	180,900	1	0	180,900	1	0	5,250
OCMULGEE NM	305,200	8	302,000	8	0	302,000	8	96	683

ONPS, PARK MANAGEMENT PARK AREAS BY REGION & OTHER ENTITIES, PROGRAM ITEMS, ETC	FY-1980	1980 EOY CEILING FTP	ESTIMATED AVAILABLE FY-1981	1981 EOY CEILING FTP	FY-1982 INCREASE	BUDGET ESTIMATE FY-1982	1982 EOY CEIL. FTP	VISITOR USE FY-1980 (THOUSANDS)	ACREAGE
OLYMPIC NP	3,324,200	69	3,253,200	69	80,000	3,333,200	69	2,512	914,890
OREGON CAVES NM	145,100	3	141,900	3	0	141,900	3	129	474
ORGAN PIPE CACTUS NM	395,300	12	405,300	12	100,000	505,300	12	196	330,689
OZARK NSR	2,087,900	38	2,116,300	38	70,000	2,186,300	38	1,807	81,216
PACIFIC AREA DIRECTOR	259,600	8	420,500	8	0	420,500	8	0	0
PADRE ISLAND NS	907,500	26	897,800	26	67,700	965,500	26	784	133,919
PALO ALTO BFLD NHS	61,200	3	80,600	3	0	80,600	3	0	50
PEA RIDGE NMP	220,100	6	218,000	6	14,000	232,000	6	94	4,300
PECOS NM	189,000	4	187,100	4	0	187,100	4	38	365
PERRY'S VICTORY & IPM	203,800	5	205,400	5	27,800	233,200	5	145	25
PETERSBURG NB	728,200	14	692,600	14	50,000	742,600	14	550	1,545
PETRIFIED FOREST NP	988,800	28	962,000	28	0	962,000	28	677	93,493
PICTURED ROCKS NL	513,200	9	599,800	9	53,000	652,800	9	301	70,757
PINNACLES NM	477,000	13	468,300	13	33,600	501,900	13	160	16,222
PIPE SPRING NM	125,200	4	131,000	4	0	131,000	4	26	40
PIPESTONE NM	228,600	5	242,800	5	0	242,800	5	137	282
PISCATAWAY PARK	300,000	0	300,000	0	0	300,000	0	0	0
POINT REYES NS	1,602,500	42	1,573,000	42	130,000	1,573,000	42	1,435	67,265

ONPS, PARK MANAGEMENT PARK AREAS BY REGION & OTHER ENTITIES, PROGRAM ITEMS, ETC	FY-1980	1980 EOY CEILING FTP	ESTIMATED AVAILABLE FY-1981	1981 EOY CEILING FTP	FY-1982 INCREASE	BUDGET ESTIMATE FY-1982	1982 EOY CEIL. FTP	VISITOR USE FY-1980 (THOUSANDS)	ACREAGE
PRESIDENT,S PARK	849,700	11	813,000	11	0	813,000	11	0	0
PRINCE WILLIAM FOR PK	1,103,300	34	1,136,500	34	78,800	1,215,300	34	423	18,572
PUUHONUA O HONAUNAU NHP	353,100	9	351,600	9	0	351,600	9	406	182
PUUKOHOLA HEIAU NHS	129,700	4	131,400	4	0	131,400	4	22	77
RAINBOW BRIDGE NM	229,300	0	229,600	0	0	229,600	0	100	160
REDWOOD NP	4,202,300	41	4,015,200	41	40,000	4,055,200	41	515	109,415
RICHMOND NRP	480,600	13	493,800	13	0	493,800	13	337	769
RIO GRANDE RIVER	75,200	2	247,800	2	130,000	377,800	2	0	9,600
ROCK CREEK PARK	1,787,700	58	2,321,000	58	117,400	2,438,400	58	16,964	1,754
ROCKY MOUNTAIN NP	3,253,300	48	3,143,800	48	248,900	3,392,700	48	2,624	263,809
ROGER WILLIAMS NMEM	119,200	1	116,300	1	0	116,300	1	46	5
RUSSELL CAVE NM	113,700	4	115,900	4	2,000	117,900	4	24	310
SAGAMORE HILL NHS	352,500	10	356,300	10	22,000	378,300	10	184	78
SAGUARO NM	503,700	14	499,000	14	0	499,000	14	611	83,576
SAINT CROIX NSR	782,600	14	833,000	14	59,600	892,600	14	380	72,085
SAINT PAUL'S CHURCH	102,600	2	171,400	2	0	171,400	2	0	6
SAINT-GAUDENS NHS	143,000	4	146,600	4	22,900	169,500	4	38	148
SALEM MARITIME NHS	225,600	5	224,500	5	9,800	234,300	5	394	9

ONPS, PARK MANAGEMENT PARK AREAS BY REGION & OTHER ENTITIES, PROGRAM ITEMS, ETC	FY-1980	1980 EOY CEILING FTP	ESTIMATED AVAILABLE FY-1981	1981 EOY CEILING FTP	FY-1982 INCREASE	BUDGET ESTIMATE FY-1982	1982 EOY CEIL. FTP	VISITOR USE FY-1980 (THOUSANDS)	ACREAGE
SAN ANTONIO MISSIONS NH	437,800	8	694,700	11	0	694,700	11	0	2,500
SAN JUAN ISLAND NHP	145,500	3	144,700	3	0	144,700	3	103	1,752
SAN JUAN NHS	776,100	27	750,400	27	92,800	843,200	27	1,595	53
SANTA MONICA MTNS NRA	953,000	17	1,302,100	17	0	1,432,100	19	0	150,000
SARATOGA NHP	481,300	11	464,600	11	0	464,600	11	255	2,602
SAUGUS IRON WORKS NHS	261,700	6	260,900	6	33,000	293,900	6	60	9
SCOTTS BLUFF NM	176,700	5	171,400	5	32,000	203,400	5	107	2,997
SEQUOIA NP	4,757,300	86	4,725,000	86	232,200	4,957,200	86	1,648	862,624
SHENANDOAH NP	3,769,100	90	3,761,200	90	173,900	3,935,100	90	1,784	194,826
SHILOH NMP	412,500	12	412,900	12	20,000	432,900	12	487	3,848
SITKA NHP	341,100	6	333,300	6	18,200	351,500	6	75	108
SLEEPING BEAR DUNES NL	1,092,000	18	1,051,900	18	74,400	1,126,300	18	726	71,105
SOUTHERN ARIZONA GROUP	473,700	9	494,100	9	69,300	563,400	9	0	0
SPRINGFIELD ARMORY NHS	344,500	11	358,300	11	0	358,300	11	16	55
ST CROIX ISLAND VI	25,200	0	26,300	0	0	26,300	0	0	35
STATUE OF LIBERTY NM	1,154,100	26	1,137,100	26	13,400	1,150,500	26	1,789	58
STONES RIVER NB	213,900	6	227,900	6	4,400	232,300	6	101	351
SUNSET CRATER NM	114,100	3	116,200	3	1,100	117,300	3	313	3,040

ONPS, PARK MANAGEMENT PARK AREAS BY REGION & OTHER ENTITIES, PROGRAM ITEMS, ETC	FY-1980	1980 EOY CEILING FTP	ESTIMATED AVAILABLE FY-1981	1981 EOY CEILING FTP	FY-1982 INCREASE	BUDGET ESTIMATE FY-1982	1982 EOY CEIL. FTP	VISITOR USE FY-1980 (THOUSANDS)	ACREAGE
THAD KOSCIUSZKO NMEM	83,700	3	84,400	3	0	84,400	3	0	0
THEO ROOSEVELT BPL NHS	88,900	3	89,700	3	3,600	93,300	3	14	0
THEODORE ROOSEVELT NP	785,000	22	758,000	22	47,600	805,600	22	603	70,416
THOMAS STONE NHS	42,600	1	3,300	1	0	3,300	1	0	328
TIMPANOGOS CAVE NM	239,900	5	238,600	5	0	238,600	5	108	250
TONTO NM	121,800	5	107,300	5	0	107,300	5	60	1,120
TUMACACORI NM	153,600	6	150,800	6	0	150,800	6	57	17
TUSKEGEE INSTITUTE NHS	302,600	6	302,500	6	0	302,500	6	8	74
TUZIGOOT NM	144,500	6	144,600	6	0	144,600	6	75	849
U.S.S. ARIZONA MEM	320,900	5	406,300	5	348,000	754,300	5	0	0
UPPER DELAWARE RIVER	987,000	4	1,415,300	4	0	1,415,300	4	76	75,000
VALLEY FORGE NHP	2,108,200	45	2,030,200	45	311,800	2,342,000	45	11,615	3,300
VANDERBILT MANSION NHS	570,500	17	564,900	17	0	564,900	17	382	212
VICKSBURG NMP	719,500	18	703,300	18	30,000	733,300	18	960	1,857
VIRGIN ISLANDS NP	1,045,600	31	898,700	31	72,300	971,000	31	785	14,695
VOYAGEURS NP	819,000	12	810,800	12	216,500	1,027,300	12	273	219,128
WALNUT CANYON NM	180,300	6	177,100	6	0	177,100	6	74	2,249
WAR IN THE PACIFIC NHP	121,100	4	134,200	4	0	134,200	4	0	1,920

ONPS, PARK MANAGEMENT PARK AREAS BY REGION & OTHER ENTITIES, PROGRAM ITEMS, ETC	FY-1980	1980 EOY CEILING FTP	ESTIMATED AVAILABLE FY-1981	1981 EOY CEILING FTP	FY-1982 INCREASE	BUDGET ESTIMATE FY-1982	1982 EOY CEIL. FTP	VISITOR USE FY-1980 (THOUSANDS)	ACREAGE
WHISKEYTOWN NRA	1,082,200	16	1,052,800	16	48,600	1,101,400	16	1,167	42,503
WHITE HOUSE	875,800	23	845,400	23	0	845,400	23	1,314	18
WHITE SANDS NM	367,700	9	365,800	9	0	365,800	9	520	144,458
WHITMAN MISSION NHS	169,800	5	168,700	5	10,800	179,500	5	103	98
WILLIAM HOWARD TAFT NHS	130,500	4	128,400	4	12,200	140,600	4	6	4
WILSON'S CREEK NB	262,100	6	276,200	6	0	276,200	6	82	1,750
WIND CAVE NP	692,000	14	678,100	14	47,500	725,600	14	976	28,292
WOLF TRAP FARM PARK	1,293,200	19	1,309,500	19	0	1,309,500	19	619	130
WRANGELL-ST. ELIAS NPP	0	0	598,200	6	911,000	1,509,200	9	0	11,923,000
WRIGHT BROTHERS NMEM	190,800	0	194,300	0	0	194,300	0	420	431
WUPATKI NM	223,100	6	219,700	6	7,800	227,500	6	166	35,253
YELLOWSTONE NP	9,615,500	85	9,578,000	85	503,500	10,081,500	85	1,987	2,219,823
YOSEMITE NP	8,487,900	128	8,495,400	128	451,400	8,946,800	128	2,521	760,917
YUCCA HOUSE NM	1,000	0	1,000	0	0	1,000	0	0	10
YUKON-CHARLEY RIVERS NP	0	0	99,400	1	375,000	474,400	3	0	2,520,000
ZION NP	1,155,300	26	1,158,800	26	32,600	1,191,400	26	1,229	146,551
	278,059,800		280,436,900		24,374,300	304,811,200		302,169	76,996,106

Park Areas by Region and Other Entities, Program Items, Etc.	FY 1980	1980 EOY Ceiling FTP	Estimated Available 1981	1981 EOY Ceiling FTP	Increase/. Decrease	Budget Estimate 1982	1982 EOY Ceiling FTP
Regionwide Natural Science Programs:							
Rocky Mountain	856,000	8	867,900	8	216,000	1,083,900	8
North Atlantic	327,500	2	331,800	2	10,000	341,800	2
National Capital	372,400	8	380,100	8	55,000	435,100	8
Mid-Atlantic	64,700	0	65,500	0	86,700	152,200	0
Southeast	781,900	1	805,400	1	110,000	915,400	1
Midwest	329,200	3	237,700	3	110,000	347,700	3
Southwest	340,200	2	338,100	2	10,000	348,100	2
Western	1,041,500	14	1,087,200	14	350,400	1,437,600	14
Pacific Northwest	452,200	4	527,700	4	60,000	587,700	4
Alaska	--	0	172,900	0	43,600	216,500	0
	4,565,600		4,814,300		1,051,700	5,866,000	
Regionwide Park Professional Services and Park Support Operations:							
Rocky Mountain	1,427,500	38	1,538,600	38		1,538,600	38
North Atlantic	1,020,700	18	1,035,600	18		1,035,600	18
National Capital	2,624,800	56	3,143,300	56		3,143,300	56
Mid-Atlantic	1,092,100	24	1,189,900	24		1,189,900	24
Southeast	1,317,700	33	1,355,200	33		1,355,200	33
Midwest	1,250,000	25	1,270,400	25		1,270,400	25
Southwest	1,261,500	35	1,276,000	35		1,276,000	35
Western	1,495,400	36	1,536,500	36		1,536,500	36
Pacific Northwest	1,204,200	22	1,279,000	22		1,279,000	22
Alaska	--	--	2,737,700	53	500,000	3,237,700	53
	12,693,900		16,362,200		500,000	16,862,200	

Park Areas by Region and Other Entities, Program Items, Etc.	FY 1980	1980 EOY Ceiling FTP	Estimated Available 1981	1981 EOY Ceiling FTP	Increase/ Decrease	Budget Estimate 1982	1982 EOY Ceiling FTP
Regionwide Concessions Management:							
Rocky Mountain	134,000	5	143,400	5		143,400	5
North Atlantic	106,200	2	172,100	2		172,100	2
National Capital	97,700	4	115,700	4		115,700	4
Mid-Atlantic	47,700	1	45,000	1		45,000	1
Southeast	122,100	2	80,300	2		80,300	2
Midwest	60,800	1	61,900	1		61,900	1
Southwest	109,600	3	136,800	3		136,800	3
Western	191,300	5	214,000	5		214,000	5
Pacific Northwest	107,100	3	94,300	3		94,300	3
Alaska	--	0	63,000	0		63,000	0
Denver Service Center	258,600	7	342,000	7		342,000	7
Washington Office	813,700	18	874,300	18		874,300	18
	2,048,800		2,342,800			2,342,800	
Regionwide Cyclic Maintenance of Facilities:							
Rocky Mountain	1,208,500		1,448,000		1,102,000	2,550,000	
North Atlantic	671,900		909,600		450,000	1,359,600	
National Capital	1,256,500		1,760,000		1,407,000	3,167,000	
Mid-Atlantic	390,800		525,300		--	525,300	
Southeast	2,938,900		4,026,900		--	4,026,900	
Midwest	359,100		489,800		157,000	646,800	
Southwest	1,036,500		1,455,300		264,500	1,719,800	
Western	1,164,400		1,581,900		2,383,800	3,965,700	
Pacific Northwest	1,243,600		1,472,800		--	1,472,800	
Alaska	--		264,800		100,000	364,800	
	10,270,200		13,934,400		5,864,300	19,798,700	

Park Areas by Region and Other Entities, Program Items, Etc.	FY 1980	1980 EOY Ceiling FTP	Estimated Available 1981	1981 EOY Ceiling FTP	Increase/ Decrease	Budget Estimate 1982	1982 EOY Ceiling FTP
Regionwide Cyclic Maintenance of Historic Resources:							
National Capital	174,000		174,000		227,000	401,000	
Mid-Atlantic	450,000		450,000		--	450,000	
Southeast	676,600	2	673,100	2	--	673,100	2
Midwest	725,400		725,400		35,000	760,400	
Southwest	50,000		49,000		80,000	129,000	
Western	--		--		1,230,700	1,230,700	
Pacific Northwest	100,000		85,000		40,000	125,000	
Alaska	--		15,000		--	15,000	
	2,176,000		2,171,500		1,612,700	3,784,200	
Regionwide Incidental Personnel Costs (Lump Sum Leave, Employee Transfers, Incentive Awards, Etc.):							
Rocky Mountain	163,600		163,600			163,600	
North Atlantic	125,200		125,200			125,200	
National Capital	279,500		279,500			279,500	
Mid-Atlantic	153,800		153,800			153,800	
Southeast	235,700		235,700			235,700	
Midwest	82,600		82,600			82,600	
Southwest	123,300		123,300			123,300	
Western	277,000		268,700			268,700	
Pacific Northwest	86,500		86,500			86,500	
Alaska	--		--			--	
Denver Service Center	3,900		3,900			3,900	
Washington Office	--		78,600			78,600	
	1,531,100		1,601,400			1,601,400	

Park Areas by Region and Other Entities, Program Items, Etc.	FY 1980	1980 EOY Ceiling FTP	Estimated Available 1981	1981 EOY Ceiling FTP	Increase/ Decrease	Budget Estimate 1982	1982 EOY Ceiling FTP
Regionwide Property Replacement Program:							
Rocky Mountain	--		1,070,300			1,070,300	
North Atlantic	--		300,700			300,700	
National Capital	--		800,500			800,500	
Mid-Atlantic	--		350,000			350,000	
Southeast	--		800,000			800,000	
Midwest	--		251,100			251,100	
Southwest	--		260,700			260,700	
Western	--		1,258,900			1,258,900	
Pacific Northwest	--		422,200			422,200	
Alaska	--		81,300			81,300	
			5,595,700			5,595,700	
Denver Service Center *		369		369			369
Maintenance Assistance Program	183,000		--			--	
Servicewide Statistical Assistance Program	154,400		178,700			178,700	
Training Support	--		30,000			30,000	
Harpers Ferry Center *		148		148			148
Audiovisual Arts	962,200		989,200			989,200	
Informational Publications	2,603,200		2,633,600			2,633,600	
Museum Exhibit Maintenance	473,200		476,800			476,800	
Museum Reference Services	1,376,700		1,412,400			1,412,400	
Preservation Program	3,543,000		2,826,700			2,826,700	
Training Support	--		20,000			20,000	

* Summary of funding from all accounts for Denver Service Center and Harpers Ferry Center on Page 100

Park Areas by Region and Other Entities, Program Items, Etc.	FY 1980	1980 EOY Ceiling FTP	Estimated Available 1981	1981 EOY Ceiling FTP	Increase/ Decrease	Budget Estimate 1982	1982 EOY Ceiling FTP
Appalachian Trail Project	174,400	3	631,700	3		631,700	3
International Park Affairs ...	--		363,800	10		363,800	10
North Atlantic Historic Preservation Center	183,200	6	191,900	6		191,900	6
Southeast Archeological Center	284,400	5	290,700	5		290,700	5
Midwest Archeological Center .	289,600	9	285,600	9		285,600	9
Southwest Cultural Resources Center	708,200	14	702,900	14		702,900	14
Western Archeological Center .	761,100	19	741,200	19	55,000	796,200	19
Common Program Services	22,331,000	586	24,331,000	586	1,400,000	25,731,000	586
United States Park Police	14,452,300	591	15,253,600	591	97,000	15,350,600	591
United States Park Police Pay Increase	--		--		1,546,000	1,546,000	
Servicewide Program:							
Employees' Compensation Fund Payment	1,788,500		2,195,500		382,000	2,577,500	
General Services Administration Space Reimbursement	6,478,000		6,533,300		1,000,000	7,533,300	
Public Information Program .	757,900	17	772,400	17		772,400	17
Cultural Resources Preservation Program	2,070,800		2,070,800			2,070,800	

Park Areas by Region and Other Entities, Program Items, Etc.	FY 1980	1980 EOY Ceiling FTP	Estimated Available 1981	1981 EOY Ceiling FTP	Increase/ Decrease	Budget Estimate 1982	1982 EOY Ceiling FTP
Dam Safety Program	--		--		425,000	425,000	
Air Quality Program	--		1,000,000		2,469,000	3,469,000	
Albright Training Center Maintenance Program	--		70,000			70,000	
Campground Reservations Program	421,200		421,200			421,200	
Holocaust Memorial Commission	550,000		--			--	
National Symphony (In Park Performances)	200,000		350,000		- 350,000	--	
NCR Preforming Arts Assistance	948,000		1,085,000		- 1,085,000	--	
NPS Road and Bridge Inspection Program	278,000		340,000			340,000	
Maintenance Repair and Rehabilitation	1,000,000		18,105,400		- 14,209,000	3,896,400	
Servicewide Park Support Operations	4,085,200	45	4,361,300	45		4,361,300	45
Servicewide Science Program ..	3,389,200	52	3,343,900	54		3,343,900	56
Servicewide Training Program .	3,693,300	26	2,597,700	26		2,597,700	26
Student Conservation Program .	360,000		398,000			398,000	
Technical Maintenance Assistance Program	--		610,000		--	610,000	
Volunteer-in-Parks Program ...	250,000		250,000			250,000	

Park Areas by Region and Other Entities, Program Items, Etc.	FY 1980	1980 EOY Ceiling FTP	Estimated Available 1981	1981 EOY Ceiling FTP	Increase/ Decrease	Budget Estimate 1982	1982 EOY Ceiling FTP
Planning, Rehabilitation, Repair and Construction ..	1,040,100		--			--	
Planning and Studies	300,000		--			--	
Visitor Transportation Study	50,000		50,000			50,000	
Servicewide Energy Conservation Program	966,500		2,966,500		4,217,000	7,183,500	
Servicewide Curbing Pollution in Parks Program	700,000		450,000			450,000	
Reserve for Emergencies (Storm & Flood Damage, Search & Rescue, Structural Fire Damage)	1,600,000		2,100,000			2,100,000	
Departments' Assessment	193,000		--			--	
Classified Pay Increase	--		--		14,255,000	14,255,000	
Wage Board Pay Increase	--		--		7,797,000	7,797,000	
Total Park Management ...	390,940,000		428,690,000		51,402,000	480,092,000	
Forest Fire Suppression and Rehabilitation of Burned Areas	2,288,000		1,200,000			1,200,000	

Park Areas by Region and Other Entities, Program Items, Etc.	FY 1980	1980 EOY Ceiling FTP	Estimated Available 1981	1981 EOY Ceiling FTP	Increase/ Decrease	Budget Estimated 1982	1982 EOY Ceiling FTP
Executive Direction:							
Rocky Mountain	369,100	9	375,700	9		375,700	9
North Atlantic	332,800	10	328,300	10		328,300	10
National Capital	551,600	16	564,000	16		564,000	16
Mid-Atlantic	395,800	10	390,800	10		390,800	10
Southeast	370,500	10	374,900	10		374,900	10
Midwest	347,600	9	354,600	9		354,600	9
Southwest	274,900	7	279,000	7		279,000	7
Western	316,200	7	330,900	7		330,900	7
Pacific Northwest	363,900	10	372,000	10		372,000	10
Alaska	150,000	2	157,500	2		157,500	2
Washington and Undistributed	2,745,600	61	2,766,300	61		2,766,300	61
Classified Pay Increase	--		--		281,000	281,000	
Total Executive Direction	6,218,000		6,294,000		281,000	6,575,000	
Park Recreation and Wilderness Planning	4,157,100	42	5,422,000	47	615,000	6,037,000	47
Common Program Services	218,900		321,000			321,000	
Classified Pay Increase	--		--		106,000	106,000	
Total Park Recreation and Wilderness Planning	4,376,000		5,743,000		721,000	6,464,000	
Cooperative Programs	1,438,500	15	--			--	
Common Program Services	30,500		--			--	
Total Cooperative Programs	1,469,000		--			--	

Park Areas by Region and Other Entities, Program Items, Etc.	FY 1980	1980 EOY Ceiling FTP	Estimated Available 1981	1981 EOY Ceiling FTP	Increase/ Decrease	Budget Estimate 1982	1982 EOY Ceiling FTP
Statutory or Contractual Aid for Other Activities	2,074,000	6	2,901,000	6	- 1,421,000	1,480,000	6
Total Operation of National Park Systems	407,365,000	8,160	444,828,000	8,195	50,983,000	495,811,000	8,250
Other Accounts		712		724			724
Subtotal		8,872		8,919			8,974
Undistributed 1/		129		61			75
Total		9,001		8,980			9,049

1/ These positions ceilings were generated primarily by Central Office reductions. They remain undistributed in fiscal 1981 due to the civilian hiring freeze imposed by the Administration.

74-939 O—80—80

Summary of Funding

Denver Service Center and Harpers Ferry Center

NPS-100

	FY 1980	Estimated Available 1981	Increase/ Decrease	Budget Estimate 1982
* Summary of Denver Service Center and Harpers Ferry Center funding from all accounts.				
Denver Service Center:				
ONPS, Park Management				
Maintenance Assistance Program	183,000	--		--
Technical Maintenance Assistance Program	154,400	178,700		178,700
Incidental Personnel Costs	3,900	3,900		3,900
Training Support	--	30,000		30,000
Total ONPS, Park Management	341,300	212,600		212,600
ONPS, Park Recreation and Wilderness Planning:				
New Area Studies	--	100,000		100,000
Rivers and Trails	257,000	417,000		417,000
General Management Plans .	1,591,100	1,901,300		1,901,300
Total ONPS, Park Recreation and Wilderness Planning	1,848,100	2,418,300		2,418,300
Planning, Development and Operation of Recreation Facilities:				
New Area Studies	300,000	--		--

	FY 1980	Estimated Available 1981	Increase/ Decrease	Budget Estimate 1982
Construction: 1/				
Advance Planning	5,000,000	5,000,000		5,000,000
Project Planning	3,551,000	6,806,000	- 777,000	6,029,000
Construction Supervision .	10,150,000	2,968,000	2,467,000	5,435,000
Total Construction	18,701,000	14,774,000	1,690,000	16,464,000
Management and Administrative Support and Indirect Costs (Cleared to all accounts)	(6,100,000)	(6,200,000)	(+300,000)	(6,500,000)
Total Denver Service Center	21,190,400	17,404,900	1,690,000	19,094,900
Harpers Ferry Center:				
ONPS, Park Management				
Audiovisual Arts	962,200	989,200		989,200
Informational Publications	2,603,200	2,633,600		2,633,600
Museum Exhibit Maintenance	473,200	476,800		476,800
Museum Reference Services	1,376,700	1,412,400		1,412,400
Preservation Program	3,543,000	2,826,700		2,826,700
Training Support	--	20,000		20,000
Total ONPS, Park Management	8,958,300	8,358,700		8,358,700

	FY 1980	Estimated Available 1981	Increase/ Decrease	Budget Estimate 1982
Construction: 1/				
Project Planning	73,000	131,000	9,000	140,000
Exhibit and Wayside production	1,204,000	--		--
Audiovisual production ...	466,000	--		--
Total Construction	1,743,000	131,000	9,000	140,000
Management and Administrative Support and Indirect Costs (Cleared to all accounts)	(3,330,500)	(3,475,500)	(+34,500)	(3,510,000)
Total Harpers Ferry Center	10,701,300	8,489,700	9,000	8,498,700

1/ While most of these funds will be spent within the respective service centers, some specific projects and funding may be transferred to other National Park Service organizations or to other agencies (primarily Federal Highway Administration for road projects) for execution. Also planning and supervision projects funded from the "Construction" appropriation may be contracted to private architecture and engineering firms.

OPERATION OF THE NATIONAL PARK SYSTEM

For expenses necessary for the management, operation, and maintenance of areas and facilities administered by the National Park Service (including special road maintenance service to trucking permittees on a reimbursable basis), including not to exceed [$341,000] *$372,000* for the Roosevelt Campobello International Park Commission, [$444,828,000] *$495,811,000* without regard to the Act of August 24, 1912, as amended (16 U.S.C. 451): *Provided,* [That not to exceed $5,000,000 may be available for operation of the National Visitor Center and of that amount not to exceed $3,500,000 may be used for payment of rent: *Provided further,* That the Park Service shall not enter into future concessionaire contracts, including renewals, that do not include a termination for cause clause that provides for possible extinguishment of possessory interests excluding depreciated book value of concessionaire investments without compensation: *Provided further,* That *$150,000* shall be available for the National Park Service to assist the Town of Harpers Ferry, West Virginia, for police force use: *Provided further,* That *$1,000,000* shall be available for assistance to the National Symphony Orchestra of Washington, District of Columbia, such asistance to be available only to the extent matched by the National Symphony Orchestra with a like amount of contributions or pledges derived from non-government sources which have not previously been used for Federal matching purposes: *Provided further,*] That appropriations for maintenance and improvement of roads within the boundary of Indiana Dunes National Lakeshore shall be available for such purposes without regard to whether title to such road rights-of-way is in the United States[: *Provided further,* That not to exceed *$200,000* shall be available for commemoration of the 200th anniversary of the Battle of Yorktown at Colonial National Historical Park].

(5 U.S.C. 5901-5903; 16 U.S.C. 1, 1b, 1c, 3, 7a-e, 8b, 8d, 17j-2, 17k-1, 17n, 18f, 18g, 47-2, 431-433, 461-467, 590a, 590f, 594, 1281c; 43 U.S.C. 620 (g); Act of July 7, 1964 (78 Stat. 299), Act of September 3, 1964 (78 Stat. 890); Public Law 96-514, making appropriations for the Department of the Interior and related agencies, 1981.)

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
OPERATION OF THE NATIONAL PARK SYSTEM
Program and Financing (in thousands of dollars)

Identification code 14-1036-0-1-303	1980 actual	1981 estimate	1982 estimate
Program by activities:			
Direct program:			
1. Park management	389,415	444,980	480,092
2. Forest fire suppression and rehabilitation of burned areas	2,288	1,200	1,200
3. Executive direction	6,440	6,572	6,575
4. Park, recreation, and wilderness planning	4,510	5,847	6,464
5. Cooperative programs	1,480	--	--
6. Statutory and contractual aid	2,073	2,901	1,480
Total direct program	406,206	461,500	495,811
Reimbursable program:			
1. Living Exhibits/Interpretive Demonstrations.	350	760	780
2. Quarters and subsistence charges	5,583	6,382	6,806
3. Rental Income (Public Law 95-625)	1,013	925	960
4. Parking space rental	20	33	54
Total reimbursable program	6,966	8,100	8,600
Total program costs, funded 1/	413,172	469,600	504,411
Change in selected resources undelivered orders)	-15,363	--	--
10.00 Total obligations	397,809	469,600	504,411

1/ Includes capital investment as follows: 1980, $12,362 thousand; 1981, $15,377 thousand; 1981, $13,941 thousand.

Program and Financing (in thousands of dollars) (continued)

Identification code 14-1036-0-1-303		1980 actual	1981 estimate	1982 estimate
Financing:				
14.00	Offsetting collections from: Non-Federal sources	-6,966	-8,100	-8,600
25.00	Unobligated balance lapsing	111	--	--
39.00	Budget authority	390,955	461,500	495,811
40.00	Appropriation	391,148	444,828	495,811
41.00	Transferred to other accounts	-193	--	--
43.00	Appropriation (adjusted)	390,955	444,828	495,811
44.10	Supplemental now requested for wage board pay raises	--	4,080	--
44.20	Supplemental now requested for civilian pay raises	--	12,592	--
Relation of obligations to outlays:				
71.00	Obligations incurred, net	390,844	461,500	495,811
72.40	Obligated balance, start of year	85,522	67,137	82,051
74.40	Obligated balance, end of year	-67,137	-82,051	-99,536
77.00	Adjustments in expired accounts	-1,249	--	--
90.00	Outlays, excluding pay raise supplemental	407,979	430,415	477,826
91.10	Outlays and wage board pay raise supplemental	--	3,958	122
91.20	Outlays from civilian pay raise supplemental	--	12,214	378

Object Classification (in thousands of dollars)

Identified code 14-1036-0-1-303		1980 actual	1981 estimate	1982 estimate
Direct obligations:				
	Personnel compensation:			
11.1	Permanent positions	151,151	171,704	1/ 174,507
11.3	Positions other than permanent	72,133	92,085	97,876
11.5	Other personnel compensation	9,451	10,812	11,046
11.9	Total personnel compensation	232,735	274,601	1/ 283,429
	Personnel benefits:			
12.1	Civilian	25,929	29,681	1/ 31,226
13.0	Benefits for former personnel	15	--	--
21.0	Travel and transportation of persons	6,192	11,015	12,144
22.0	Transportation of things	5,372	7,092	7,913
23.1	Standard level user charges	6,429	6,323	7,375
23.2	Communications, utilities, and other rent.	14,781	22,634	23,430
24.0	Printing and reproduction	2,718	3,320	3,379
25.0	Other services	49,780	53,325	68,028
26.0	Supplies and materials	33,879	37,875	44,950
31.0	Equipment	10,422	9,054	13,065
32.0	Lands and structures	1,359	4,980	872
41.0	Grants, subsidies, and contributions	1,124	1,600	--
42.0	Insurance claims and indemnities	109	--	--
99.0	Subtotal, direct obligations	390,844	461,500	495,811

1/ Changes to the President's Budget which were not submitted in time for printing. Original amounts were: Full time permanent positions, $174,865; Total personnel compensation, $283,787; Personnel benefits: Civilian, $30,868.

Object Classification (in thousands of dollars) (continued)

Identification code 14-1036-0-1-303	1980 actual	1981 estimate	1982 estimate
Reimbursable obligations:			
Personnel compensation:			
11.1 Permanent positions	1,113	1,530	1,608
11.3 Positions other than permanent	971	1,132	1,190
11.5 Other personnel compensation	30	47	48
11.9 Total personnel compensation	2,114	2,709	2,846
Personnel benefits:			
12.1 Civilian	201	279	327
21.0 Travel and transportation of persons	--	10	11
22.0 Transportation of things	42	69	71
23.2 Communications, utilities, and other rent..	701	765	814
24.0 Printing and reproduction	13	--	--
25.0 Other services	1,369	1,200	1,275
26.0 Supplies and materials	1,939	2,284	2,420
31.0 Equipment	561	740	787
32.0 Lands and structures	20	44	49
42.0 Insurance claims and indemnities	6	--	--
99.0 Subtotal, reimbursable obligations	6,966	8,100	8,600
99.9 Total obligations	397,809	469,600	504,411

Personnel Summary

Identification code 14-1036-0-1-303	1980 actual	1981 estimate	1982 estimate
Direct program:			
Total number of full-time permanent positions	8,253	8,414	8,469
Total compensable workyears:			
Full-time equivalent employment	13,897	15,259	15,568
Full-time equivalent of overtime and holiday hours	225	225	225
Average GS grade	8.86	8.86	8.86
Average GS salary	$20,615	$20,615	$20,615
Average salary of ungraded positions	$18,827	$18,827	$18,827
Reimbursable program:			
Total number of full-time permanent positions	9	9	9
Total compensable workyears:			
Full-time equivalent employment	104	111	111
Average GS grade	8.86	8.86	8.86
Average GS salary	$20,615	$20,615	$20,615
Average salary of ungraded positions	$18,827	$18,827	$18,827

JUSTIFICATION OF CHANGES - CONSTRUCTION
NATIONAL PARK SERVICE

Construction

Appropriation, 1981		$ 43,367,000
Unobligated balance from prior years		85,182,473
Total available for obligation, 1981		128,549,473
Decreases:		
Construction		$ 101,549,473
Subtotal (unobligated carryover)		27,000,000
Increases:		
Construction	$47,466,000	
Emergency and Unscheduled Projects	3,000,000	
Planning	11,169,000	
Budget Estimate 1982		$ 61,635,000
Total Available for Obligation 1982		$ 88,635,000

Summary of Requirements - Construction

NATIONAL PARK SERVICE

Analysis by Activities

Activity/Subactivity	Appropriation 1980	Appropriation 1981	No. of Perm. Pos.	1982 Budget Estimate	No. of Perm. Pos.	Budget Estimate 1982 Compared with Appropriation 1981	No. of Perm. Pos.	Page Ref.
1. Buildings, utilities and other facilities								
Appropriation	$74,304,000	--		--		--		
Unobligated balance brought forward	83,162,000	--		--		--		
Obligation program	-97,625,000	--		--		--		
Unobligated balance carried forward	59,841,000	--		--		--		
2. Roads, trails and parkways								
Appropriation	33,884,000	--		--		--		
Unobligated balance brought forward	26,960,000	--		--		--		
Obligation program	-35,503,000	--		--		--		
Unobligated balance carried forward	25,341,000	--		--		--		
3. Construction								NPS-113
Appropriation	--	$28,430,000		$47,466,000		+$19,036,000		
Unobligated balance brought forward	--	68,836,000		20,000,000		- 48,836,000		
Obligation program	--	-77,266,000		-67,466,000		+ 9,800,000		
Unobligated balance carried forward	--	20,000,000	386	--	386	- 20,000,000	--	

Summary of Requirements - Construction

NATIONAL PARK SERVICE

Analysis by Activities (Continued)

Activity/Subactivity	Appropriation 1980	Appropriation 1981	No. of Perm. Pos.	1982 Budget Estimate	No. of Perm. Pos.	Budget Estimate 1982 Compared with Appropriation 1981	No. of Perm. Pos.	Page Ref.
4. Emergency and unscheduled projects								NPS-115
Appropriation	--	$3,000,000		3,000,000		--		
Unobligated balance brought forward	--	449,000		--		-449,000		
Obligation program ..	--	-3,449,000		-3,000,000		+449,000		
Unobligated balance carried forward	--	--		--		--		
5. Planning								NPS-116
Appropriation	--	11,937,000		11,169,000		- 768,000		
Unobligated balance brought forward	--	15,897,000		7,000,000		-8,897,000		
Obligation program ..	--	-20,834,000		-18,169,000		+2,665,000		
Unobligated balance carried forward	--	7,000,000		--		-7,000,000		
Total Appropriation	$108,188,000	43,367,000		61,635,000		+18,268,000		
Total Unobligated brought forward	110,122,000	85,182,000		27,000,000		-58,182,000		
Total Obligation program.	-133,128,000	-101,549,000		-88,635,000		+12,914,000		
Total Unobligated carried forward	85,182,000	27,000,000	386	--	386	-27,000,000		

Justification of Program and Performance

Activity: Construction

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted to date	FY 1982 Base	FY 1982 Estimate	Inc.(+)or Dec.(-)
Line Item Construction Projects	($)	28,430	28,430	47,466	+19,036
	(FTP)	(386)	(386)	(386)	(--)
(Common Program Services)	($)	(914)	(914)	(914)	(--)
Total Requirements	($)	28,430	28,430	47,466	+19,036
	(FTP)	(386)	(386)	(386)	(--)

Authorization: 16 U.S.C. 1

Objectives: The National Park Service construction program provides those minimum facilities needed to accomplish the management objectives approved for each park. Construction projects are programmed to rehabilitate and restore historic structures, to protect existing Federal investments in recreational facilities, to develop parks for visitor use and enjoyment, and to accommodate use with as little damage to park resources as possible. Every effort has been made to ensure that only necessary and environmentally sound projects are constructed.

Base Program: Great care has been taken to insure the accuracy of all construction cost estimates and that planning for all proposed projects has progressed to a stage which assures project obligation during the fiscal year. The need for all proposed fiscal 1982 construction projects has been carefully evaluated and confirmed by the top management of the National Park Service. Construction cost estimates are based on at least completed preliminary design and in many instances the estimates are based on completed construction drawings. Wherever cost estimates are based on less than completed construction drawings, a compelling need (such as potential danger to the health or safety of the visiting public, violations of pollution or drinking water quality standards, etc.) has motivated the request for construction funding. Additionally, all projects have been reviewed for consistency with existing planning documents and National Park Service policy.

All construction is accomplished under the supervision of the professional engineering and design staff at the Denver Service Center. A separate design center at Harpers Ferry provides the expertise for projects involving museum and/or audiovisual work. Qualified architectural and engineering firms are used in cases where it is cost effective or where needed expertise is not available within the Service. The Federal Highway Administration provides the supervision on most of the Service's road and bridge construction projects.

Specifically, the fiscal 1982 proposed construction program provides for the following:

	(In Thousands) FY 1982 Estimate
Water and sewerage projects	15,945
Rehabilitation of unsafe buildings (excluding Yellowstone Concession Facilities)	1,116
Rehabilitation of purchased concessioner facilities, Yellowstone National Park	7,569
Fire protection projects	1,779
Rehabilitation of unsafe roads, bridges and tunnels	9,522
Natchez Trace Parkway construction	11,535
Total	47,466

Justification of Program and Performance

Activity: Emergency and Unscheduled Projects

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimates	Inc. (+) or Dec. (-)
Emergency and Unscheduled Projects	$	3,000	3,000	3,000	--
	(FTP)	(--)	(--)	(--)	(--)
Total Requirements	$	3,000	3,000	3,000	--

Authorization: '16 U.S.C. 1

Objectives: Perform minor emergency and unscheduled construction projects to protect and preserve park resources, provide for safe and uninterrupted visitor use of facilities, and ensure continuity of support and service operations.

Base Program: Each year, throughout the National Park System, unanticipated minor construction needs arise; heating and cooling systems fail, utility systems break down, storms cause damage, and historic and other buildings and structures need repairs. Funding requested under this program is used to meet these needs. A detailed list of projects is given to Congress each year to describe how funds appropriated in the prior year were used.

Lump sum funding is the most effective method of correcting these conditions because minor emergency and unscheduled construction needs can be met quickly without a lengthy review and appropriation process delay. Estimate of needs is based on prior fiscal year's experience.

74-939 O—80——81

Justification of Program and Performance

Activity: Planning

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Advance Planning	$	5,000	5,000	5,000	--
	(FTP)	(--)	(--)	(--)	(--)
Project Planning	$	6,937	6,937	6,169	-768
	(FTP)	(--)	(--)	(--)	(--)
Total Requirements	$	11,937	11,937	11,169	-768

Authorization: 16 U.S.C. 1

Objectives: To acquire archeological, historical, environmental, and engineering design information and prepare comprehensive design and working drawings and specification documents needed to construct or rehabilitate facilities in National Park areas.

Base Program: The National Park Service must provide, preserve, or protect resources and facilities in order to meet the resource conservation and visitor use needs of the National Park System. A variety of development and construction actions is required to satisfy these needs.

Construction and development projects, especially large projects, follow three sequentially dependent phases: advance planning, project planning and construction. This sequence spans a 3 to 5 year (or more) time period. Advance planning includes special technical investigations, surveys, comprehensive design; also utility contracts are negotiated; soils are tested; archeological research is carried out; and preliminary design plans are prepared. These advance planning activities: (1) Permit orderly scheduling of work; (2) provide data for management decisions on design alternatives; (3) ensure early consideration of environmental review and compliance requirements. Without this planning and design information, development and construction of facilities would be virtually impossible.

Project planning is the second phase of a three-phase construction process. The work performed under this program includes preparation of architectural, landscape architectural and engineering working drawings and specifications; and provides final estimates for buildings, utility systems, roads, trails, bridges and other facilities.

The Service attempts to schedule project planning at least 1 year before the construction project is scheduled. In the case of very large or complex construction projects, every attempt is made to schedule project planning 2 years in advance of proposed construction funding, to assure that the project will be obligated during the year of construction funding.

FISCAL 1982

PROJECT PLANNING PROGRAM

NPS-117

TENTATIVE PROGRAM:
INDIVIDUAL PROJECTS
AND COST ESTIMATES
SUBJECT TO CHANGE.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
WASHINGTON, D.C. 20240

FY 1982 PROJECT PLANNING

PARK		PACKAGE NUMBER	DEVELOPED AREA	TITLE	DOLLAR AMOUNT IN THOUSANDS
ALLEGHENY PORTAGE NHS		115	SUMMIT LEVEL	CONSTR. MAINTENANCE FACILITY, UTILITIES	47
PARK TOTAL, $	47			SUBTOTALS	47
APPOMATTOX CRT NSE NHP		119	VILLAGE AREA	WATER, BURGLAR, FIRE ALARM AND SUPPRESSION SYSTEM	20
PARK TOTAL, $	20			SUBTOTALS	20
CAPE COD NS		138	EASTHAM	DEVELOPMENT OF NAUSET LIGHT BEACH COMPLEX	345
PARK TOTAL, $	345			SUBTOTALS	345
CHICKASAW NRA		136	PARK GENERAL	RECONSTRUCT DETERIORATED, UNSAFE PARK ROADS	76
PARK TOTAL, $	76			SUBTOTALS	76
COLONIAL NHP		237	YORKTOWN BATTLEFIELD	CONSTR TOUR ROAD YORKTOWN V.C. TO SURRENDER FIELD	38
PARK TOTAL, $	38			SUBTOTALS	38
[illegible]'S LANDING MARES		101	PARK GENERAL	CONSTRUCT PULLOFFS AND WAYSIDE INTERP EXHIBITS	20
PARK TOTAL, $	20			SUBTOTALS	20
ELEANOR ROOSEVELT NHS		104	PARK GENERAL	REHAB FIVE HISTORIC BUILDINGS AND RESTORE GARDEN	99
PARK TOTAL, $	99			SUBTOTALS	99
GEO WASH MEM PKWY		300	GREAT FALLS PARK, VIRGINIA	STABILIZE POTOMMACK CANAL	86
PARK TOTAL, $	86			SUBTOTALS	86
GLACIER BAY NM		106	BARTLETT COVE	BARTLETT COVE DOCK EXPANSION	50
PARK TOTAL, $	50			SUBTOTALS	50
GOLDEN GATE NRA		142	AQUATIC PARK	RESTORATION HISTORIC SHIP S/S WAPAMA	50
PARK TOTAL, $	50			SUBTOTALS	50
GREAT SMOKY MTNS NP		192	FORNEY RIDGE	IMPROVE WATER SYSTEM (HC,	75
GREAT SMOKY MTNS NP		266	TREMONT	REPAIR TREMONT BRIDGE	165
PARK TOTAL, $	240			SUBTOTALS	240
GRAND TETON NP		310	BEAVER CREEK	IMPROVE BEAVER CREEK-MOOSE WATER SYSTEM	35
PARK TOTAL, $	35			SUBTOTALS	35

NPS-118

1282

TENTATIVE PROGRAM:
INDIVIDUAL PROJECTS
AND COST ESTIMATES
SUBJECT TO CHANGE.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
WASHINGTON, D.C. 20240

FY 1982 PROJECT PLANNING

PARK	PACKAGE NUMBER	DEVELOPED AREA	TITLE		DOLLAR AMOUNT IN THOUSANDS
HUBBELL TRADING POST	132	PARK GENERAL	SURFACE ENHANCE ROAD AND PARKING AREA		30
				SUBTOTALS	30
PARK TOTAL, $	30				
ISLE ROYALE NP	185	WINDIGO	REHABILITATE WATER SYSTEM		67
				SUBTOTALS	67
PARK TOTAL, $	67				
LOWELL NHP	103	PARK GENERAL	REHABILITATE OLD CITY HALL		48
LOWELL HPC	204	PARK GENERAL	BOOTT MILL CULTURAL CENTER		200
				SUBTOTALS	248
PARK TOTAL	248				
MARTIN VAN BUREN NHS	102	PARK GENERAL	REHAB STRUCTURE		80
				SUBTOTALS	80
PARK TOTAL, $	80				
MOUNT MCKINLEY NP	141	HEADQUARTERS	RECONSTRUCT & EXPAND HQTRS WATER SYSTEM		240
				SUBTOTALS	240
PARK TOTAL, $	240				
NATCHEZ TRACE PARKWAY	132	PARKWAY GENERAL	CONST. 2.77 MI PARKWAY, 5 BRIDGES, COMFORT STA.		100
				SUBTOTALS	100
PARK TOTAL, $	100				
OLYMPIC NP	261	LAKE CRESCENT	HIGHWAY RECONSTRUCTION		425
				SUBTOTALS	425
PARK TOTAL, $	425				
PADRE ISLAND NS	156	PARK GENERAL	RECONST DETRIORATED, UNSAFE SECTION OF MAIN ROAD		52
				SUBTOTALS	52
PARK TOTAL, $	52				
ROCK CREEK PARK	206	PARK GENERAL	REHABILITATE RETAINING WALLS		40
				SUBTOTALS	40
PARK TOTAL, $	40				
ROCKY MOUNTAIN NP	232	PARK GENERAL	REHABILITATE 3 WATER SYSTEMS (BL,GR, MP)		200
				SUBTOTALS	200
PARK TOTAL, $	200				
SEQUOIA NP	114	GRANT GROVE	CONSTRUCT SEWAGE TREATMENT FACILITY		500
				SUBTOTALS	500
PARK TOTAL, $	500				
SHENANDOAH NP	118	CENTRAL DISTRICT	RECONSTRUCT SKYLINE DRIVE PORTION 35 MILES		117
SHENANDOAH NP	102	DICKEY RIDGE	CONST. COMFORT STATION, UTILITIES, GROUNDS WALKS		11
SHENANDOAH NP	125	SOUTH DISTRICT	RECONSTRUCT SKYLINE DRIVE PORTION 35 MILES		205
				SUBTOTALS	333
PARK TOTAL, $	333				

TENTATIVE PROGRAM:
INDIVIDUAL PROJECTS
AND COST ES TMATES
SUBJECT TO CHANGE.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
WASHINGTON, D.C. 20240

FY 1982 PROJECT PLANNING

PARK		PACKAGE NUMBER	DEVELOPED AREA	TITLE		DOLLAR AMOUNT IN THOUSANDS
SITKA NHP		115	HEADQUARTERS	HISTORIC BUILDING RESTORATION, RUSSIAN MISSION		154
PARK TOTAL, $	154				SUBTOTALS	154
SLEEPING BEAR DUNES NL		124	SLEEPING BEAR BAY	RESTORE COAST GUARD STATION FOR ADAPTIVE USE		63
PARK TOTAL, $	63				SUBTOTALS	63
STATUE OF LIBERTY NM		107	ELLIS ISLAND	REHABILITATE MAIN BUILDING-OLD PROCESSING CENTER		50
PARK TOTAL, $	50				SUBTOTALS	50
VOYAGEURS NP		158	BLACK BAY	CONSTRUCT VISITOR INFO FACILITY W/DOCK, UTILS AND ROAD		235
VOYAGEURS NP		156	BLACK BAY	CONST. BOAT DOCKS, RAMPS, TRAILER PARKING		75
PARK TOTAL, $	310				SUBTOTALS	310
YELLOWSTONE NP		619	GRANT VILLAGE (WYO)	CONSTRUCT CONCESSION OVERNIGHT VISITOR FAC. (FOR.)		829
YELLOWSTONE NP		620	PARK GENERAL (ID-MT-WY)	REHABILITATE PURCHASED CONCESSIONER FACIL (FOR)		822
PARK TOTAL, $	1,651				SUBTOTALS	1,651
YOSEMITE NP		451	WAWONA	CONSTRUCT SEWERAGE TREATMENT PLANT		235
YOSEMITE NP		363	WAWONA	FIRE PROTECTION, WAWONA HOTEL		285
PARK TOTAL, $	520				SUBTOTALS	520
					GRAND TOTAL	6,169

NPS-120

FISCAL 1982

CONSTRUCTION PROGRAM

FY 1982 CONSTRUCTION PROGRAM

PARK/ORGANIZATION/DEVELOPED AREA/TITLE				DOLLAR AMOUNT IN THOUSANDS
APPOMATTOX CRT	119	VILLAGE AREA	WATER, BURGLAR, FIRE ALARM AND SUPPRESSION SYSTEM	1,324
BIG BEND NP	184	CHISOS BASIN	INSTALL ADDITIONAL WATER RESERVOIR	514
FOOTHILLS PKWY	131	PARK GENERAL	TUNNEL LIGHTING AND STRIPING	1,200
FORT SUMTER NM	125	FORT SUMTER	CONNECT WATER SYSTEM TO MAINLAND	887
*GATEWAY NRA	150	SANDY HOOK	REHABILITATE ROAD SYSTEM	1,965
GLACIER NP	131	MANY GLACIER	RECONSTRUCT WATER SYSTEM (COMPLETION)	1,348
GLACIER NP	141	RISING SUN	RECONSTRUCT SEWAGE SYSTEM (COMPLETION)	1,968
GREAT SMOKY MTNS	282	OCONALUFTEE	REPLACE OCONALUFTEE BRIDGE	1,077
*LOWELL NAT HIS PARK	107	PARK GENERAL	DEVELOP DUTTON STREET PARKING LOT	720
*LOWELL HIS PRES COMM	204	PARK GENERAL	REMOVE MARTIN CLOTHES AND FURNITURE AND RECONSTRUCT BOOTT MILL CULTURAL CENTER	396
MOUNT RAINIER NP	218	PARADISE	SEWAGE TREATMENT PLANT FLOW EQUALIZATION	786
MOUNT RUSHMORE NMEM	117	HEADQUARTERS	CONSTRUCT WATERLINE FROM TANK TO EXISTING LINE	189
NATCHEZ TRACE PKWY	132	PARKWAY GENERAL	CONSTRUCT 2.77 MILES, BRIDGES, COMFORT STATION	11,535
NATCHEZ TRACE PKWY	231	RIDGELAND SUBDI	REPAIR ABUTMENT OF BRIDGE OVER HIGHWAY 467, SECTION 303	504
NCP-CENTRAL	427	PARK GENERAL	REPAIR KUTZ BRIDGE	3,900
NCP-EAST	413	MERIDIAN HILL	RESTORE AGGREGATE WALLS AND WALKS	876
SARATOGA NHP	134	PARK GENERAL	DEVELOP ALTERNATE WATER SUPPLY AND RELOCATE FIRE PUMP	266
YELLOWSTONE NP	113	MAMMOTH (WYO)	RECONSTRUCT WATER SYSTEM (PHASE 3 OF 4)	1,208

PARK/ORGANIZATION/DEVELOPED AREA/TITLE (CONTINUED)				DOLLAR AMOUNT IN THOUSANDS
YELLOWSTONE NP	141	CANYON (WYO)	CONSTRUCT WATER-TREATMENT SYSTEM (COMPLETION)	4,464
YELLOWSTONE NP	620	PARK GENERAL (I)	REHABILITATE PURCHASED CONCESSIONER FACILITIES (POR)	7,569
YOSEMITE NP	347	EL PORTAL	FINAL EFFLUENT DISPOSAL FACILITY	4,770
			TOTAL CONSTRUCTION PROGRAM	47,466

* Denotes those areas with development ceilings.

NATIONAL PARK SERVICE

FISCAL 1982 CONSTRUCTION PROGRAM

PARK: Appomattox Court House National Historical Park, Virginia

REGION: Mid-Atlantic

PROJECT TITLE: (119) Install Burglar/Fire Alarm and Fire Suppression Systems - 18 Buildings

DEVELOPMENT LIMITATION AMOUNT REMAINING: N/A

PROJECT DETAIL:

	($ Thousands) FY 1982 (est.)	Future (est.)
Burglar/Fire Alarm, Fire Suppression System in 18 Reconstructed or Restored Historic Buildings	652	
Connection to City Water System, including Lines, Pumps, and Appurtenances	672	
TOTAL	1,324*	

FY 1982 PROJECT SCHEDULE:

	QUARTER 1st	2nd	3rd	4th	FY 1983
Construction Start:			X		
Construction Completion:					4th Qtr.

PROJECT JUSTIFICATION:

Project Description: Installation of a coordinated burglar/fire alarm system and fire suppression system in 17 historic structures and one modern structure located in the park.

Need: Currently, 14 historic structures, containing hundreds of irreplaceable historic objects, are very susceptible to fire, theft, and smoke damage due to the lack of burglar alarms or fire suppression systems in any of the structures. All the historic structures are wood frame and would be consummed in minutes in the event of a fire. The nearest volunteer fire department is approximately 20 minutes away, thus, by the time they could answer an alarm, the resource would be lost, in addition to possible injury and potential loss of life to the visitor.

*Estimate based on preliminary design. Construction drawings scheduled for completion by August 1981.

NATIONAL PARK SERVICE

FISCAL 1982 CONSTRUCTION PROGRAM

PARK: Big Bend National Park, Texas

REGION: Southwest

PROJECT TITLE: (184) Install Additional Water Reservoir, Chisos Basin

DEVELOPMENT LIMITATION AMOUNT REMAINING: N/A

PROJECT DETAIL:

	($ Thousand) FY 1982 (est.)	Future (est.)
Concrete Water Storage Reservoir with Appurtenances	514*	

FY 1982 PROJECT SCHEDULE:

	QUARTER 1st	2nd	3rd	4th	FY 1983
Construction Start:	X				
Construction Completion:			X		

PROJECT JUSTIFICATION:

Project Description: Install a new 100,000-gallon water reservoir adjacent to the present 500,000-gallon water reservoir in the Upper Chisos Basin area of the park. A chlorinator, pumphouse and automatic radio frequency pump control system are also included in this project.

Need: The present reservoir serves as storage for both potable water supply and fire suppression systems for an area that is the most highly developed visitor use area in the park Water use in the Basin exceeds delivery rate at certain periods each day making storage absolutely necessary. The existing storage capacity is not adequate for extended outages, tank maintenance, or fire protection of the concession and NPS facilities located in the Chisos Basin. The current 500,000-gallon water reservoir is incapable of maintaining the proper chlorine residual needed to meet State standards for public water systems. The additional storage reservoir together with the chlorination and pumphouse facility will enable the water system to meet State standards. Failure to accomplish this work will leave the Chisos Basin development area with unsafe and inadequate water storage facilities to provide for extended power outages and fire protection for concession and NPS facilities (including cabins, motel units, employee housing, store, service station, ranger station, concessions warehouse, lodge, campground, and other facilities).

*Estimate based on Preliminary Drawings. Construction Drawings scheduled for completion by March 1981.

NATIONAL PARK SERVICE

FISCAL 1982 CONSTRUCTION PROJECT

PARK: Foothills Parkway, Tennessee

REGION: Southeast

PROJECT TITLE: (131) Tunnel lighting, Striping, and Traffic Markings

DEVELOPMENT LIMITATION AMOUNT REMAINING: N/A

PROJECT DETAIL:

	($ Thousands) FY 1982 (est.)	Future (est.)
Tunnel lighting, Striping and Traffic Markings	1,200	
TOTAL	1,200*	

FY 1982 PROJECT SCHEDULE:

	QUARTER 1st	2nd	3rd	4th	FY 1983
Construction Start:	X				
Construction Completion:			X		

PROJECT JUSTIFICATION:

Project Description: The project provides for lighting of the 1,000-foot tunnel, striping and traffic markings on 1.6 miles of section 15A, Foothills Parkway.

Need: On bright days, it is impossible for the eye to adjust from bright sunlight to the complete darkness of the tunnel and the hazard upon exit from the tunnel into bright sunlight is almost as severe. The safety hazard is compounded by the fact that because of the total darkness of the tunnel, two lanes of traffic must merge into one tunnel lane. The one lane restriction results in the added hazard that as a vehicle enters the tunnel, the driver cannot easily determine whether a motorist ahead of him is turning on his lights or putting on his brakes. As a result of this situation, there have been several accidents, many near misses and continuous complaints from the public concerning the dangerous situation at this tunnel.

*FHWA estimate based on Construction Drawings.

NATIONAL PARK SERVICE

FISCAL 1982 CONSTRUCTION PROGRAM

PARK: Fort Sumter National Monument, South Carolina

REGION: Southeast

PROJECT TITLE: (125) Install Water Line to Connect Water System to Mainland

DEVELOPMENT LIMITATION AMOUNT REMAINING: N/A

PROJECT DETAIL:

	($ Thousands) FY 1982 (est.)	Future (est.)
Install 1½ miles of Water Line	887	
TOTAL	887*	

FY 1982 PROJECT SCHEDULE:

	QUARTER 1st	2nd	3rd	4th	FY 1983
Construction Start:	X				
Construction Completion:			X		

PROJECT JUSTIFICATION:

Project Description: This project will connect the park water system to the mainland (nearest and most economic source) at Fort Johnson to Fort Sumter. Fort Sumter is located on an island in Charleston Harbor which is connected to the mainland by marsh. About 1½ miles of water line will be installed.

Need: The existing roof catchment and cistern water system produces inadequate volume and forces closing of the restrooms about half the time, affecting 50 percent of the nearly 200,000 annual visitors. Water purity is very difficult to maintain due to bacteria, pollutants, bird droppings and salt resulting in undesirable taste and odor. Water samples commonly do not meet State or Federal standards.

*Estimate based on Preliminary Drawings completed in July 1980. Construction Drawings to be completed by March 1981.

NATIONAL PARK SERVICE

FISCAL 1982 CONSTRUCTION PROGRAM

PARK: Gateway National Recreation Area, New York-New Jersey

REGION: North Atlantic

PROJECT TITLE: (150) Rehabilitate Road System (Sandy Hook)

DEVELOPMENT LIMITATION AMOUNT REMAINING: $77,343,000

PROJECT DETAIL:

	($ Thousands) FY 1982 (est.)	Future (est.)
Reconstruction, 6 Miles Road and Repave Parking Facilities for 1,000 vehicles	1,965	
TOTAL	1,965*	

FY 1982 PROJECT SCHEDULE:

	QUARTER 1st	2nd	3rd	4th	FY 1983
Construction Start:	X				
Construction Completion:				X	

PROJECT JUSTIFICATION:

Project Description: Rehabilitate and bring up to standard approximately 6 miles of road around Fort Hancock and four parking lots south of the Fort on the Atlantic side of the isthmus connecting Sandy Hook to the mainland. Fort Hancock is on the National Register of Historic Places.

Need: The existing road system at Fort Hancock was constructed in 1941 and has deteriorated into patches of pavement, exposed base and has experienced considerable base failure. The parking lots are similarly deteriorated. This area receives over 2 million visitors per year. The potential exists for serious personal injury, vehicle damage and consequent negligence lawsuits against the government in addition to the continued deterioration of the resource.

*FHWA estimate based on preliminary plans. Construction Drawing to be completed by June 1981.

NATIONAL PARK SERVICE

FISCAL 1982 CONSTRUCTION PROGRAM

PARK: Glacier National Park, Montana

REGION: Rocky Mountain

PROJECT TITLE: (131) Phase II - Reconstruct Water System

DEVELOPMENT LIMITATION AMOUNT REMAINING: N/A

PROJECT DETAIL:

	($ Thousands) FY 1982 (est.)	Future (est.)
350,000-Gallon Water Storage Reservoir	589	
Lake Intake Pump Installation	131	
3,000 Feet, 10-Inch Ductile-Iron Pipe Installed	393	
2,000 Feet, 6-Inch D.I. Pipe Installed with 6 Hydrants	235	
TOTAL	1,348*	

FY 1982 PROJECT SCHEDULE:

	QUARTER 1st	2nd	3rd	4th	FY 1983
Construction Start:			X		
Construction Completion:				X	

PROJECT JUSTIFICATION:

Project Description: This is the final phase of the water system reconstruction at Glacier. This phase includes an additional reservoir, new fire lines with 6 hydrants, pumping station, and replacement of leaking water lines.

Need: This system serves the concession-operated Many Glacier Hotel, a large, 230-room, 70-year-old wooden building, and two supporting employee dormitories for 250 persons, also wooden. The building have sprinklers, interior standpipes and exterior hydrants, but the steel lines built in the 1940's are now leaking extensively. Conversion of the water source from a surface supply to wells was accomplished in the first part of this project to meet new sanitary requirements, but this action reduced the water quantity available. Consequently, an additional storage reservoir is needed to insure adequate reserves to the hotel complex for both domestic and fire-fighting purposes. Adequate pressure for fire sprinkler operation on the third and fourth floors of the hotel is currently not available. Pressure will be boosted by supplementary pumping through the lake pumping station. These needs have been cited in a recent GAO health and safety report.

*Estimate is based on Preliminary Drawings. Construction Drawings scheduled for completion by August 1981.

NATIONAL PARK SERVICE

FISCAL 1982 CONSTRUCTION PROGRAM

PARK: Glacier National Park, Montana

REGION: Rocky Mountain

PROJECT TITLE: (141) Rehabilitate Sewer System (Completion), St. Mary Rising Sun

DEVELOPMENT LIMITATION AMOUNT REMAINING: N/A

PROJECT DETAIL:

	($ Thousands) FY 1982 (est.)	Future (est.)
Renovate Sewage Collection System	561	0
4.8-mile 6" Force Main Pipe Line and Pump Station	789	0
Excavate and Repair Roadway	618	0
TOTAL	1,968*	

FY 1982 PROJECT SCHEDULE:	1st	2nd	3rd	4th	FY 1983
Construction Start:			X		
Construction Completion:					X

PROJECT JUSTIFICATION:

Project Description: The three failing percolation fields which serve the campground and concessions areas at Rising Sun will be replaced with a single sewage collection system that will deliver sewage through a 4.8 mile force main to the new St. Mary sewage treatment plant built in the first phase of this project.

Need: The drainage fields of the present sewage disposal systems at Rising Sun cannot absorb the current quantity of septic tank effluent through ground percolation. They are now saturated to the point that raw effluent surfaces, polluting groundwater and surface soils. Effluent has at times run directly or been washed into St. Mary Lake, in violation of legal standards. The replacement sewage collection system will serve the 26 concession facilities in the area, which include a 75 room motel, employee housing, service station, coffee shop, general store and tour boat dock. The new system will also serve the NPS-operated 100 site campground.

*Estimate based upon completed Construction Drawings.

NATIONAL PARK SERVICE

FISCAL 1982 CONSTRUCTION PROGRAM

PARK: Great Smoky Mountains National Park, North Carolina

REGION: Southeast

PROJECT TITLE: (282) Replace Oconaluftee Bridge

DEVELOPMENT LIMITATION AMOUNT REMAINING: N/A

PROJECT DETAIL:		($ Thousands) FY 1982 (est.)	Future (est.)
Replace bridge,	TOTAL	1,077 1,077*	

FY 1982 PROJECT SCHEDULE:	QUARTER 1st	2nd	3rd	4th	FY 1983
Construction Start:	X				
Construction Completion:				X	

PROJECT JUSTIFICATION:

Project Description: Construct a new bridge to replace the existing structure which was closed in 1976 upon discovery of structural failure.

Need: The existing 180-foot bridge was built in 1921 and served as access to the Oconaluftee residential area (7 permanent residences and 8 seasonal units), maintenance area (second largest in park), and the Job Corps Civilian Conservation Center (180 enrollees). The bridge also carries water and sewer lines within the slab to serve these facilities.

After discovery of serious structural failure, the bridge was closed to traffic in July 1976. All traffic to and from this area must detour an additional 3 miles and cross another bridge of the same vintage, which, if it should also fail, would make the area totally inaccessible.

In May 1977, the Federal Highway Administration estimated the life of the bridge now being used to be 3 years. At the present there is severe spalling and cracking of concrete. A 5 foot section of the parapet has fallen off the bridge. Construction of a replacement for the Oconaluftee bridge is urgently required.

*FHWA estimate is based on working drawings and specifications completed in October 1980 for an almost identical bridge sited 400 yards upstream. All conditions for the downstream location are known. Revised Construction Drawings will be completed in fiscal 1981.

74-939 O—80——82

NATIONAL PARK SERVICE

FISCAL 1982 CONSTRUCTION PROGRAM

PARK: Lowell National Historical Park, Massachusetts

REGION: North Atlantic

PROJECT TITLE: (107) Develop Dutton Street Parking Lot at Lowell Manufacturing Company Visitor Orientation Center (Market Mills)

DEVELOPMENT LIMITATION AMOUNT REMAINING: 13,536,000

PROJECT DETAIL:

	($ Thousands) FY 1982 (est.)	Future (est.)
Reconstruct the Dutton Street Parking Lot	720	
Total	720*	

FY 1982 PROJECT SCHEDULE:

	QUARTER 1st	2nd	3rd	4th	FY 1983
Construction Start:				X	
Construction Completion:					X

PROJECT JUSTIFICATION:

Project Description: Reconstruct the Dutton Street Parking area as the primary parking lot serving the newly developed NPS Market Mills visitor information orientation center. The parking lot will serve the many visitors arriving by car from the major interstate highways and will accommodate 160 cars immediately adjacent to the visitor center. The project will include resurfacing, landscaping and lighting.

Need: This parking lot is strategically located with respect to the visitor orientation center, the park trolley and canal barge transportation as well as prime arterial access roads to downtown Lowell. At present, the lot has a ragged macadam, inadequate lighting, poor drainage, and in places, only a dirt surface remains. These conditions constitute a serious maintenance problem.

The Dutton Street Parking area is the only specifically designated parking area in the park which has an annual visitation in excess of 300,000.

*Construction estimate based on special on-site studies.

NATIONAL PARK SERVICE

FISCAL 1982 CONSTRUCTION PROGRAM

PARK: Lowell Historic Preservation Commission

REGION: North Atlantic

PROJECT TITLE: (204) Rehabilitate Historic Structures, Phase IV: Boott Mill Cultural Center, Martin's Clothes and World Furniture Buildings

DEVELOPMENT LIMITATION AMOUNT REMAINING: $17,567,000

PROJECT DETAIL:

	($ Thousands) FY 1982 (est.)	Future (est.)
Partial rehabilitation, Boott Mill Complex and demolition and site restoration, two nonhistoric buildings.	396	2,720
TOTAL	396*	

PROJECT JUSTIFICATION:

Project Description: Demolition and site restoration, Martin's Clothes and World Furniture Buildings. Exterior and interior stabilization and demolition of nonhistoric additions, Boott Mill Complex.

Need: Section 302(c)(1)(H) of P.L. 95-290 requires preservation of the Boott Mill complex, the oldest original mill in Lowell (1836). Significant damage to the building fabric has occurred over the years. Windows are missing, cornice brick has fallen away, three new additions have destroyed sections of the facade, and heavier than capacity storage loads pose a serious structural threat.

The Boott Mill complex, once developed, will become a major cultural center, centered around the reconstructed boarding house of the H & H Paper Company. The Center will recreate the original boarding house lay-out, with some furnishings. It was unique in the U.S. industrial history for housing an all female work force of mill operators coming from outlying farms prior to the mid-century arrival of immigrants from Europe.

The Martin's Clothes and World Furniture buildings are located over a principal canal on Central Street, Pawtucket Canal. P.L. 95-290 mandates demolition of these nonhistoric structures. Demolition will permit visitors tours of the Lowell canal network by barge, thereby enabling visitors to learn about the water power and transportation system which influenced the establishment of mills in Lowell.

*Construction estimate based on special onsite studies.

NATIONAL PARK SERVICE

FISCAL 1982 CONSTRUCTION PROGRAM

PARK: Mount Rainier National Park, Washington

REGION: Pacific Northwest

PROJECT TITLE: (218) Correct Deficiencies at Paradise Sewage Treatment Plant

DEVELOPMENT LIMITATION AMOUNT REMAINING: NA

PROJECT DETAIL:

	($ Thousands) FY 1982 (est.)	Future (est.)
Flow Equalization Tank and Appurtenances	786	
TOTAL	786*	

FY 1982 PROJECT SCHEDULE:

	QUARTER 1st	2nd	3rd	4th	FY 1983
Construction Start:			X		
Construction Completion:					X

PROJECT JUSTIFICATION:

Project Description: Construct a concrete tank adjacent to existing sewage treatment plant. Provide mechanical equipment for mixing, aeration, metering and pumping into sewage treatment plant. A substantial roofed structure is necessary because of heavy winter snow loads.

Need: Peak summer effluent flows have consistently overloaded the tertiary processing facility, leaving the operator no recourse but to bypass the tertiary process. This results in solid - laden secondary effluent passing through the final effluent line to the pristine waters of Dead Horse Creek, a violation of EPA regulations. Influent flow must be stabilized through construction of a flow equalization tank to allow the plant to produce a high-quality tertiary effluent.

*Estimate based on Completed Preliminary Studies. Construction Drawings scheduled for completion by February 1982.

NATIONAL PARK SERVICE

FISCAL 1982 CONSTRUCTION PROGRAM

PARK: Mount Rushmore National Memorial, South Dakota

REGION: Rocky Mountain

PROJECT TITLE: (117) Construct Waterline from Tank to Existing Line

DEVELOPMENT LIMITATION AMOUNT REMAINING: N/A

PROJECT DETAIL:	($ Thousands) FY 1982 (est.)	Future (est.)
Construct about 1,240 feet 6 inch waterline	189*	
TOTAL	189*	

FY 1982 PROJECT SCHEDULE:	QUARTER 1st	2nd	3rd	4th	FY 1983
Construction start:			X		
Construction completion:				X	

PROJECT JUSTIFICATION:

Project Description: Construct approximately 1,240 feet of 6-inch cast iron, Class 50, pipe between new 125,000-gallon reservoir and existing waterline in maintenance area. Pipe to be insulated and buried up to 6 feet deep, mostly through rock. Pipeline trench to contain control cables for operation of pumps and attach to controls installed in reservoir.

Need: The construction of this water line will enable visitor developments to meet fire safety requirements and to provide a reserve water supply beyond the 1½ days reserve of the current system. The construction of the new 125,000-gallon tank was completed in 1980. A shortage of funds at that time did not permit construction of the pipeline that would connect the new tank to the existing water system.

*Estimate Based Upon Completed Construction Drawings.

NATIONAL PARK SERVICE

FISCAL 1982 CONSTRUCTION PROGRAM

PARK: Natchez Trace Parkway, Tennessee, Alabama, Mississippi

REGION: Southeast

PROJECT TITLE: (132) Construct 2.77 Miles of Parkway, 5 Bridges, Comfort Station, and Final Surface

DEVELOPMENT LIMITATION AMOUNT REMAINING: N/A

PROJECT DETAIL:

	($ Thousands) FY 1982 (est.)	Future (est.)
Construct 1 Bridge, Section 2D	2,000	
Construct 2.77 Miles and 4 Bridges, Section 3A	8,000	
Final Paving (1E) and Comfort Station (1D)	1,535	
TOTAL	$11,535	

FY 1982 PROJECT SCHEDULE:

	QUARTER 1st	2nd	3rd	4th	FY 1983
Construction Start:	X				
Construction Completion:					X

PROJECT JUSTIFICATION:

Project Description: Construct 2.77 miles of parkway and four bridges (3A, Mississippi); construct one bridge (2D, Alabama); and construct a comfort station and place a final surface on 7 miles (1DE, Tennessee).

Need: Completion of sections 2D and 3A will eliminate the major inconvenience caused by the bad road condition (a 50-mile detour) visitors must travel to get from one section of the parkway to another. This project will provide a continuous parkway from Jackson, Mississippi, north to near Columbia, Tennessee, a distance of just over 300 miles. The Trace will, for the first time, take on the appearance of a national parkway instead of a disconnected roadway and will connect the three States through which it passes.

Final surfacing is needed on section 1E in Tennessee. This section was completed 12 years ago but has not received final surfacing.

The comfort station is proposed at what is presently the northernmost terminus of the parkway. This section was recently completed and opened to traffic. The location has a trail, parking area and a spectacular overlook; but there are no comfort facilities within 20 miles of this site.

*FHWA Estimate based upon 80 percent completed Construction Drawings. Construction Drawings and specifications for all sections to be completed in fiscal 1981.

NATIONAL PARK SERVICE

FISCAL 1982 CONSTRUCTION PROGRAM

PARK: Natchez Trace Parkway, Mississippi

REGION: Southeast

PROJECT TITLE: (231) Repair Abutment of Bridge over Highway 467, Section 3Q3

DEVELOPMENT LIMITATION AMOUNT REMAINING: N/A

PROJECT DETAIL:

		($ Thousands) FY 1982 (est.)	Future (est.)
Repair Bridge Abutment	TOTAL	504 / 504*	

FY 1982 PROJECT SCHEDULE:

	QUARTER 1st	2nd	3rd	4th	FY 1983
Construction Start:	X				
Construction Completion				X	

PROJECT JUSTIFICATION:

Project Description: Move the north abutment of the bridge back to its original location. A new foundation for the abutment will be constructed and damaged bearing areas will be repaired.

Need: The bridge was constructed in 1966 as a part of Parkway section 3Q3. An FHWA inspection found that the bridge abutment had shifted 1½" to the east and had settled 8 inches on the east side and 6 inches on the west side. The bearing area is cracking and spalling at the interior beams.

If not corrected, the condition of the bridge will continue to pose a hazard for travelers and will also threaten to damage other substructure and superstructure units of the bridge.

*FHWA estimate is based upon completed construction drawings.

NATIONAL PARK SERVICE

FISCAL 1982 CONSTRUCTION PROGRAM

PARK: National Capital Parks-Central, Washington, D.C.

REGION: National Capital

PROJECT TITLE: (427) Repair Kutz Bridge

DEVELOPMENT LIMITATION AMOUNT REMAINING: N/A

PROJECT DETAIL:

	($ Thousands) FY 1982 (est.)	Future (est.)
Bridge Repair	3,900	
TOTAL	3,900*	

FY 1982 PROJECT SCHEDULE:

	QUARTER 1st	2nd	3rd	4th	FY 1983
Construction Start:			X		
Construction Completion:					X

PROJECT JUSTIFICATION:

Project Description: Kutz Bridge is located on Independence Avenue south of the Washington Monument in Washington, D.C. The bridge is 778 feet long and 44 feet 6 inches wide and carries three lanes of eastbound Independence Avenue traffic over the northern end of the Tidal Basin. It also has two sidewalks. This project will repair and replace bridge gutters, curbs and sidewalks; replace existing traffic and pedestrian railings; replace and rehabilitate traffic portion of decks; paint steel superstructure; and repair bridge approaches.

Need: Kutz Bridge was constructed in 1942 by the Army Corps of Engineers. The bridge is an essential artery for Washington commuter traffic with an average daily use of 21,100 vehicles. Very heavy vehicular traffic and extensive use of deicing salts have caused deterioration of the concrete in the deck, gutter and sidewalk areas. The exterior concrete encased beams, sidewalks, curbs and railings are in poor condition. The bridge approaches have settled and are rough. All expansion joints are closed and seriously deteriorated. Temporary repairs have been made, but the condition has continued to decline to the point where continued maintenance patching is no longer cost effective. Annual maintenance costs are between $50,000-$75,000. The Federal Highway Administration has expressed concern that if this project is delayed, load limits will need to be set and the safety of the bridge will be in question. This work will extend the useful life of the bridge for 20 to 30 more years. This project was previously proposed by the NPS for construction funding in fiscal 1981. Since that time, the Federal Highway Administration has revised their estimate upwards to account for inflation. The scope of this project has remained unchanged.

*Estimate based on FHWA Engineering Studies. Construction Drawings scheduled for completion by February 1981.

NATIONAL PARK SERVICE

FY 1982 CONSTRUCTION PROGRAM

PARK: National Capital Parks-East, Historic, Washington, D.C.

REGION: National Capital

PROJECT TITLE: (413) Reconstruct Aggregate Walls and Walks, Meridian Hill Park

DEVELOPMENT LIMITATION AMOUNT REMAINING: N/A

PROJECT DETAIL:

	($ Thousands) FY 1982 (est.)	Future (est.)
Reconstruct Walls, Walks, and Drainage System	876	
TOTAL	876*	

FY 1982 PROJECT SCHEDULE:

	QUARTER 1st	2nd	3rd	4th	FY 1983
Construction Start:		X			
Construction Completion:					X

PROJECT JUSTIFICATION:

Project Description: This project involves the reconstruction of exposed aggregate concrete walls, (up to 30 feet high and 200 feet long), installation of a new drainage system and repair or replacement of concrete walks. The 11.4 acre formal park is located on Meridian Hill between 15th and 16th Streets, N.W., in Washington, D.C.

Need: Structural and drainage problems at this site are causing major retaining walls to crack and lean. A study completed in 1977 and updated in 1979, indicates immediate action must be taken to prevent further deterioration and possible collapse. The existing cracks and exposed reinforcing steel in the concrete walls are contributing factors in addition to an ineffective drainage system. Unless corrective actions are taken, deterioration of the structures will continue at an accelerated rate, and sections of the wall may collapse, resulting in a serious threat to the safety of the public including serious personal injury. In addition, the entire park as well as 16th Street, between Florida Avenue and Euclid Street, N.W., would need to be closed to the public to ensure public safety. As a result of the 1979 study, a portion of the area already has been barricaded due to the existing hazardous condition. Meridian Hill Park is acknowledged to be one of the finest examples of Italian and French influence on formal gardens in the United States and is on the National Register of Historic Places.

*Estimate is based on 1977 and 1979 studies. Construction Drawings Underway. To be completed by July 1981.

NATIONAL PARK SERVICE

FISCAL 1982 CONSTRUCTION PROGRAM

PARK: Saratoga National Historical Park, New York

REGION: North Atlantic

PROJECT TITLE: (134) Develop Alternate Water Supply and Relocate Fire Pump

DEVELOPMENT LIMITATION AMOUNT REMAINING: N/A

PROJECT DETAIL:

	($ Thousands) FY 1982 (est.)	Future (est.)
Well, Pump, and Water Line	266	
TOTAL	266*	

FY 1982 PROJECT SCHEDULE:

	QUARTER 1st	2nd	3rd	4th	FY 1983
Construction Start:			X		
Construction Completion:				X	

PROJECT JUSTIFICATION:

Project Description: This project will provide an alternate water supply for adequate fire suppression reserves and relocate the park fire pump. Includes construction of a new well, new pump, disconnecting the fire system from the existing public drinking water supply, and laying 130 feet of water line.

Need: The present well and 35,000 gallon water storage facility are not sufficient for both domestic use and fire suppression. Two fire hoses operating for 30 minutes completely drain the storage facility. This has occurred and when the system is drained, negative pressure and a reverse in the normal flow to outlets result in possible contamination of the drinking water supply. The existing fire pump is presently located in the basement of the visitor center and would be inaccessible if that building was on fire. An auxiliary system is needed to furnish the capacity and pressure necessary for fire suppression to protect the historic structures and park facilities. The danger of contamination of the potable water system will also be alleviated.

*Estimate based on Completed Construction Drawings.

NATIONAL PARK SERVICE

FISCAL 1982 CONSTRUCTION PROGRAM

PARK: Yellowstone National Park, Wyoming, Montana, Idaho

REGION: Rocky Mountain

PROJECT TITLE: (113) Reconstruct Water System, Mammoth Hot Springs (Phase 3 of 4)

DEVELOPMENT LIMITATION AMOUNT REMAINING: N/A

PROJECT DETAIL:

	($ Thousands) FY 1982 (est.)	Future (est.)
Upgrade Three Diversion Structures	656	
Install Middle Zone Irrigation System	552	
TOTAL	1,208*	2,319

FY 1982 PROJECT SCHEDULE:

	QUARTER 1st	2nd	3rd	4th	FY 1983
Construction Start:		X			
Construction Completion:					X

PROJECT JUSTIFICATION:

Project Description: Upgrade existing diversion structures on Gardner River, Panther Creek and Indian Creek which comprise the public drinking water supply for Mammoth Hot Springs. Connect diversion structures to existing raw water transmission line. Construct an automated irrigation system in the headquarters and visitor use area.

Need: This project is required to comply with safe drinking water standards and to assure a reliable supply of water for the Mammoth area. The existing intake structures are subject to contamination during periods of low water and damage during periods of high water. The U.S. Public Health Service and engineering studies have recommended reconstruction of these intake structures. The automated irrigation system, which will serve the Fort Yellowstone Historic District, visitor center and the concessions areas, is required as an integral component of the total Mammoth water system reconstruction project. An engineering analysis determined that an efficient automated system would enable the size of the Mammoth water treatment plant to be reduced by fifty percent. The proper operation of the water treatment facility, constructed in a previous phase of this project, require the construction of this low consumption irrigation system.

*Estimate is based on Construction Drawings.

NATIONAL PARK SERVICE

FISCAL 1982 CONSTRUCTION PROGRAM

PARK: Yellowstone National Park, Wyoming-Montana-Idaho

REGION: Rocky Mountain

PROJECT TITLE: (141) Construct Water Treatment System, Canyon

DEVELOPMENT LIMITATION AMOUNT REMAINING: N/A

PROJECT DETAIL

	($ Thousands) FY 1982 (est.)	Future (est.)
Complete Distribution System	1,296	
Water Treatment Plant	2,197	
750,000 Gallons Storage Tank and Improvements	898	
Raw Water Transmission Modification	73	
TOTAL	4,464*	

FY 1982 PROJECT SCHEDULE:

	QUARTER 1st	2nd	3rd	4th	FY 1983
Construction Start:			X		
Construction Completion:					X

PROJECT JUSTIFICATION:

Project Description: This project will complete improvements to the distribution system in the Canyon developed area. Includes construction of a 1.0 million gallon per day chemical coagulation, sedimentation, filtration, and disinfection water treatment plant. Construct a 750,000 gallon underground storage tank and upgrade existing underground storage tanks. Modify existing raw water transmission line to provide water to new treatment plant.

Need: The Canyon water system is supplied by surface water and subject to contamination. The Safe Drinking Water Act of 1974 requires complete treatment of all surface water supplies. The treatment plant is necessary to assure supply of safe drinking water and avoid gastrointestinal illness outbreaks as experienced in 1977 at this area. Increased storage and distribution improvements are also necessary to provide adequate fire fighting volume, flow, and pressure as recommended by the National Fire Protection Association. These violations are stated in a recent GAO investigative report.

*Estimate is based on Preliminary Drawings. Construction Drawings scheduled for completion by February 1981.

NATIONAL PARK SERVICE

FISCAL 1982 CONSTRUCTION PROGRAM

PARK: Yellowstone National Park, Wyoming-Montana-Idaho

REGION: Rocky Mountain

PROJECT TITLE: (620) Rehabilitate Purchased Concessioner Facilities (Portion)

DEVELOPMENT LIMITATION AMOUNT REMAINING: N/A

PROJECT DETAIL:	($ Thousands) FY 1982 (est.)	Future (est.)
Install Fire Suppression System, Rehabilitate L.P. gas tanks, Correct Electrical, Architectural and Structural Deficiencies	3,006	not estimated
Renovate East Wing, Old Faithful Inn, including adding baths to 75 rooms	393	not estimated
Renovate and Re-equip Kitchen and Dining Facilities of Lake Hotel and Old Faithful Inn	3,297	not estimated
Completion of Re-roofing and Re-siding, Old Faithful Inn and Lodge	873	not estimated
TOTAL	7,569*	40,000

FY 1982 PROJECT SCHEDULE:	QUARTER 1st	2nd	3rd	4th	FY 1983
Construction Start:		X			
Construction Completion:					X

PROJECT JUSTIFICATION:

Project Description: The second of several phases to rehabilitate those still usable facilities acquired by the Government in fiscal 1980 from the former concessioner for overnight and restaurant services. Major buildings include: Canyon Lodge, Lake Hotel, Old Faithful Inn and Lodge, Mammoth Motor Inn, restaurant and dormitories.

Need: The generally deteriorated and unsafe condition of most restaurant and new and existing dormitory facilities formerly operated by the Yellowstone Park Company was documented in the widely circulated 1976 355-page "Yellowstone National Park Concession Management Review of the Yellowstone Park Company." Rehabilitation of the acquired buildings, beginning primarily with installation of fire detection, suppression, and escape systems, began with $2 million provided in the fiscal 1980 budget. This project will continue the renovation program, but an estimated $40 million additional will be needed to bring the 1,200 structures up to reasonable standards. These facilities serve over 2½ million visitors annually.

*Estimate based on Preliminary Drawings. Construction Drawings scheduled for completion by September 1981.

NATIONAL PARK SERVICE

FISCAL 1982 CONSTRUCTION PROGRAM

PARK: Yosemite National Park, California

REGION: Western

PROJECT TITLE: (347) Final Effluent Disposal Facility at El Portal

DEVELOPMENT LIMITATION AMOUNT REMAINING: N/A

PROJECT DETAIL:

	($Thousands) FY 1982 (est.)	Future (est.)
Construct Treatment Plant Effluent Disposal System	4,770	
TOTAL	4,770*	

FY 1982 PROJECT SCHEDULE:

	QUARTER 1st	2nd	3rd	4th	FY 1983
Construction Start:		X			
Construction Completion:					X

PROJECT JUSTIFICATION:

Project Description: Construction of modifications and improvements to the Yosemite Regional Water Pollution Control Facility at El Portal in order to improve plant efficiency and to satisfy discharge requirements of the California Regional Water Quality Control Board. The work will consist of addition of a filtration system to reduce effluent suspended solids and to improve bacteria and virus removal; improved disinfection equipment to improve reliability and reduce the possibility of fishery damage due to over-disinfection; addition of chemical feed equipment to correct acidic effluent conditions; additional flow metering equipment to improve effluent dispersion during low river levels; improvements to the plant sludge handling systems to improve effluent quality, to provide emergency sludge storage facilities during incinerator maintenance or breakdown periods, and to reduce energy consumption; and minor modifications to the existing plant to facilitate maintenance and operation.

Need: The Yosemite Regional Water Pollution Control Facility at El Portal, the largest treatment plant in the National Park System, collects wastewater from all developments located in Yosemite Valley and at the El Portal administrative site. The facility currently fails to consistently meet the suspended solids, chlorine residual, coliform organisms, pH, and receiving water limitations prescribed by the California Regional Water Control Board. Construction of the proposed facilities will provide an effluent quality which will meet the California discharge permit requirements at all times. The Clean Water Act of 1977 and Executive Order 12088, October 1978, require that Federal agencies comply with all Federal, State, interstate, and local requirements to the same extent as any nongovernmental entity. The completed plans will be submitted to the Regional Water Quality Control Board by May 29, 1981.

*Estimate based on Preliminary Plans. Final Construction Drawings are scheduled for completion by November, 1981.

CONSTRUCTION

For construction, improvements, repair or replacement of physical facilities, without regard to the Act of August 24, 1912, as amended (16 U.S.C. 451), [$43,367,000] *$61,635,000* to remain available until expended. *(16 U.S.C. 1, 1b, 7a-7e, 431-433, 452a, 469h; 40 U.S.C. 484-k; 43 U.S.C. 620(g); 50 U.S.C. 1622-h(1); Act of August 31, 1965 (79 Stat. 558); Public Law 96-514, making appropriations for the Department of the Interior and related agencies, 1981.)*

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
CONSTRUCTION
Program and Financing (in thousands of dollars)

Identification code 14-1039-0-1-303	1980 actual	1981 estimate	1982 estimate
Program by activities:			
Direct program:			
1. Buildings, utilities and other facilities	101,435	--	--
2. Roads, trails and parkways	36,910	--	--
3. Construction	--	77,266	67,466
4. Emergency and unscheduled projects	--	3,449	3,000
5. Planning	--	20,834	18,169
Total direct program	138,345	101,549	88,635
Reimbursable program:			
1. Sale of utilities to concessionaires and others	2,875	3,700	4,000
2. Miscellaneous	14,887	14,300	17,400
Total reimbursable program	17,762	18,000	21,400
Total program costs, funded 1/	156,107	119,549	110,035
Change in selected resources (undelivered orders)	-5,218	--	--
10.00 Total obligations	150,889	119,549	110,035

1/ Includes capital investment as follows: 1980, $79,305 thousand; 1981, $56,362 thousand; 1982, $48,288 thousand.

Program and Financing (in thousands of dollars) (continued)

Identification code 14-1039-0-1-303		1980 actual	1981 estimate	1982 estimate
	Financing:			
	Offsetting collections from:			
11.00	Federal funds	-10,515	-11,800	-14,000
14.00	Non-Federal sources	-7,246	-6,200	-7,400
21.40	Unobligated balance available, start of year	-110,122	-85,182	-27,000
24.40	Unobligated balance available, end of year	85,182	27,000	--
39.00	Budget authority	108,188	43,367	61,635
40.00	Appropriation	112,154	43,367	61,635
40.01	Appropriation rescinded (P.L. 96-304)	-3,966	--	--
43.00	Appropriation (adjusted)	108,188	43,367	61,635
	Relation of obligations to outlays:			
71.00	Obligations incurred, net	133,128	101,549	88,635
72.40	Obligated balance, start of year	139,489	135,321	113,870
74.40	Obligated balance, end of year	-135,321	-113,870	-115,710
90.00	Outlays	137,295	123,000	86,795

74-939 O—80——83

Object Classification (in thousands of dollars)

Identification code 14-1039-0-1-303		1980 actual	1981 estimate	1982 estimate
	Direct obligations:			
	Personnel compensation:			
11.1	Permanent positions	8,674	9,754	8,950
11.3	Positions other than permanent	6,153	6,785	5,475
11.5	Other personnel compensation	603	761	698
11.9	Total personnel compensation	15,430	17,300	15,123
	Personnel benefits:			
12.1	Civilian	1,684	1,839	1,663
21.0	Travel and transportation of persons	1,787	2,001	2,241
22.0	Transportation of things	322	231	196
23.2	Communications, utilities, and other rent	699	783	877
24.0	Printing and reproduction	265	173	147
25.0	Other services	25,431	20,206	17,182
26.0	Supplies and materials	6,248	4,477	3,807
31.0	Equipment	6,043	4,330	3,682
32.0	Lands and structures	71,099	47,170	41,069
42.0	Insurance claims and indemnities	3	--	--
99.0	Subtotal, direct obligations	129,011	98,510	85,987

Object Classification (in thousands of dollars) (continued)

Identification code 14-1039-0-1-303	1980 actual	1981 estimate	1982 estimate
Reimbursable obligations:			
Personnel compensation:			
11.1 Permanent positions	1,628	2,077	2,266
11.3 Positions other than permanent	1,208	944	1,030
11.5 Other personnel compensation	1,554	109	119
11.9 Total personnel compensation	4,390	3,130	3,415
Personnel bepefits:			
12.1 Civilian	243	323	363
21.0 Travel and transportation of persons	697	418	497
22.0 Transportation of things	108	133	158
23.2 Communications, utilities, and other rent	1,795	1,648	1,959
24.0 Printing and reproduction	91	88	105
25.0 Other services	6,322	9,657	11,808
26.0 Supplies and materials	1,956	1,529	1,818
31.0 Equipment	807	163	194
32.0 Lands and structures	1,349	906	1,077
42.0 Insurance claims and indemnities	4	5	6
99.0 Subtotal, reimbursable obligations	17,762	18,000	21,400

Object Classification (in thousands of dollars) (continued)

Identification code 14-1039-0-1-303	1980 actual	1981 estimate	1982 estimate
Allocation to Federal Highway Administration:			
Personnel compensation:			
11.1 Permanent positions	1,488	1,148	958
11.3 Positions other than permanent	123	95	79
11.5 Other personnel compensation	11	8	7
11.9 Total personnel compensation	1,622	1,251	1,044
Personnel benefits:			
12.1 Civilian	157	119	101
21.0 Travel and transportation of persons	490	362	315
22.0 Transportation of things	138	102	89
23.2 Communications, utilities and other rent	71	52	45
24.0 Printing and reproduction	14	10	9
25.0 Other services	1,394	993	915
26.0 Supplies and materials	197	145	126
31.0 Equipment	7	5	4
42.0 Insurance claims and indemnities	26	--	--
99.0 Subtotal, obligations, allocation account	4,116	3,039	2,648
99.9 Total obligations	150,889	119,549	110,035

Personnel Summary

Identification code 14-1039-0-1-303	1980 actual	1981 estimate	1982 estimate
NATIONAL PARK SERVICE			
Direct:			
Total number of full-time permanent positions	386	386	386
Total compensable workyears:			
Full-time equivalent employment	773	773	723
Full-time equivalent of overtime and holiday hours	3	3	3
Average GS grade	8.86	8.86	8.86
Average GS salary	$20,615	$20,615	$20,615
Average salary of ungraded positions	$18,827	$18,827	$18,827
Reimbursable:			
Total number of full-time permanent positions	17	17	17
Total compensable workyears:			
Full-time equivalent employment	164	142	142
Full-time equivalent of overtime and holiday hours	63	63	63
Average GS grade	8.86	8.86	8.86
Average GS salary	$20,615	$20,615	$20,615
Average salary of ungraded positions	$18,827	$18,827	$18,827
ALLOCATION TO FEDERAL HIGHWAY ADMINISTRATION:			
Total number of full-time permanent positions	67	82	97
Total compensable workyears:			
Full-time equivalent employment	89	110	126
Full-time equivalent of overtime and holiday hours	1	2	1
Average GS grade	8.76	8.76	8.76
Average GS salary	$20,455	$22,587	$22,863

Road Construction

Contract Authority. Contract authority for the Service's roads, trails and parkway construction program is provided in the Federal-Aid Highway Act. The current authorities are provided in section 104(a)(7) and 104(a)(8) of the Federal-Aid Highway Act of 1973 (Public Law 93-87) approved August 13, 1973. This bill provides advance contract authority for the Service's roads, trails and parkways programs.

Programmed roads, trails and parkways needs for fiscal 1981 and 1982 are included in the Construction appropriation account discussed under separate heading elsewhere in the fiscal 1982 Budget Justifications.

The 1978 appropriation completed the liquidation of all prior year obligations in this account. Public Law 96-126 rescinded funds for projects which were deobligated during the fiscal year.

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
ROAD CONSTRUCTION (LIQUIDATION OF CONTRACT AUTHORITY)
Program and Financing (in thousands of dollars)

Identification code 14-1037-0-1-303	1980 actual	1981 estimate	1982 estimate
Program by activities:			
Roads, trails and parkways (total program costs, funded) 1/	5,263	1,279	--
Change in selected resources (undelivered orders)	-2,773	--	--
10.00 Total obligations	2,490	1,279	--
Financing:			
21.40 Unobligated balance available, start of year	-9,321	-1,279	--
24.40 Unobligated balance available, end of year	1,279	--	--
39.00 Budget authority	-5,552	--	--
Budget authority:			
40.01 Appropriations rescinded (Public Law 96-126)	-5,552	--	--
43.00 Appropriation (adjusted)	-5,552	--	--
Relation of obligations to outlays:			
71.00 Obligations incurred, net	2,490	1,279	--
72.40 Obligated balance, start of year	9,196	6,313	--
74.40 Obligated balance, end of year	-6,313	--	--
90.00 Outlays	5,372	7,592	--

1/ Includes capital investment as follows: 1980, $306 thousand.

Object Classification (in thousands of dollars)

Identification code 14-1037-0-1-303		1980 actual	1981 estimate	1982 estimate
	National Park Service:			
	Personnel compensation:			
11.1	Permanent positions	941	--	--
11.3	Positions other than permanent	349	--	--
11.5	Other personnel compensation	13	--	--
11.9	Total personnel compensation	1,303	--	--
	Personnel benefits:			
12.1	Civilian	146	43	--
21.0	Travel and transportation of persons	133	39	--
22.0	Transportation of things	-116	3	--
23.2	Communications, utilities and other rent	34	10	--
24.0	Printing and reproduction	7	2	--
25.0	Other services	290	466	--
26.0	Supplies and materials	159	47	--
31.0	Equipment	54	16	--
32.0	Land and structures	252	74	--
99.0	Subtotal, direct obligations	2,262	700	--
	Allocation to Federal Highway Administration			
	Personnel compensation:			
11.1	Permanent positions	135	343	--
11.3	Positions other than permanent	--	--	--
11.5	Other personnel compensation	--	--	--
11.9	Total personnel compensation	135	343	--

Object Classification (in thousands of dollars) (continued)

Identification code 14-1037-0-1-303		1980 actual	1981 estimate	1982 estimate
	Personnel benefits:			
12.1	Civilian	14	36	--
21.0	Travel and transportation of persons	79	200	--
99.0	Subtotal, obligations, allocation account	228	579	--
99.9	Total obligations	2,490	1,279	--

Personnel Summary

Identification code 14-1037-0-1-303	1980 actual	1981 estimate	1982 estimate
National Park Service			
Total number of full-time permanent positions	40	--	--
Total compensable workyears:			
Full-time equivalent employment	63	--	--
Full-time equivalent of overtime and holiday hours	(0)	--	--
Average GS grade	8.86	--	--
Average GS salary	$20,615	--	--
Average salary of ungraded positions	$18,827	--	--
Allocation to Federal Highway Administration			
Total number of full-time permanent positions	19	--	--
Total compensable workyears:			
Full-time equivalent employment	25	--	--
Full-time equivalent of overtime and holiday hours	(0)	--	--
Average GS grade	8.76	--	--
Average GS salary	$20,455	--	--

Appropriation Summary Statement

Appropriation: Planning, Development, and Operation of Recreational Facilities

The National Park Service collects entrance and user fees from visitors as authorized by amended Land and Water Conservation Fund Act (P.L. 92-347). Previously, these fee revenues, which were deposited in a special Treasury account, were appropriated to the National Park Service to cover the cost of fee collections, the operation of visitor transportation systems in park areas, and the refurbishment of exhibits, audiovisual materials, and historic furnishings.

Congress eliminated this appropriation in fiscal 1981 and transferred funding for programs previously covered by recreation fees to the Operation of the National Park System appropriation under Park Management, Interpretation and Visitor Services.

The Service will continue to collect entrance and user fees for deposit to the Land and Water Conservation Fund to support any or all activities authorized under the Fund.

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
PLANNING, DEVELOPMENT AND OPERATION OF RECREATION FACILITIES
Amounts Available for Appropriation
(in thousands of dollars)

	1980 actual	1981 estimate	1982 estimate
Unappropriated balance, start of year.....	13,460	12,051	12,051
Collections (offsetting receipts):			
Land and Water Conservation Fund:			
Golden Eagle Passport.....	1,300	--	--
Special recreation use fees.....	13,508	--	--
Total available for appropriations.....	28,268	12,051	12,051
Appropriation.....	16,217	--	--
Unappropriated balance, end of year.....	12,051	12,051	12,051

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
PLANNING, DEVELOPMENT AND OPERATION OF RECREATION FACILITIES
Program and Financing (in thousands of dollars)

Identification code 14-5006-0-2-303	1980 actual	1981 estimate	1982 estimate
Program by activities:			
Recreation facilities 1/ (total program costs, funded)	15,570	3,849	--
Change in selected resources (undelivered orders)	361	--	--
10.00 Total obligations	15,931	3,849	--
Financing:			
21.40 Unobligated balance available, start of year	-3,562	-3,849	--
24.40 Unobligated balance available, end of year	3,849	--	--
40.00 Budget authority (appropriation) (special fund)	16,217	--	--
Relation of obligations to outlays:			
71.00 Obligations incurred, net	15,931	3,849	--
72.40 Obligated balance, start of year	4,757	3,461	1,730
74.00 Obligated balance, end of year	-3,461	-1,730	--
90.00 Outlays	17,227	5,580	1,730

1/ Includes capital investment as follows: 1980, $647 thousand; 1981, $355 thousand.

Object Classification (in thousands of dollars)

Identification code 14-5006-0-2-303		1980 actual	1981 estimate	1982 estimate
	Personnel compensation:			
11.1	Permanent positions	3,333	—	—
11.3	Positions other than permanent	4,088	—	—
11.5	Other personnel compensation	429	—	—
11.9	Total personnel compensation	7,850	—	—
	Personnel benefits:			
12.1	Civilian	782	—	—
21.0	Travel and transportation of persons	265	—	—
22.0	Transportation of things	90	49	—
23.2	Communications, utilities and other rent	223	122	—
24.0	Printing and reproduction	172	94	—
25.0	Other services	5,069	2,775	—
26.0	Supplies and materials	831	454	—
31.0	Equipment	604	331	—
32.0	Lands and structures	43	24	—
42.0	Insurance claims and indemnities	2	—	—
99.9	Total obligations	15,931	3,849	—

Personnel Summary

Identification code 14-5006-0-2-303	1980 actual	1981 estimate	1982 estimate
Total number of full-time permanent positions	143	--	--
Total compensable workyears:			
Full-time equivalent employment	644	--	--
Full-time equivalent of overtime and holiday hours	5	--	--
Average GS grade	8.86	--	--
Average GS salary	$20,615	--	--
Average salary of ungraded positions	$18,827	--	--

Appropriation Summary Statement

Appropriation: John F. Kennedy Center for the Performing Arts

The National Park Service provides for the operations of the Kennedy Center--except those supporting the performing arts. In effect, the Service conducts those aspects of the operation resulting from the Center's function as a monument to President John Kennedy, including maintenance, security, information, interpretation, and other similar services.

No increase is requested for this appropriation in fiscal 1982.

74-889 O—80——84

Summary of Requirements
(Dollar amounts in thousands)

Appropriation: John F. Kennedy Center for the Performing Arts

Page No.	Summary of adjustments to base and built-in changes:	Perm. Pos.	Amount	Perm. Pos.	Amount
	Appropriation enacted to date, 1981			75	4,400
NPS-164	Adjustment to base and built-in changes:				
	Adjustment for 1981 pay increases and related costs		141	--	
	Annualization of 1981 pay increase		3	--	144
	Subtotal, adjustments for 1981 pay increase			75	4,544
	Other increases:				
	Employees Compensation Fund		--	--	--
	GSA space cost increases		--	--	--
	Subtotal, adjustments to base and built-in changes		--	--	--
	1982 base			75	4,544

NPS-163

Comparison by activities/ Subactivities:	1980 Actual Perm. Pos.	1980 Actual Amount	1981 Appropriation Enacted to Date Perm. Pos.	1981 Appropriation Enacted to Date Amount	1982 Base Perm. Pos.	1982 Base Amount	1982 Estimate Perm. Pos.	1982 Estimate Amount	Inc.(+) or Dec.(-) Over 1982 Base Perm. Pos.	Inc.(+) or Dec.(-) Over 1982 Base Amount
John F. Kennedy Center for the Performing Arts (Total Requirements)	79	$4,119	75	$4,400	75	$4,544	75	$4,544	--	--
NPS-165 Common Program Services	(5)	(203)	(5)	(217)	(5)	(229)	(5)	(229)	(--)	(--)
Increases									--	--
Total requirements	79	$4,119	75	$4,400	75	$4,544	75	$4,544		

Justification of Adjustments to Base and Built-in Changes
(dollar amounts in thousands)

Adjustment for 1981 pay increase and related costs	Perm. Pos.	Amount
Total cost in FY 1981 of anticipated FY 1981 pay increase supplemental	---	+141
Additional amount in FY 1982 to provide full-year cost of pay increase	---	+ 3
Total	---	+144

The anticipated supplemental in 1981 of $141,000 includes $54,000 for the general schedule increase and $25,000 for U.S. Park Police pay increase, both effective October 1, 1980, and $62,000 for wage board pay increases to be granted in 1981.

An additional $3,000 is required in 1982 to cover the full-year cost of the 1981 pay supplemental and includes $2,000 General Schedule and $1,000 for wage board.

Justification of Program and Performance

Activity: John F. Kennedy Center for the Performing Arts

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
John F. Kennedy Center	$	4,400	4,544	4,544	--
	(FTP)	(74)	(65)	(65)	(--)
(Common Program Services)	$	(217)	(229)	(229)	(--)
Total Requirements	$	4,400	4,544	4,544	--
	(FTP)	(74)	(65)	(65)	(--)

Objectives: Preserve and protect the physical integrity of the John F. Kennedy Center for the Performing Arts.

Conduct visitor use and facility operation programs, including orientation, interpretation, maintenance, and security to ensure that visitors to the John F. Kennedy Center have a safe and enjoyable visit.

Base Program: The John F. Kennedy Center for the Performing Arts is a national cultural center for the performing arts and an official memorial to President John F. Kennedy. The Board of Trustees of the Kennedy Center has the sole responsibility for all performing arts activities. The National Park Service is responsible for maintenance, security, information, interpretation, janitorial and all other services necessary to operate the Center.

The Physical plant at the Kennedy Center includes 1.5 million square feet of floor space; 122,400 square feet of marble floors, walks and terrace as well as numerous sprinkler systems and fountains; 23 elevators and 6 escalators; 1,000 feet of seawall with fence; 900 feet of benches; and 11 flower beds. The electrical, heating, air-conditioning and plumbing systems are extensive and technically sophisticated. Large areas of the Center are carpeted. These statistics provide some indication of the scope and extent of the Center's maintenance and operating support requirements.

Visitor services, including information, interpretation, and police security must be conducted year round with the peak for such services occurring during the May-September summer season. These services include interpretive talks, crowd control assistance for free events, audiovisual programs, senior citizen and handicapped programs, special talks and assistance to foreign visitors and groups, and other visitor assistance activities. Visitor use of the Center also adds to the janitorial and maintenance workload.

The following workload factors are indicative of the program at the John F. Kennedy Center:

	1980	1981	1982
Square feet of building	1,500,050	1,500,050	1,500,050
Number of visitors	4,500,000	5,000,000	5,200,000
Grounds (acres)	23.2	23.2	23.2

The functions carried out by the National Park Service at the Kennedy Center are security, building maintenance, housekeeping, grounds maintenance, information, and administration. Of these functions, building maintenance, housekeeping, and administration costs are shared with the Board of Trustees on the basis of an agreed upon formula of 76.2 percent (National Park Service) and 23.8 percent (Board of Trustees). All costs below are reflective of the National Park Service share of these items.

Included in the base figure of $4,544 are the following major annual recurring operating costs:

	($ in Thousands)	
Security personnel (including U.S. Park Police and Guards)	563	
Building Maintenance	640	
Grounds Maintenance	203	
Visitor Services	308	
Management and Administrative Services	177	
Service contracts (elevator/escalator, air conditioning and computer maintenance, trash collection, pest control)	91	
Housekeeping	598	
Utilities	1,066	
Supplies & Materials	153	
Miscellaneous (including printing and reproduction, travel, amortization, tour assistance and memorial security)	285	
		4,084

Maintenance and nonrecurring items to be completed within the base funding:

Energy/Environmental Management System	252	
Refinish,reseal and stain North and South Gallery floors	8	
Inspect and clean marble panels	12	
Replace interior vinyl floor tile	20	
Paint interior ceiling tile	11	
Install lights and benches on Watergate walk	21	1/
Tree and shrub replacement	25	
Roof Repair	38	
Refurbish Hall of States Elevators	27	
Repair sealant north end of building	46	
Subtotal		460
		4,544

1/ Had been scheduled for FY 1981, but because of inflation factor was deferred to FY 1982.

Summary of Requirements by Object Class
(dollar amounts in thousands)

Appropriation: John F. Kennedy Center for the Performing Arts	1982 Base			1982 Estimate			Inc. (+) or Dec. (-)		
	Pos.	Avg. No.	Amount	Pos.	Avg. No.	Amount	Pos.	Avg. No.	Amount
Object class									
11 Personnel compensation:									
11.1 Permanent positions 1/	75	71	1,261	75	71	1,261	...	...	...
11.3 Positions other than permanent	14	13	253	14	13	253	...	...	...
11.5 Other personnel compensation	...	...	108	...	...	108	...	...	...
Total personnel compensation	89	84	1,622	89	84	1,622	...	...	...
Other Objects:									
12.1 Personnel benefits			203			203			...
21.0 Travel and transportation of persons			2			2			...
22.0 Transportation of things			...			...			...
23.1 Standard level user charges			...			...			...
23.2 Other rent, communications and utilities			1,400			1,400			...
24.0 Printing and reproduction			4			4			...
25.0 Other services			723			723			...
26.0 Supplies and materials			590			590			...
31.0 Equipment			...			...			...
32.0 Lands and structures			...			...			...
Total requirements			4,544			4,544			...

1/ The total of 75 base positions was lapsed based on a five percent annual average. No new positions are requested for 1982.

JOHN F. KENNEDY CENTER FOR THE PERFORMING ARTS

For expenses necessary for operating and maintaining the nonperforming arts functions of the John F. Kennedy Center for the Performing Arts, [$4,400,000] $4,544,000. *(Act of June 16, 1972 (86 Stat. 216); Public Law 96-514, making appropriations for the Department of the Interior and related agencies, 1981.)*

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
JOHN F. KENNEDY CENTER FOR THE PERFORMING ARTS
Program and Financing (in thousands of dollars)

Identification code 14-1038-0-1-303	1980 actual	1981 estimate	1982 estimate
Program by activities:			
John F. Kennedy Center for the Performing Arts (program costs, funded) 1/	4,745	4,544	4,544
Change in selected resources (undelivered orders)	-358	--	--
10.00 Total obligations	4,387	4,554	4,544
Financing:			
17.00 Recoveries of prior year obligations	-40	--	--
21.40 Unobligated balance available, start of year	-281	-13	--
24.40 Unobligated balance available, end of year	13	--	--
25.00 Unobligated balance lapsing	51	--	--
Budget authority	4,130	4,541	4,544
Budget authority:			
40.00 Appropriation	4,130	4,400	4,544
44.10 Supplemental now requested for wageboard pay raises	--	62	--
44.20 Supplemental now requested for civilian pay raises	--	79	--

1/ Includes capital investment as follows: 1980, $16 thousand; 1981, $8 thousand; 1982, $8 thousand.

Program and Financing (in thousands of dollars) (continued)

Identification code 14-1038-0-1-303		1980 actual	1981 estimate	1982 estimate
	Relation of obligations to outlays:			
71.00	Obligation incurred, net.....	4,387	4,554	4,544
72.40	Obligated balance, start of year...	1,665	1,115	1,132
74.40	Obligated balance, end of year.....	-1,115	-1,132	-1,286
78.00	Adjustments in unexpired accounts..	-40	--	--
90.00	Outlays, excluding pay raise supplemental.....	4,897	4,400	4,386
91.10	Outlays from wage-board pay raise supplemental.....	--	60	2
91.20	Outlays from civilian pay raise supplemental.....	--	77	2

Object Classification (in thousands of dollars)

Identification code 14-1038-0-1-303	1980 actual	1981 estimate	1982 estimate
Personnel compensation:			
11.1 Permanent positions	1,242	1,259	1,261
11.3 Positions other than permanent	256	253	253
11.5 Other personnel compensation	104	108	108
11.9 Total personnel compensation	1,602	1,620	1,622
Personnel benefits:			
12.1 Civilian	200	202	203
21.0 Travel and transportation of persons	2	2	2
22.0 Transportation of things	1	--	--
23.2 Communications, utilities and other rent	799	840	1,400
24.0 Printing and reproduction	8	7	4
25.0 Other services	1,278	1,691	723
26.0 Supplies and materials	481	192	590
31.0 Equipment	16	--	--
99.9 Total obligations	4,387	4,554	4,544

Personnel Summary

Identification code 14-1038-0-1-303	1980 actual	1981 estimate	1982 estimate
Total number of full-time permanent positions	79	75	75
Total compensable workyears:			
Full-time equivalent employment	87	84	84
Full-time equivalent of overtime and holiday hours	2	2	2
Average GS grade	8.86	8.86	8.86
Average GS salary	$20,615	$20,615	$20,615
Average salary of ungraded positions	$18,827	$18,827	$18,827

CONSTRUCTION (TRUST FUND)

CUMBERLAND GAP TUNNEL

NATIONAL PARK SERVICE

Construction
(Trust Fund)

Appropriation, 1981	--
Unobligated balance from prior years	$15,500,000
Total available for obligation, 1981	15,500,000
Decreases:	
Cumberland Gap Tunnel	8,500,000
Subtotal (unobligated carryover)	7,000,000
Increases:	
Cumberland Gap Tunnel (Budget Estimate, 1982)	--
Total available for obligation, 1982	7,000,000

Status of Unfunded Contract Authority (in thousands of dollars)

Identification code 14-8215-0-7-401	1980 actual	1981 estimate	1982 estimate
Unfunded balance, start of year	--	--	--
Contract authority	15,500	--	--
Appropriation to liquidate contract authority	-15,500	--	--
Unfunded balance, end of year	--	--	--

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
CONSTRUCTION (TRUST FUNDS)
Program and Financing (in thousands of dollars)

Identification code 14-8215-0-7-401	1980 actual	1981 estimate	1982 estimate
Program by Activities:			
10.00 Cumberland Gap Tunnel (costs-obligations)1/	--	8,500	7,000
Financing:			
21.40 Unobligated balance available, start of year	--	-15,500	-7,000
24.40 Unobligated balance, end of year	15,500	7,000	--
Budget authority	15,500	--	--
Budget authority:			
Current:			
40.00 Appropriation	15,500	--	--
40.49 Portion applied to liquidate contract authority	-15,500	--	--
43.00 Appropriation (adjusted)	--	--	21,500
Permanent:			
69.10 Contract authority	15,500	--	--
Relation of obligations to outlays:			
71.00 Obligations incurred, net	--	8,500	7,000
72.40 Obligated balance, start of year	--	--	1,000
74.40 Obligated balance, end of year	--	-1,000	-500
90.00 Outlays	--	7,500	7,500

1/ Includes capital investment as follows: 1981, $6,832 thousand; 1982, $5,116 thousand.

Note: Appropriation for liquidation of contract authority was provided under title, "Construction, National Park Service."

Object Classification (in thousands of dollars)

Identification code 14-8215-0-7-401	1980 actual	1981 estimate	1982 estimate
Allocation To Federal Highway Administration:			
Personnel compensation:			
11.1 Permanent positions	--	243	154
11.3 Positions other than permanent	--	111	74
11.5 Other personnel compensation	--	15	9
11.9 Total personnel compensation	--	369	237
Personnel benefits:			
12.1 Civilian	--	33	22
21.0 Travel and transportation of persons	--	88	57
22.0 Transportation of things	--	17	11
23.2 Communications, utilities, and other rent	--	5	4
24.0 Printing and reproduction	--	5	3
25.0 Other services	--	1,163	1,558
26.0 Supplies and materials	--	20	13
31.0 Equipment	--	7	4
32.0 Lands and structures	--	6,793	5,091
99.0 Total obligations	--	8,500	7,000

Personnel Summary

Identification code 14-8215-0-7-401	1980 actual	1981 estimate	1982 estimate
Allocation to Federal Highway Administration:			
Total number of full-time permanent positions	--	21	18
Total compensable workyears:			
Full-time equivalent employment	--	25	25
Full-time equivalent of overtime and holiday hours	--	1	1
Average GS grade	--	8.76	8.76
Average GS salary	--	$22,587	$22,863

Justification of Program and Performance

Activity: Miscellaneous Permanent Appropriations

(dollar amounts in thousands)

	1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Increase
Educational Expenses, Yellowstone National Park Employees Children	$ 375	375	375	(--)
Payment for Tax losses on land acquired for Grand Teton National Park	$ 25	30	30	(--)
Total Requirements	$ 400	405	405	(--)

Educational Expenses, Yellowstone National Park Employees' Children

Authorization: P.L. 80-604

Objectives: Pay the additional costs of educating children of employees stationed at Yellowstone National Park, Wyoming-Montana-Idaho.

Base Program: The Service is authorized to use visitor fees collected at Yellowstone National Park to defray the additional costs of educating children at this remote location. The funds are used to augment teachers salaries, to buy school equipment and supplies, to offset students' transportation costs, and to maintain park school facilities.

Payment of Tax Losses on Land Acquired for Grand Teton National Park

Authorization: 64 Stat. 851

Objectives: To compensate the State of Wyoming for taxes lost as a result of acquisition of land at Grand Teton National Park.

Base Program: Fee revenues collected at Grand Teton and Yellowstone National Parks are used in part to compensate Wyoming for tax revenues lost because of an expansion of Grand Teton National Park. Amounts vary because of changes in the tax rate, withdrawal of additional lands from the tax rolls, and the gradual reduction of the amount due.

74-939 O—80——85

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
MISCELLANEOUS PERMANENT APPROPRIATIONS
Program and Financing (in thousands of dollars)

Identification code 14-9924-0-2-303	1980 actual	1981 estimate	1982 estimate
Program by activities:			
Operating costs, funded:			
1. Educational expenses, children of employees, Yellowstone National Park	389	375	375
2. Payment for tax losses on land acquired for Grand Teton National Park	24	25	30
Total program costs, funded 1/	413	400	405
Change in selected resources (undelivered orders)	-86	--	--
10.00 Total obligations	327	400	405
Financing:			
21.40 Unobligated balance available, start of year	-509	-591	-591
24.40 Unobligated balance available, end of year	591	591	591
60.00 Budget authority (Appropriation) (permanent, indefinite, special fund)	409	400	405

1/ Includes capital investment as follows: 1980, $5 thousand; 1981, $7 thousand; 1982, $8 thousand.

Program and Financing (in thousands of dollars) (Continued)

Identification code 14-9924-0-2-303	1980 actual	1981 estimate	1982 estimate
Distribution of budget authority by account:			
Educational expenses, children of employees, Yellowstone National Park	379	375	375
Payment for tax losses on land acquired for Grand Teton National Park	25	25	30
Operation, management, maintenance, and demolition of federally acquired properties, Independence National Historical Park	5	--	--
Relation of obligations to outlays:			
71.00 Obligations incurred, net	327	400	405
72.40 Obligated balance, start of year	186	100	100
74.40 Obligated balance, end of year	-100	-100	-100
90.00 Outlays	412	400	405
Distribution of outlays by account:			
Educational expenses, children of employees, Yellowstone National Park	388	375	375
Payment for tax losses on land acquired for Grand Teton National Park	24	25	30

Object Classification (in thousands of dollars)

Identification code 14-9924-0-2-303		1980 actual	1981 estimate	1982 estimate
	Personnel compensation:			
11.3	Positions other than permanent ..	37	37	37
	Personnel benefits:			
12.1	Civilian	3	3	3
21.0	Travel and transportation of persons	--	5	5
22.0	Transportation of things	--	3	3
23.2	Communications, utilities and other rent	2	4	5
25.0	Other services	255	308	310
26.0	Supplies and materials	--	7	8
31.0	Equipment	5	7	8
41.0	Grants, subsidies and contributions	24	26	26
99.0	Total obligations	327	400	405

Personnel Summary

Total compensable workyears:			
Full-time equivalent of employment...	2	2	2
Full-time equivalent of overtime and holiday hours	(0)	(0)	(0)
Average salary of ungraded positions ..	$18,827	$18,827	$18,827

Justification of Program and Performance

Activity: Miscellaneous Trust Funds

(Dollar Amounts in Thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
National Park Service Donations	$	1,493	1,493	1,493	--
	(FTP)	(3)	(3)	(3)	(--)
Preservation, Birthplace of Abraham Lincoln	$	7	7	7	--
	(FTP)	(--)	(--)	(--)	(--)
Total Requirements	$	1,500	1,500	1,500	--
	(FTP)	(3)	(3)	(3)	(--)

National Park Service, Donations

Authorization: 16 U.S.C. 6

Objectives: To use donated funds consistent with legislative authority and the wishes of the grantor.

Base Program: The Secretary of the Interior is authorized to accept and use donated funds for the purposes of the National Park System. Use of these funds is strictly controlled. A quarterly report is made to Congress on how these funds are spent.

Preservation, Birthplace of Abraham Lincoln

Authorization: 16 U.S.C. 211, 212

Objectives: To preserve the Birthplace of Abraham Lincoln.

Base Program: The Lincoln Farm Association established an endowment, the proceeds of which are used to help preserve the Abraham Lincoln Birthplace National Historic Site.

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
TRUST FUNDS
Program and Financing (in thousands of dollars)

Identification code 14-9972-0-7-303	1980 actual	1981 estimate	1982 estimate
Program by activities:			
Operating costs, funded:			
1. National Park Service donations	857	1,466	942
Capital investment funded:			
1. National Park Service donations	523	1,094	551
2. Preservation, Birthplace of Abraham Lincoln	7	7	7
3. Jefferson National Expansion Memorial, contributions	--	--	--
Total capital costs	530	1,101	558
Total program costs funded 1/	1,387	2,567	1,500
Change in selected resources (undelivered orders)	-101	--	--
10.00 Total obligations	1,286	2,567	1,500
Financing:			
21.40 Unobligated balance available, start or year:			
Treasury balance	-881	-1,002	--
U.S. Securities (par)	-65	-65	--

1/ Includes capital investment as follows: 1980, $27 thousand; 1981, $134 thousand; 1982, $90 thousand.

Program and Financing (in thousands of dollars) (continued)

Identification code 14-9972-0-7-303	1980 actual	1981 estimate	1982 estimate
Financing (continued):			
24.40 Unobligated balance available, end of year:			
Treasury balance	1,002	--	--
U.S. Securities (par)	65	--	--
60.00 Budget authority (appropriation) (permanent, indefinite)	1,406	1,500	1,500
Budget authority:			
1. National Park Service donations	1,400	1,493	1,493
2. Preservation, Birthplace of Abraham Lincoln, National Park Service	7	7	7
Relation of obligations to outlays:			
71.00 Obligations incurred, net	1,286	2,567	1,500
72.40 Obligated balance, start of year	473	225	1,292
74.40 Obligated balance, end of year	-225	-1,292	-1,292
90.00 Outlays	1,533	1,500	1,500
Outlays are distributed as follows:			
1. National Park Service donations	1,517	1,499	1,499
2. Preservation, Birthplace Abraham Lincoln	--	1	1
3. Jefferson National Expansion Memorial, contributions	16	--	--

Object Classification (in thousands of dollars)

Identification code 14-9972-0-7-303		1980 actual	1981 estimate	1982 estimate
	Personnel compensation:			
11.1	Permanent positions	82	88	88
11.3	Positions other than permanent	262	282	282
11.5	Other personnel compensation	10	11	11
11.9	Total personnel compensation	354	381	381
	Personnel benefits:			
12.1	Civilian	28	30	30
21.0	Travel and transportation of persons	63	85	60
22.0	Transportation of things	1	3	3
23.2	Communications, Utilities and other rent	21	30	20
24.0	Printing and reproduction	15	7	5
25.0	Other services	522	1,397	581
26.0	Supplies and materials	255	500	330
31.0	Equipment	9	36	25
32.0	Lands and structures	18	98	65
99.9	Total obligations	1,286	2,567	1,500

Personnel Summary

Identification code 14-9972-0-7-303	1980 actual	1981 estimate	1982 estimate
Total number of full-time permanent positions.....	3	3	3
Total compensable workyears:			
Full-time equivalent employment.....	21	21	21
Average GS grade.....	8.86	8.86	8.86
Average GS salary.....	$20,615	$20,615	$20,615
Average salary of ungraded positions.....	$18,827	$18,827	$18,827

ADMINISTRATIVE PROVISIONS

Appropriations for the National Park Service shall be available for the purchase of not to exceed [179] *188* passenger motor vehicles, of which [128] *149* shall be for replacement only, including not to exceed [105] *125* for police-type use and 25 buses; and to provide, notwithstanding any other provision of law, at a cost not exceeding $100,000, transportation for children in nearby communities to and from any unit of the National Park System used in connection with organized recreation and interpretive programs of the National Park Service; and options for the purchase of land at not to exceed $1 for each option: *Provided*, That any funds available to the National Park Service may be used, with the approval of the Secretary, to maintain law and order in emergency and other unforeseen law enforcement situations *and conduct emergency search and rescue operations* in the National Park System; and to provide insurance on official motor vehicles and aircraft operated by the National Park Service in Mexico and Canada[: *Provided further*, That none of the funds appropriated to the National Park Service shall be used to implement or enforce any component of the National Park Service's Noise Abatement Plan for Grand Teton National Park or any other proposed regulations to apply to the Jackson Hole Airport]. *(31 U.S.C. 638(a)(b) Public Law 96-514, making appropriations for the Department of the Interior and related agencies, 1981.)*

ADMINISTRATIVE PROVISIONS

Justification of Proposed Language Change

Search and rescue operations are conducted by park areas whenever emergencies arise. Such costs are funded from park operating programs. In recent years these costs have been increasing and it is anticipated that there will be increased search and rescue activity in the new Alaska park areas. It is not practical for park areas to program funds for emergency search and rescue. While it is possible for parks to absorb minor costs, a major effort could drastically impact ongoing programs.

In order to eliminate the possibility of seriously hampering park(s) operating programs in the event of major emergency search and rescue activity, approval of the proposed changes to the administrative provisions is requested.

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
CONSOLIDATED SCHEDULE OF PERMANENT POSITIONS
NATIONAL PARK SERVICE
DETAIL OF PERMANENT POSITIONS

	1980 actual	1981 estimate	1982 estimate
ES-6	1	1	1
ES-5	3	3	3
ES-4	6	6	6
ES-3	1	1	1
ES-2	5	5	5
ES-1	4	4	4
Subtotal	20	20	20
GS/GM-15	107	106	106
GS/GM-14	208	208	208
GS/GM-13	578	578	585
GS-12	889	886	897
GS-11	905	900	912
GS-10	11	11	11
GS-9	1,008	998	1,003
GS-8	40	40	40
GS-7	600	600	602
GS-6	560	563	563
GS-5	1,024	1,024	1,028
GS-4	365	366	367
GS-3	84	84	84
GS-2	9	9	9
Ungraded	3,268	3,260	3,273
Total permanent positions	9,676	9,653	9,708
Unfilled positions, end of year	-1,228	-673	-659
Total permanent employment, end of year	8,448	8,980	9,049

FY 1982
Consulting Service

National Park Service

(dollars in thousands)

Appropriation:	Amount
Operation of the National Park System Park Management	$175

Description of Need

Advisory groups (boards, commissions, committees, councils) are necessary in connection with the performance of duties imposed on the Department of the Interior and the National Park Service by law, by the Act of August 25, 1916 (16 U.S.C. 1, et seq.), as amended and supplemented; the Act of August 21, 1935, as amended, and other statutes related to the administration of the National Park System. Members of these advisory groups serve without compensation, other than travel and per diem expenses, and represent a wide range of expertise, including members of the academic and business communities, as well as political figures, conservationists, and park users.

FISCAL 1981 SUPPLEMENTAL

OPERATION OF THE NATIONAL PARK SYSTEM

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
OPERATION OF THE NATIONAL PARK SYSTEM
Program and Financing (in thousands of dollars)

Identification code 14-1036-1-1-303	1981 Presently Available	1981 Revised Estimate	1981 Proposed Supplemental
Program by activities:			
Direct Program:			
1. Park management	445,180	448,580	3,400
2. Forest fire suppression and rehabilitation of burned areas	1,200	2,000	800
3. Executive direction	6,372	6,372	---
4. Park, recreation, and wilderness planning	5,847	5,847	---
5. Cooperative programs	---	---	---
6. Statutory and contractual aid	2,901	2,901	---
Total direct program	461,500	465,700	4,200
Total reimbursable program	8,100	8,100	---
Total program costs, funded	469,600	473,800	4,200
Change in selected resources (undelivered orders)	---	---	---
10.0001 Total obligations	469,600	473,800	4,200
Financing:			
14.0001 Offsetting collections from non-federal sources	-8,100	-8,100	---
Budget authority (appropriation)	461,500	465,700	4,200
Relation of obligations to outlays:			
71.0001 Obligations incurred, net	461,500	465,700	4,200
72.4001 Obligated balance, start of year	67,137	67,137	---
74.4001 Obligated balance, end of year	-82,051	-82,051	---
90.0001 Outlays, excluding pay raise supplemental	430,415	434,615	4,200

Program and Financing (in thousands of dollars) (continued)

Identification code 14-1036-1-1-303		1981 Presently Available	1981 Revised Estimate	1981 Proposed Supplemental
91.1001	Outlays from wage-board pay raise supplemental.....	3,958	3,958	---
91.2001	Outlays from civilian pay raise supplemental.....	12,214	12,214	---

Object Classification (in thousands of dollars)

Identification code 14-1036-1-303		1981 Presently Available	1981 Revised Estimate	1981 Proposed Supplemental
Direct obligations:				
	Personnel compensation:			
111.101	Permanent positions	171,704	171,704	---
111.301	Positions other than permanent	92,085	92,905	820
111.501	Other personnel compensation	10,812	10,910	98
	Total personnel compensation	274,601	275,519	918
	Personnel benefits:			
112.101	Civilian	29,681	29,896	215
121.001	Travel and transportation of persons	11,015	11,286	271
122.001	Transportation of things	7,092	7,436	344
123.101	Standard level user changes	6,323	6,446	123
123.201	Communications, utilities, and other rent	22,634	22,634	---
124.001	Printing and reproduction	3,320	3,345	25
125.001	Other services	53,325	54,823	1,498
126.001	Supplies and materials	37,875	38,288	413
131.001	Equipment	9,054	9,447	393
132.001	Lands and structures	4,980	4,980	---
141.001	Grants, subsidies and contributions	1,600	1,600	---
	Total direct obligations	461,500	465,700	4,200
	Total reimbursable obligations	8,100	8,100	---
999.901	Total obligations	469,600	473,800	4,200

74-939 O—80——86

Personnel Summary

Identification code 14-1036-1-1-303	1981 Presently Available	1981 Revised Estimate	1981 Proposed Supplemental
Direct program:			
Total number of full-time permanent positions	8,414	8,414	---
Total compensable work-years:			
Full-time equivalent employment	15,259	15,309	50
Full-time equivalent of overtime and holiday hours	225	225	---
Average GS grade	8.86	8.86	---
Average GS salary	$20,615	$20,615	---
Average salary of ungraded positions	$18,827	$18,827	---

Justification

Alaska Parks

On December 2, 1980, the Alaska National Interest Lands Act (P.L. 96-487) was signed into law. The act authorized ten new park areas and major expansion of three existing areas for a total increase in the size of the Service of 43.6 million acres.

Congress appropriated $3.0 million in fiscal 1981 for these new areas. For the Service to effectively initiate operations in all of these areas, and begin meeting the legislative requirements of the act, an additional $3.4 million is required for fiscal 1981. These funds will be used to establish a Park Service presence in each area, provide some minimal resource management and visitor protection, monitor subsistence use, process mining and mineral applications, and generally begin operating the areas in accordance with the new law. Two specific provisions of the law for which funding is being requested are: (1) $150,000 to prepare a map and legal description of each park area (section 103b) and (2) $270,000 to initiate the subsistence management and use program as mandated by Title VIII of the act.

The balance of the funds will be used for management and operation of the new areas.

The funding distribution by area is as follows:

Distribution of Funds by Area

New Areas	1981 Appropriation ($000)	1981 Supplemental Request ($000)
Aniakchak National Monument and Preserve	$ 60	$ 109
Bering Land Bridge National Preserve	100	267
Cape Krusenstern National Monument	318	112
Gates of the Artic National Park and Preserve	540	479
Kenai Fjords National Park	100	154
Kobuk Valley National Park	34	87
Lake Clark National Park and Preserve	400	353
Noatak National Preserve	48	170
Wrangell-St. Elias National Preserve	600	408
Yukon-Charley Rivers National Preserve	100	227
Glacier Bay National Park	--	110
Katmai National Park	--	125
Denali National Park and Preserve	50	379
	2,350	2,980
Regionwide Programs		
Mining and Minerals	650	--
Maps and Legal Descriptions	--	150
Subsistence Management and Use	--	270
Subtotal	650	420
Total	3,000	3,400

Forest Fire Suppression and Rehabilitation of Burned Areas

This supplemental requests funds for deficits incurred in suppressing and rehabilitating wildfires. It also covers increased preparedness during periods of increased fire danger during fiscal 1980.

A total of 889 wildfires burned 57,763 acres in fiscal 1980. While the number of wildfires is close to the average over the past 5 years, the acreage is double that of the 5-year average. Major fires were recorded in the following park lands:

	Acres	Cost
Big Bend National Park	202	$106,180
Carlsbad Caverns National Park	3,580	12,571
Chickamauga and Chattanooga National Military Park	165	10,760
Everglades National Park	516	14,270
Grand Canyon National Park	183	103,422
Great Smoky Mountains National Park	38	10,432
Guadalupe Mountains National Park	115	10,562
Joshua Tree National Monument	170	294,834
Lake Mead National Recreation Area	4,800	11,704
Sequoia-Kings Canyon National Park	565	12,484
Voyageurs National Park	160	28,907
Zion National Park	150	13,012
Subtotal	10,644	629,138
All other suppression costs	--	485,951
Total Suppression	--	1,115,089
Emergency presuppression costs, 42 incidents	--	943,799
Grand Total	10,644	2,058,888

Although a total of 2,288,000 was appropriated for Forest Fire Suppression and Rehabilitation of Burned Areas in fiscal 1980, $1,088,000 was the supplemental portion to cover deficits in this account for fiscal 1979. That left an availability in fiscal 1980 of $1,200,000. Actual costs in fiscal 1980 were $2,058,888, resulting in a fiscal 1980 deficit of $858,888.

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Budget Justification, Fiscal Year 1982

Table of Contents

Item	Page Number
Summary Data	
Organizational Chart	GS-4
General Statement	GS-5
Appropriation Language and Citations	GS-8
Activity/Subactivity Crosswalk	GS-15
Appropriation: Surveys, Investigations, and Research	
Appropriation Language	GS-17
Program and Financing Schedule	GS-18
Object Classification	GS-21
Personnel Summary	GS-23
Appropriation Summary Statement	GS-24
Summary of Requirements	GS-28
Justification of Adjustments to Base and Built-in Changes	GS-31
Justification of Program and Performance by Activity:	
National Mapping, Geography and Surveys	GS-32
Geologic and Mineral Resource Surveys and Mapping	GS-58
Water Resources Investigations	GS-137
Conservation of Lands and Minerals	GS-177
Earth Sciences Applications	GS-212
General Administration	GS-223
Facilities	GS-236

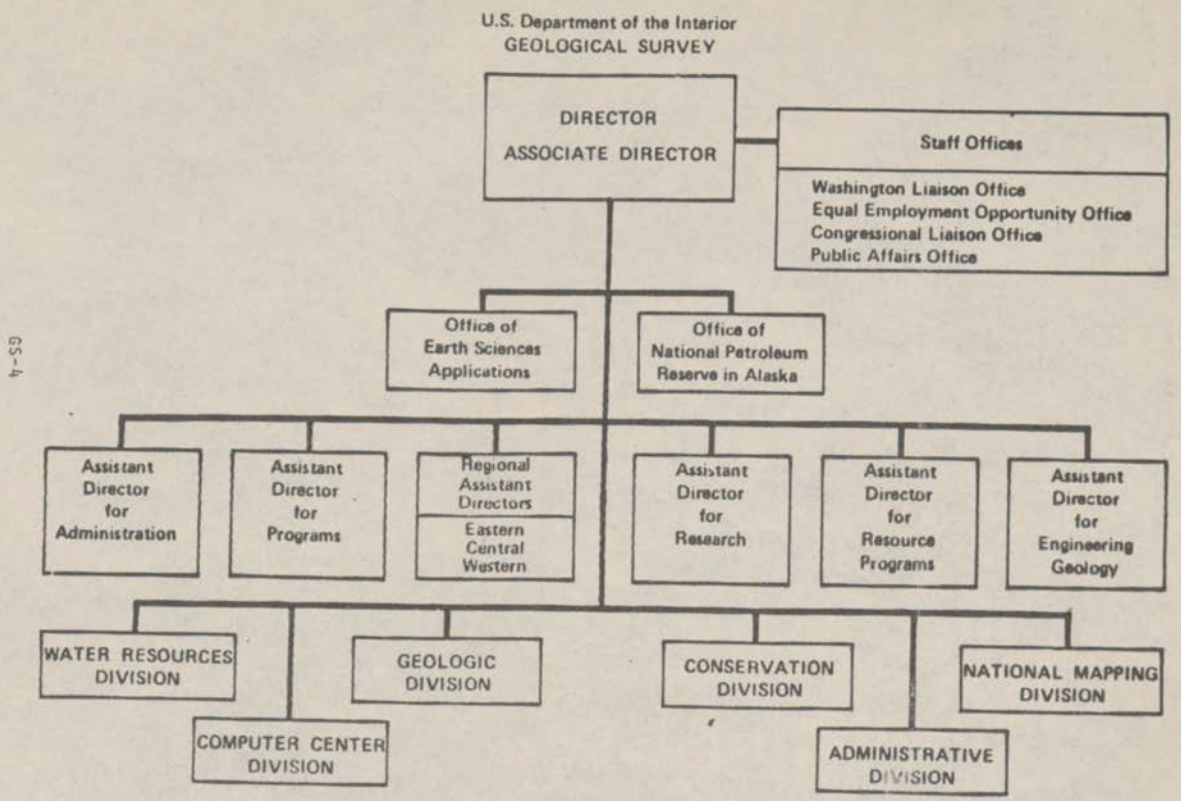
(1363)

Table of Contents (Continued)

Item	Page Number
Appropriation: Exploration of National Petroleum Reserve in Alaska	
Appropriation Language	GS-242
Program and Financing Schedule	GS-242
Personnel Summary	GS-243
Object Classification	GS-244
Appropriation Summary Statement	GS-245
Summary of Requirements	GS-246
Justification of Program and Performance by Activity:	
Evaluation and Assessment of NPRA	GS-248
Barrow Area Gas Operation, Exploration and Development	GS-251
Environmental Restoration	GS-253
Digital Cartography	
Justification of Program and Performance	GS-254
Program and Financing	GS-257
Object Classification	GS-258
Personnel Summary	GS-258
Sundry Statements:	
Funding of Geological Survey Programs	GS-260
Common Program Services	GS-263
Justification for Purchase of Motor Vehicles	GS-267
Consulting Services	GS-268
Detail of Permanent Positions	GS-269

Table of Contents (Continued)

Item	Page Number
Supplementals Pending	
Alaska Lands	GS-271
Oil Shale Leasing	GS-273
Royalty Management	GS-275


U.S. Department of the Interior
GEOLOGICAL SURVEY
DIRECTOR
ASSOCIATE DIRECTOR
Staff Offices
Washington Liaison Office
Equal Employment Opportunity Office
Congressional Liaison Office
Public Affairs Office
Office of Earth Sciences Applications
Office of National Petroleum Reserve in Alaska
Assistant Director for Administration
Assistant Director for Programs
Regional Assistant Directors
Eastern
Central
Western
Assistant Director for Research
Assistant Director for Resource Programs
Assistant Director for Engineering Geology
WATER RESOURCES DIVISION
GEOLOGIC DIVISION
CONSERVATION DIVISION
NATIONAL MAPPING DIVISION
COMPUTER CENTER DIVISION
ADMINISTRATIVE DIVISION

65-44

1366

General Statement

The Geological Survey's basic authorization for Surveys, Investigations, and Research (SIR) is included in an Act of March 3, 1879, (43 U.S.C. 31). The basic authority, although brief, is very broad in scope as follows:

> "The Director of the Geological Survey, which office is established under the Interior Department, shall be appointed by the President by and with the advice and consent of the Senate. This officer shall have the direction of the Geological Survey, and the classification of the public lands and examination of the geological structure, mineral resources, and products of the national domain. The Director and members of the Geological Survey shall have no personal or private interests in the lands or mineral wealth of the region under survey, and shall execute no surveys or examinations for private parties or corporations."

This authority has been amplified and expanded by administrative action and by additional legislative action such as 43 U.S.C. 31(b), which extended the Survey's jurisdiction outside the national domain when determined by the Secretary to be in the national interest. A summary of the Survey's appropriation language and citations from the U.S. Codes are shown on pages GS-8 - GS-14.

The programs included in the SIR appropriation are generally classified as parts of two major missions: One is to undertake research, fact finding, and mapping aimed at enlarging the Nation's knowledge about the extent, distribution, and character of its natural resources, and about the geologic processes and hazards that affect the development and use of the land and the physical environment. The other is to classify and evaluate the mineral resources of the Federal lands and to supervise mineral operations on Federal and Indian lands.

The programs and missions included in the SIR appropriation are conducted through five operating units: the National Mapping, Geologic, and Water Resources Divisions, and the Office of Earth Sciences Applications, all responsible for research and fact finding; and the Conservation Division which has additional responsibilities for the classification and regulatory functions. There are two support service Divisions, the Administrative and Computer Center Divisions.

The Naval Reserves Production Act of 1976 (P.L. 94-258) transferred jurisdiction of the National Petroleum Reserve in Alaska, formerly Naval Petroleum Reserve Number 4, from the Department of the Navy to the Department of the Interior on June 1, 1977. The Secretary of the Interior has charged the Geological Survey with the responsibility of continuing the Navy's exploration program and for continuing the supply of natural gas to the natives and Government installations at or near Barrow, Alaska. This program is carried out by the Survey's Office of National Petroleum Reserve in Alaska, under the Director, Geological Survey.

The following summary compares the 1981 appropriation and the 1982 request: (Dollar amounts in thousands)

Appropriation	1981 Appropriation Perm. Pos.	1981 Appropriation Amount	1982 Estimate Perm. Pos.	1982 Estimate Amount	Incr. (+) or Decrease (-) Perm. Pos.	Incr. (+) or Decrease (-) Amount	Perm. Empl. 12/31
Surveys, Investigations & Research	8,101	$486,537	8,069	$567,191	-32	$+80,654	7,654
Exploration of National Petroleum Reserve in Alaska	12	107,001	7	2,600	-5	-104,401	26
Digital Cartography	...	...	32	6,034	+32	+6,034	...
Total	8,113	593,538	8,108	575,825	-5	-17,713	7,680

Highlights of the FY 1982 Request

The changes between the 1981 programs and the requested 1982 budget are highlighted below by appropriation.

SURVEYS, INVESTIGATIONS, AND RESEARCH

The programs of the Geological Survey are designed to provide basic scientific data concerning water, land, energy, and mineral resources, and to supervise the exploration, development, and production of minerals and mineral fuels on leased Federal, Indian, and Outer Continental Shelf lands.

The increase shown for FY 1982 provides for activities related to implementation of the Alaska National Interest Lands Conservation Act; for orthophotoquads; for increased activities in the geologic hazards program, including earthquakes, operating support in the volcano program, and expanding the program of research in ground failure and construction hazards mitigation; for expanding the 1:100,000 scale mapping in the coal resource appraisal program in support of Bureau of Land Management land-use planning needs; for acceleration of oil shale activities; for increased uranium/thorium investigations; for environmental studies in marine frontier areas; for studies of the evolution of the Atlantic Continental margins; for studies of the deep structure of the Continental U.S., for improved productivity in search of metallic minerals; for initiating a program to study the effects of acid rain on the water, land, and subsurface environment; for initiating a program aimed at developing information required to mitigate the problem of ground water contamination that has resulted from improper toxic waste disposal practices; for conducting a research program to gain a better understanding of the hydrologic processes in Alaska and other cold regions dominated by snow, ice, and permafrost; for conducting about 100 additional water-quality studies of highest priority in the Federal-State cooperative program involving river quality assessment, ground water-quality, energy resource extraction and oil shale conversion, urban runoff, and lakes and wetlands; for additional State participation in

the water-use program; for additional workload resulting from exploration and development of new OCS frontier areas and additional workload related to environmental concerns, prompt and efficient exploration and development of resources, and planning for onshore impacts associated with OCS oil and gas exploration and development activities; for the Resource Evaluation Program for acquisition of exclusive high resolution seismic data, and common depth point seismic data related to the expanded OCS lease schedule; for increased workload onshore resulting from expanded industry activity; for uranium lease supervision; and for continued implementation of the royalty management system.

To partially offset these increases, reductions are being proposed in the program of world energy assessments which began in 1981; in the water data collection and analysis program; and in activities in the OCS reserve inventory program and the program for OCS platform verification.

EXPLORATION OF THE NATIONAL PETROLEUM RESERVE IN ALASKA

The National Petroleum Reserve in Alaska program was designed to continue the Navy's exploration program of the Reserve, to continue supplying natural gas to the natives and government installations at or near Point Barrow, Alaska, and for environmental restoration of the Reserve.

NPRA Evaluation and Assessment Program--Under this program the Geological Survey has continued the Navy's NPRA petroleum exploration program which planned for the acquisition of 10,000 line miles of seismic data and for drilling 26 exploratory wells. The FY 1981 program, which consists of the collection of 589 line miles of seismic data and the drilling of six exploratory wells, will complete the NPRA petroleum exploration program. Under the combined Navy/Interior exploration program over 13,000 line miles of seismic data will have been collected and 28 exploratory wells will have been drilled. The seismic and drilling data collected by this program are made available for public distribution through NOAA's National Geophysical and Solar-Terrestrial Data Center in Boulder, Colorado. Activities to close-out this program will begin in FY 1981 and be completed during FY 1982 with funds appropriated in FY 1981.

Barrow area Program--Natural gas will continue to be supplied to the native village of Barrow and other native communities and Federal installations at or near Point Barrow, Alaska. There has been some interest expressed in transferring ownership and operational responsibility of the Barrow gas fields to an entity of State or local government. However, authorization for such a transfer does not exist at this time.

DIGITAL CARTOGRAPHY

This program will produce and make available digital data from existing map series in formats suitable for computer-based analysis. Initial areas of coverage will be determined on a priority basis to meet the needs of Federal agencies. This program is currently financed by direct appropriation. Legislation will be proposed to establish a revolving fund that will finance a digital cartographic data program. The revolving fund will facilitate the growth of the data base and the services provided. Amounts charged for digital cartographic products will eventuallly be the primary revenue source for the fund. It is anticipated that appropriations will be required for several years to provide working capital.

DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY
Appropriation: Surveys, Investigations, and Research

Appropriation language and citations:

1. For expenses necessary for the Geological Survey to perform surveys, investigations, and research covering topography, geology, and the mineral and water resources of the United States,

43 U.S.C. 31(a)

43 U.S.C. 31(a) provides for establishment of the Office of the Director of the Geological Survey, under the Interior Department, and that this officer shall have direction of the Geological Survey, and the classification of the public lands and examination of the geological structure, mineral resources, and products of the national domain.

2. its Territories and possessions, and other areas as authorized by law;

43 U.S.C. 31(b)
43 U.S.C. 1332(a)
43 U.S.C. 1340

43 U.S.C. 31(b) provides that, "The authority of the Secretary of the Interior, exercised through the Geological Survey of the Department of the Interior, to examine the geological structure, mineral resources, and products of the national domain, is expanded to authorize such examinations outside the national domain where determined by the Secretary to be in the national interest."

43 U.S.C. 1332(a) provides that, "It is the declared policy of the United States, that the subsoil and seabed of the Outer Continental Shelf appertain to the United States and are subject to its jurisdiction, control, and power of disposition as provided in this subchapter."

43 U.S.C. 1340 provides that, "Any agency of the United States and any person authorized by the Secretary may conduct geological and geophysical exploration in the Outer Continental Shelf ... ."

3. Classify lands as to mineral character and water and power resources;

43 U.S.C. 31(a)

43 U.S.C. 31(a) provides that, "The Director of the Geological Survey, ... shall have the direction of the Geological Survey, and the classification of public lands and examination of the geological structure, mineral resources, and products in the National domain. ..."

4. give engineering supervision to power permits

43 U.S.C. 959, 961

43 U.S.C. 959 provides that, "The Secretary of the Interior is authorized and empowered, ... to permit the use of right of way through the public lands, forest, and other reservations of the United States ... for electrical plants, poles, and lines for the generation and distribution of electrical power, ... Provided, that such permits shall be allowed within or through any of said parks or any forest, military, Indian, or other reservation only upon the approval of the Chief Officer of the Department under whose supervision such park or reservation falls and upon a finding by him that the same is not incompatible with the public interest: ..."

43 U.S.C. 961 provides that, "The head of the department having jurisdiction over the lands be, and he is, authorized and empowered, ... to grant an easement for right of way, ... over, across and upon the public lands and reservations of the United States for electrical poles and lines for the transmission and distribution of electrical power ... upon a finding by him that the same is not incompatible with the public interest ..."

5. and Federal Energy Regulatory Commission licensees;

16 U.S.C. 797(c)

16 U.S.C. 797(c) states that, "To cooperate with the executive departments and other agencies of States or National Governments in such investigations; and for such purposes the several departments and agencies of the National Government are authorized and directed upon the request of the commission, to furnish such records, papers and information in their possession as may be requested by the commission, and temporarily to detail to the commission such officers or experts as may be necessary in such investigations."

6. enforce departmental regulations applicable to oil, gas, and other mining leases, permits, licenses, and operating contracts;

25 U.S.C. 396, 396(d)
30 U.S.C. 181
30 U.S.C. 189
43 U.S.C. 1334(a)(1)

25 U.S.C. 396 Provides that all lands alloted to Indians may be leased for mining purposes as deemed advisable by the Secretary and that the Secretary of the Interior is authorized to perform any and all acts and make such rules and regulations as may be necessary for the carrying out of the provisions of this section (Title 25-Indians).

25 U.S.C. 396(d) Provides that, "All operations under any oil, gas, or other mineral lease issued pursuant to the terms of any act affecting restricted Indian lands shall be subject to the rules and regulations promulgated by the Secretary of the Interior. ..."

30 U.S.C. 181 Provides that lands owned by the United States containing various mineral deposits, sand, rock, oil, gas, and other materials shall be subject to disposition. This section further provides that the United States reserves ownership of and the right to extract helium from all gas produced from lands leased or otherwise granted under the provisions of this chapter, under rules and regulations as may be prescribed by the Secretary of the Interior.

30 U.S.C. 189 This section empowers the Secretary of the Interior to prescribe necessary and proper rules and regulations to carry out the purposes of this chapter (Title 30 - Mineral Lands and Mining).

43 U.S.C. 1334(a)(1) provides that, "The Secretary shall administer the provisions of this subchapter relating to the leasing of the Outer Continental Shelf, and shall prescribe such rules and regulations as may be necessary to carry out such provisions..."

7. control the interstate shipment of contraband oil as required by law;

15 U.S.C. 715(j)

15 U.S.C. 715(j) This section and Executive Order Number 10752, dated February 12, 1958, 23 F.R. 973, provides that, "The Secretary of the Interior is hereby designated and appointed as the agent of the President for the execution of all the powers and functions vested in the President by the act of February 22, 1935, 49 Stat. 30, entitled "An Act to regulate interstate and foreign commerce in petroleum and it products by prohibiting the shipment in such commerce of petroleum and its products produced in violation of State law, and for other purposes," as amended (15 U.S.C. 715 et seq.). ..."The Executive Order further provides, 'The Secretary of the Interior may make such provisions in the Department of the Interior as he may deem appropriate to administer the said act.'"

8. administer the minerals exploration program;

30 U.S.C. 641

30 U.S.C. 641 provides that, "The Secretary of the Interior is hereby authorized and directed, in order to provide for discovery of additional domestic mineral reserves, to establish and maintain a program for exploration by private industry within the United States, its territories and possessions for such minerals, excluding organic fuels, as he shall from time to time designate, and to provide Federal financial assistance on a participating basis for that purpose."

9. and publish and disseminate data relative to the foregoing activities;

43 U.S.C. 41
44 U.S.C. 1318
44 U.S.C. 1320

43 U.S.C. 41 provides for the publication of geological and economic maps, illustrating the resources and classification of the lands, and reports upon general and economic geology and paleontology. This section also provides for the scientific exchange and sale of such published material.

44 U.S.C. 1318 provides for publication, by the Geological Survey, of various reports, including a report of mineral resources of the United States, bulletins and professional papers, and monographs. This section also specifies, in some instances, numbers of copies to be printed and the distribution thereof.

44 U.S.C. 1320 provides for the distribution by the Director of the Geological Survey of copies of sale publications to public libraries.

10. $, of which $ shall be available only for cooperation with States or municipalities for water resources investigations: and

43 U.S.C. 48

43 U.S.C. 48 provides that, "...amounts received by the Geological Survey from any State, Territory or political subdivision thereof in carrying on work involving cooperation to be used in reimbursing the appropriation from which the expense of such work was paid, was from the act making appropriations for the Department of the Interior for the fiscal year ending June 30, 1928, and for other purposes, act January 12, 1927, ch. 27 § 1, 44 Stat. 963, and has not been repeated in subsequent appropriation acts."

Similar provisions were contained in the following act: 1926--May 10, 1926, ch. 277, § 1, 44 Stat. 487.

11. Provided, That no part of this appropriation shall be used to pay more than one-half the cost of any topographic mapping or water resources investigations carried on in cooperation with any State or municipality.

43 U.S.C. 50

43 U.S.C. 50 provides that, "The share of the Geological Survey in any topographic mapping or water resources investigations carried on in cooperation with any State or municipality shall not exceed 50 per centum of the cost thereof. ..."

DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY
Appropriation: Surveys, Investigations, and Research
ADMINISTRATIVE PROVISIONS

1. The amount appropriated for the Geological Survey shall be available for purchase of not to exceed passenger motor vehicles, for replacement only;

31 U.S.C. 638a(a)(b)

31 U.S.C. 638a(a) provides that, "Unless specifically authorized by the appropriation concerned or other law, no appropriation shall be expended to purchase or hire passenger motor vehicles for any branch of the Government. ..."

31 U.S.C. 638a(b) provides that, "Excepting appropriations for the military and Naval Establishments, no appropriation shall be available for the purchase, maintenance, or operation of any aircraft unless specific authority for the purchase, maintenance, or operation thereof has been or is provided in such appropriation."

2. reimbursement to the General Services Administration for security guard services, contracting for the furnishing of topographic maps and for the making of geophysical or other specialized surveys when it is administratively determined that such procedures are in the public interest;

No specific authority

These provisions are required by reason of rulings of the Comptroller General that specific authority is required for reimbursing the General Services Administration for guard services (B-87255); and for contracting with private persons for the performance of duties with which the agency is specifically charged (15 Comp. Gen. 951).

3. construction and maintenance of necessary buildings and appurtenant facilities;

No specific authority

The Organic Act of 1879, establishing the Geological Survey and providing for "...examination of the geological structure, mineral resources, and products of the national domain" (43 U.S.C. 31) is general authorization for construction of special-purpose laboratory buildings. Specific authorization by the Congressional committees on public works is not needed because of the highly specialized purposes of the building. 40 U.S.C. 612: "The term 'public building' means any building...which is generally suitable for office or storage space...but shall not include any such buildings and construction projects: ...(E) on or used in connection with ...or for nuclear production, research, or development projects."

41 U.S.C. 12: "No contract shall be entered into for the erection, repair, or furnishing of any public building...which shall bind the government to pay a larger sum of money than the amount in the Treasury appropriated for the specific purpose."

4. acquisition of lands for observation wells;

43 U.S.C. 36(b)

43 U.S.C. 36(b) provides that, "The Secretary of the Interior may, on behalf of the United States and for the use by the Geological Survey in gaging streams and underground water resources, acquire lands by donation or when funds have been appropriated by Congress by purchase or condemnation. ..."

5. expenses of the U.S. National Committee on Geology;

43 U.S.C. 31

43 U.S.C. 31 participation in and payment of expenses of the U.S. National Committee on Geology is a proper and necessary function of the Geological Survey, and so is authorized by the Survey's Organic Act of March 3, 1879, 43 U.S.C. 31. This Act provides that, "...The Director of the Geological Survey, which office is established, under the Interior Department, shall be appointed by the President by and with the advice and consent of the Senate. This officer shall have the direction of the Geological Survey, and the classification of the public lands and examination of the geological structure, mineral resources, and products of the national domain. ..."

6. and payment of compensation and expenses of persons on the rolls of the Geological Survey appointed, as authorized by law, to represent the United States in the negotiation and administration of interstate compacts.

66 Stat. 453

The above language first appeared in the Appropriation Act for FY 1953, P.L. 82-470(66 Stat. 453), and has been repeated in each Act since that date. Article I, Section 10, paragraph 3. of the United States Constitution provides that, "No State shall, without the consent of Congress, lay any duty on tonnage, keep troops, or ships of war in time of peace, enter into any agreement or compact with another State, or with a foreign power, or engage in war, unless actually invaded, or in such imminent danger as will not admit or delay." (emphasis supplied)

Thus each interstate compact must be approved by the Congress and signed by the President. The Public Law approving each interstate compact represents the authorizing legislation.

74-939 O—80——87

DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY
Appropriation: Exploration of National Petroleum Reserve in Alaska

Appropriation language and citations:

"For necessary expenses in carrying out the provisions of section 104 of Public Law 94-258, $_____, to remain available until expended."

The Naval Reserves Production Act of 1976 (P.L. 94-258) transferred jurisdiction of the National Petroleum Reserve in Alaska from the Department of the Navy to the Department of the Interior on June 1, 1977. The Secretary of the Interior has charged the Geological Survey with carrying out the responsibilities of section 104 of the Act.

Surveys, Investigations, and Research
Activity/Subactivity Change Crosswalk
(Dollars in thousands)

Format of FY 1981 Congressional Budget Activity/Subactivity	FY 1982 Request	Format of FY 1982 Congressional Budget Activity/Subactivity	FY 1982 Request
Topographic Surveys and Mapping:	$ 84,571	Nat'l Mapping, Geography & Surveys:	$ 78,537
(1) Quadrangle Mapping & Revision	61,430	(1) Primary Quad. Mapping	41,787
(2) Digital Mapping	6,034	(2) Map Revision & Orthophotoquads	16,943
(3) Small-Scale & Special Mapping	9,575	(3) Small, Intermediate and Special Mapping	15,894
(4) Nat'l Cartographic Info. Ctr.	3,913	(4) Cartographic and Geographic Information	3,913
(5) Geography	3,619		
Geologic and Mineral Resource Surveys and Mapping:	188,609	Geologic and Mineral Resource Surveys and Mapping:	188,609
(1) Land Resource Surveys	77,213	(1) Geologic Hazards Surveys	56,639
(2) Mineral Resource Surveys	44,338	(2) Land Resource Surveys	20,574
(3) Energy Resource Surveys	42,114	(3) Mineral Resource Surveys	44,338
(4) Offshore Geologic Surveys	24,944	(4) Energy Geologic Surveys	42,114
		(5) Offshore Geologic Surveys	24,944
Water Resources Investigations:	125,738	Water Resources Investigations:	125,738
No Change		No Change	
Conservation of Lands and Minerals:	139,065	Conservation of Lands and Minerals:	139,065
(1) Outer Continental Shelf Lands	79,969	(1) Outer Continental Shelf Lands	75,982
(2) Federal and Indian Lands	59,096	(2) Federal and Indian Lands	46,913
		(3) Royalty Management	16,170
Land Information and Analysis:	19,334	Earth Sciences Applications:	19,334
(1) Earth Resources Observ. Sys. .	12,554	(1) Earth Resources Observ. Systems	12,554
(2) Environ. Impact Analysis	4,102	(2) Environmental Affairs	4,102
(3) Land Resource Data Applications	2,678	(3) Land Resource Data Applications	2,678
General Administration:	3,983	General Administration:	3,983
Facilities:	11,925	Facilities:	11,925
(1) Standard Level User Charge ...	8,467	(1) National Center - SLUC	8,467
(2) Facilities Management	3,458	(2) National Center - Fac. Mgmt. .	3,458
(3) Menlo Park Storage Facility ..	...		
TOTAL-SIR	573,225	TOTAL-SIR	567,191
		Digital Cartography:	6,034

NOTE: Explanation of changes in structure included separately under each activity narrative section

U.S. GEOLOGICAL SURVEY
Analysis by Activity
Surveys, Investigations, and Research
(Dollars in thousands)

Activity	FY 1980 Actual (B.A.)	FY 1981 Approp. Enacted	FY 1981 Revised Estimate	FY 1982 Base	FY 1982 Estimate	Increase (+) or Decrease (-) 1982 Est. over 82 Base
National Mapping, Geography & Surveys	$72,767	$ 72,683	$ 76,828	$79,726	$ 78,537	$ -1,189
Geologic & Mineral Resource Surveys & Mapping	147,067	153,415	159,894	166,631	188,609	+21,978
Water Resources Investigations	108,742	111,892	117,151	119,088	125,738	+6,650
Conservation of Lands & Minerals	106,242	114,456	118,435	129,273	139,065	+9,792
Earth Sciences Applications	18,941	18,439	19,124	19,334	19,334	...
General Administration	3,776	3,811	3,960	3,983	3,983	...
Facilities	12,327	11,841	11,909	11,925	11,925	...
TOTAL, SIR	469,862	486,537	507,301a/	529,960b/	567,191	+37,231

a/ Includes pay cost supplemental pending, $20,909; and reduction of $145 for funds to be transferred to the Office of the Solicitor in FY 1981.

b/ Includes supplementals pending for Royalty Management, $7,400; Oil Shale Leasing, $4,000; and Alaska Lands, $6,200.

GS-16

1378

ENERGY AND MINERALS

GEOLOGICAL SURVEY

SURVEYS, INVESTIGATIONS, AND RESEARCH

For expenses necessary for the Geological Survey to perform surveys, investigations, and research covering topography, geology, and the mineral and water resources of the United States, its Territories and possessions, and other areas as authorized by law (43 U.S.C. 31, 1332, and 1340); classify lands as to mineral character and water and power resources; give engineering supervision to power permittees and Federal Energy Regulatory Commission licensees; enforce departmental regulations applicable to oil, gas, and other mining leases, permits, licenses, and operating contracts; control the interstate shipment of contraband oil as required by law (15 U.S.C. 715); administer the minerals exploration program (30 U.S.C. 641); and publish and disseminate data relative to the foregoing activities; $567,191,000, of which $46,696,000 shall be available only for cooperation with States or municipalities for water resources investigations: Provided, That no part of this appropriation shall be used to pay more than one-half the cost of any topographic mapping or water resources investigations carried on in cooperation with any State or municipality.
(43 U.S.C. 31a, b, 50, 1340; Public law 96-514, making appropriations for the Department of the Interior and Related Agencies, 1981).

ADMINISTRATIVE PROVISIONS

The amount appropriated for the Geological Survey shall be available for purchase of not to exceed 19 passenger motor vehicles, for replacement only; reimbursement to the General Services Administration for security guard services; contracting for the furnishing of topographic maps and for the making of geophysical or other specialized surveys when it is administratively determined that such procedures are in the public interest; construction and maintenance of necessary buildings and appurtenant facilities; acquisition of lands for observation wells; expenses of the U.S. National Committee on Geology; and payment of compensation and expenses of persons on the rolls of the Geological Survey appointed, as authorized by law, to represent the United States in the negotiation and administration of interstate compacts. (31 U.S.C. 638a(a) and (b); 43 U.S.C. 31, 36(b); 66 Stat 453; P.L. 96-514, making appropriations for the Department of the Interior and Related Agencies, 1981).

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
SURVEYS, INVESTIGATIONS, AND RESEARCH
Program and Financing (in thousands of dollars)

	FY 1980 Actual	FY 1981 Estimate	FY 1982 Estimate
Program by activities:			
Direct program			
1. National mapping, geography and surveys	71,086	76,828	78,537
2. Geologic and mineral resource surveys and mapping	143,039	159,894	188,609
3. Water resources investigations	104,906	117,151	125,738
4. Conservation of lands and minerals	95,921	118,435	139,065
5. Earth sciences applications	16,099	19,124	19,334
6. General administration	3,124	3,960	3,983
7. Facilities	12,288	11,909	11,925
Total, direct program	446,463	507,301	567,191
Reimbursable program			
1. National mapping, geography and surveys	9,561	11,796	11,588
2. Geologic and mineral resource surveys and mapping	23,919	58,364	63,725
3. Water resources investigations	58,093	80,483	87,733
4. Conservation of lands and minerals	467	537	217
5. Earth sciences applications	4,673	5,914	3,825
Miscellaneous services to other accounts	4,907	3,330	4,149
Total, reimbursable program	101,620	160,424	171,237
Total program costs, funded - obligations	548,083	667,725	738,428
Change in selected resources (undelivered orders)	22,834	...	...
10.00 Total obligations	570,917	667,725	738,428

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
SURVEYS, INVESTIGATIONS, AND RESEARCH
Program and Financing (in thousands of dollars)

		FY 1980 Actual	FY 1981 Estimate	FY 1982 Estimate
Financing:				
	Offsetting collections from:			
11.00	Federal funds	-37,954	-90,979	-95,092
14.00	Non-Federal sources	-63,666	-69,445	-76,145
17.00	Recovery of prior year obligations	-9	...	...
21.40	Unobligated balance available, start of year	-1	-10	...
24.40	Unobligated balance available, end of year	10	...	...
25.00	Unobligated balance lapsing	565	10	...
	Budget authority	469,862	507,301	567,191
Budget authority:				
40.00	Appropriation	471,155	486,537	569,225
40.01	Appropriation rescinded (P.L. 96-304)	-1,005	...	...
41.00	Transferred to other accounts	-288	-145	-2,034
43.00	Appropriation (adjusted)	469,862	486,392	567,191
44.10	Supplemental for wage board pay raises	...	586	...
44.20	Supplemental for civilian pay raises	...	20,323	...
Relation of obligations to outlays:				
71.00	Obligations incurred, net	469,297	507,301	567,191
	Obligated balance, start of year:			
72.40	Appropriation	68,197	68,017	80,036
72.98	Fund balance	...	...	13,387
73.98	Obligated balance transferred, net	...	13,387	...
	Obligated balance, end of year:			
74.40	Appropriation	-68,017	-80,036	-92,959
74.98	Fund balance	...	-13,387	-13,387
77.00	Adjustments in expired accounts	-3,275	...	...
78.00	Adjustments in unexpired accounts	-9	...	...
90.00	Outlays, excluding pay raise supplementals	466,193	475,000	553,641
91.00	Outlays from wage-board pay raise supplemental	...	570	16
91.20	Outlays from civilian pay raise supplemental	...	19,712	611

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
CONSOLIDATED WORKING FUND
Program and Financing (in thousands of dollars)

		FY 1980 Actual	FY 1981 Estimate	FY 1982 Estimate
Program by activities:				
1.	National mapping, geography and surveys	363	...	...
2.	Geologic and mineral resource surveys and mapping	22,770	...	...
3.	Water resources investigations	17,705	...	...
5.	Earth sciences applications	126	...	...
10.00	Total program costs, funded - obligations	40,964	...	...
Financing:				
	Offsetting collections from:			
11.00	Federal funds	-40,964	...	...
	Budget authority	...	...	...
Relation of obligations to outlays:				
71.00	Obligations incurred, net	...	...	...
72.98	Obligated balance, start of year: Fund balance	17,847	...	...
73.98	Obligated balance transferred net	-13,387		
90.00	Outlays	4,460	...	...

Summary of Requirements by Object Class
(Dollar amounts in thousands)

Appropriation: Surveys, Investigations, and Research

Object Class		FY 1982 Base			FY 1982 Estimate			Inc. (+) or Dec. (-)		
		Pos.	Avg.#	Amount	Pos.	Avg.#	Amount	Pos.	Avg.#	Amount
11.0	Personnel comp.:									
11.1	Permanent positions -----	8,101	7,804	218,407	8,069	7,815	218,704	-32	+11	+297
11.3	Pos. other than permanent	2,153	3,497	43,765	2,143	3,526	44,200	-10	+29	+435
11.5	Other personnel comp. ---	...	...	5,937	...	...	5,930	...	...	-7
	Total pers. comp. -----	10,254	11,301	268,109	10,212	11,341	268,834	-42	+40	+725
12.1	Personnel benefits ------			27,816			27,830			+14
13.0	Benefits for former pers.			380			470			+90
21.0	Travel & trans. of persons			18,808			19,987			+1,179
22.0	Transportation of things			5,607			6,064			+457
23.1	SLUC ----------			30,092			30,342			+250
23.2	Comm., util., & other rents			23,492			24,426			+934
24.0	Printing & reproduction -			4,169			5,148			+979
25.0	Other services ----------			108,541			133,376			+24,835
26.0	Supplies and materials --			20,986			23,549			+2,563
31.0	Equipment ----------			19,885			23,190			+3,305
41.0	Grants, subsidies, & contrib.			1,955			3,855			+1,900
42.0	Insurance claims & indemnities			120			120			--
	Total requirements --			529,960			567,191			+37,231

Summary of Requirements by Object Class
(Dollar amounts in thousands)

Reimbursements and Consolidated Working Funds

Object Class		FY 1982 Base			FY 1982 Estimate			Inc. (+) or Dec. (-)		
		Pos.	Avg.#	Amount	Pos.	Avg.#	Amount	Pos.	Avg.#	Amount
11.0	Personnel comp.:									
11.1	Permanent positions -----	1,621	1,868	52,296	1,626	1,880	52,620	+5	+12	+324
11.3	Pos. other than permanent	666	970	16,851	666	877	15,456	...	-93	-1,395
11.5	Other personnel comp. ---	...	...	1,899	...	...	2,079	...	...	+180
	Total pers. comp. -----	2,287	2,838	71,046	2,292	2,757	70,155	+5	-81	-891
12.1	Personnel benefits ------			6,815			7,038			+223
21.0	Travel & trans. of persons			6,097			6,721			+624
22.0	Transportation of things			2,576			2,887			+311
23.1	Standard level user charges			4,224			4,469			+245
23.2	Comm., util., & other rent			6,580			7,494			+914
24.0	Printing & reproduction -			1,033			1,488			+455
25.0	Other services ----------			43,440			50,618			+7,178
26.0	Supplies & materials ----			9,246			10,263			+1,017
31.0	Equipment ---------------			7,667			8,474			+807
41.0	Grants, subsidies, & contrib.			1,690			1,620			-70
42.0	Insurance claims & indemnities			10			10			...
	Total requirements ----			160,424			171,237			+10,813

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
SURVEYS, INVESTIGATIONS, AND RESEARCH
PERSONNEL SUMMARY

A-11-34

	FY 1980 Actual	FY 1981 Estimate	FY 1982 Estimate
Direct:			
Total number of full-time permanent positions	7,852	7,974	8,069
Total compensable workyears: Full-time equivalent employment	10,285	11,185	11,341
Full-time equivalent of overtime and holiday hours	283	289	310
Average ES salary	$ 49,754	$ 49,754	$ 49,754
Average GS grade	10.10	10.10	10.11
Average GS salary	$ 25,043	$ 27,622	$ 27,816
Average salary of ungraded positions	$ 21,500	$ 23,883	$ 24,375
Reimbursable:			
Total number of full-time permanent positions	1,667	1,621	1,626
Total compensable workyears: Full-time equivalent employment	2,609	2,838	2,757
Full-time equivalent of overtime and holiday hours	98	102	109
Average ES salary	$ 49,754	$ 49,754	$ 49,754
Average GS grade	10.10	10.10	10.11
Average GS salary	$ 25,043	$ 27,622	$ 27,816
Average salary of ungraded positions	$ 21,500	$ 23,883	$ 24,375

Appropriation Summary Statement

Appropriation: Surveys, Investigations, and Research

The programs of the Geological Survey are designed to provide basic scientific data concerning water, land, and mineral resources, and to supervise the prospecting, development, and production of minerals and mineral fuels on leased Federal, Indian, and Outer Continental Shelf lands.

The fiscal year 1982 appropriation request for this account totals $567,191,000, an increase of $59,890,000 over the fiscal year 1981 estimate of $507,301,000.

A summary of the changes proposed for FY 1982 is shown below:

National Mapping, Geography and Surveys--The National Mapping Program provides multi-purpose maps and cartographic data to meet expanding national needs in a timely manner. These maps and related data are fundamental tools in almost all decision processes relating to the wise use of the Nation's lands and natural resources. This is accomplished by the production and maintenance of a series of accurate and up-to-date topographic maps at various scales, formats, and levels of content; the operation of a national cartographic information system to gather, index, and catalog cartographic information from all sources and provide that information to users on a timely basis; assisting Federal, State, and local agencies in the effective use, analysis, and display of maps and related data; and providing leadership to the Federal civil mapping community in the development and advancement of surveying and mapping technology. In FY 1982 the Survey is proposing legislation to establish a revolving fund for Digital Cartography that will finance the digital cartography program as a separate appropriation. This program was previously shown under this appropriation account.

The increase shown for FY 1982 ($345,000) provides for activities related to implementation of the Alaska National Interest Lands Conservation Act. The budget also reflects an increase of $500,000 to provide for increased data acquisition activities of the Cartographic and Geographic Information Service.

Geologic and Mineral Resource Surveys and Mapping--This program is designed to provide for the continuing national program of geologic research and investigations which produces assessments of energy and mineral resources and analyses of environmental constraints to their development; new or improved methods, techniques, and instruments for mineral and energy exploration and resource assessment on land and on the submerged continental margins; geologic, geophysical, and geochemical maps and analyses that show the distribution, age, composition, structure, and physical properties of the rocks and mineral deposits at and beneath the surface of the Earth, including the continental shelves and slopes; information on the chemistry and physics of the Earth and the geologic processes by which it was formed and is continually being modified; and geologic data that are directly applicable to urban development, land utilization including the mitigation of geologic hazards such as earthquakes, volcanos and landslides, and the solution of land construction problems.

The proposed FY 1982 program provides for increased activities in the earthquake hazards program ($3,800,000); increased helicopter support in the volcano hazards program ($300,000); expanding the program of research in ground failure and construction hazards ($1,000,000); increased studies, in the geologic framework program, of the deep structures of the Continental U.S. ($4,500,000); for activities related to implementation of the Alaska National Interest Lands Conservation Act ($1,030,000); increased studies in the development of assessment techniques program related to improved productivity in the search for metallic minerals ($4,500,000); expanding 1:100,000 scale mapping in the coal resource appraisal program in support of Bureau of Land Management land-use planning needs ($3,000,000); acceleration of oil shale activities ($1,500,000); increased uranium/thorium investigations ($1,000,000); environmental studies in marine frontier areas ($1,948,000); and studies of the evolution of the Atlantic Continental margins ($900,000). A decrease is shown in the program for world energy assessments which began in FY 1981 ($1,500,000).

Water Resources Investigations--The continuing national program of water resources investigations has the objective of appraising the Nation's water resources and assuring that the water data needed to develop and manage those resources efficiently are available when needed. The program produces data and information relative to the flow and sediment discharge of rivers, location and quantity of underground water, chemical quality and temperatures of water, changes caused by nature and man, and availability and suitability of water for present and future use--all of which are essential to water planning, management, energy development, and maintenance of the environment. Included in the program is research needed to increase our understanding of the fundamental principles of water occurrence, movement, and interaction with it's environment, and to improve the accuracy and usefulness of water data through improvements in technology and methodology.

The 1982 program provides for initiating a program to study the effects of acid rain on the water, land, and subsurface environment ($1,550,000); initiating a program aimed at developing information required to mitigate the problem of ground water contamination ($1,500,000); conducting a research program to gain a better understanding of the hydrologic processes in Alaska and other cold regions characterized by snow, ice, and permafrost ($500,000); conducting about 90 additional water-quality studies of highest priority in the Federal-State cooperative program involving river quality assessment, groundwater quality, energy resources, urban runoff, and lakes and wetlands ($2,800,000); and for additional State participation in the water-use program ($1,100,000). These increases are partially offset by a redirection in the Federal River Quality Assessment program ($800,000).

Conservation of Lands and Minerals--This program accomplishes the objectives of the department related to: the classification of Federally owned lands as to their mineral, water power and storage values; evaluation to determine resource economic values for all tracts offered for lease; and regulation and supervision of oil and gas exploration, development and production operations on leased Federal, Indian, and Outer Continental Shelf (OCS) lands.

The proposed 1982 level includes increases for the following activities: Regulation of OCS Oil and Gas operations ($2,000,000) for increased workload related to the regulatory and environmental protection responsibilities resulting from exploration and development of resources, and planning for onshore impacts associated with OCS oil and gas exploration and development activities; research and development aimed at the formulation of new and improved technologies in support of OCS operations in Arctic and deep ocean areas, blowout prevention and structural verification programs, and expansion of the best available and safest technology (BAST) program to minimize accidents and personal injury, environmental degradation and pollution during operations on the OCS ($600,000); resource evaluation programs are increased to provide for acquisition of high resolution and common depth point seismic data in support of the Department's expanded lease schedule and significantly increased number of tracts to be offered for lease ($3,850,000); for activities related to the implementation of the Alaska National Interest Lands Conservation Act ($925,000); for activities in the onshore oil and gas regulatory program for increased workload resulting from new statutory requirements and expanded industry activity ($1,167,000); uranium lease regulation ($500,000); and for the continued implementation of the improved Royalty Management System ($1,850,000). Decreases are proposed in the OCS Reserve Inventory program ($600,000) and the program for OCS platform verification ($500,000).

Earth Sciences Applications--The mission of this activity is to meet the Nation's rapidly increasing need for information which is required to facilitate land-use planning and decisionmaking and to evaluate the environmental consequences of alternative land uses. Specific objectives are the development and application of multidisciplinary Earth sciences, other natural sciences and geographic technology in support of land-use planning and decisionmaking; mapping current land use; accomplishing in-house NEPA-related functions; and collecting, processing, and distributing remote sensing data and applying other aspects of space technology in support of land resources and environmental analyses.

General Administration--This activity provides for the executive direction and coordination, management, and administrative support to the Bureau as a whole. No change is being proposed in this line item in fiscal year 1982. In addition to this line item, general administrative expenses are financed by assessment on direct program funds and on funds received from other Federal agencies and sundry non-Federal sources. This assessment supports essential functions such as program planning, budget, finance, personnel, contract negotiation and administration, property management, management analysis, and employment compensation payments.

Facilities--Funds for this activity will finance the operation and maintenance costs, facilities management needs, and related special support services necessary for the operation of the National Center Headquarters complex and major field centers.

Justification of Proposed Language Changes

No change in language is being proposed in the fiscal year 1982 Budget for this appropriation.

Justification of Changes in Object Class

The major changes in object class occur in object 21.0, travel and transportation of persons; 24.0, printing and reproduction; 25.0, other services; 26.0, supplies and materials; and 41.0, grants.

The increase for travel is related to specific program increases requested. The printing increase is related primarily to the funding requests for Earthquake Hazards Reduction and Development of Assessment Techniques; the increases shown for other services and grants is required to carry out the requested program increases with the aid of private contractors and universities where that approach proves effective and efficient.

Summary of Requirements
(Dollar amounts in thousands)

Appropriation: Surveys, Investigations, and Research

Summary of adjustments to base and built-in changes	Perm. Pos.	Amount	Perm. Pos.	Amount
Appropriation enacted to date, 1981			7,974	486,392
Adjustments to base and built-in changes:				
Adjustments for FY 1981 pay increase:				
Adjustment for FY 1981 pay increases and related costs	...	+20,909		
Annualization of FY 1981 pay increases	...	+2,090		
Subtotal, adjustments for FY 1981 pay increase			...	+22,999
Other increases:				
Program supplementals	+127	+17,600		
Return of funds transferred in FY 1981	...	+145		
Other increases	...	+2,824		
Subtotal, other increases			+127	+20,569
FY 1982 Base			8,101	529,960

Comparison by Activities:	1980 B.A. FTP	1980 B.A. Amount	1981 Approp. Enact. to Date FTP	1981 Approp. Enact. to Date Amount	1982 Base FTP	1982 Base Amount	1982 Estimate FTP	1982 Estimate Amount	Increase (+) or Decrease (-) over 1982 Base FTP	Increase (+) or Decrease (-) over 1982 Base Amount
National Mapping, Geography and Surveys:										
Primary quadrangle mapping	1,092	38,341	1,105	38,900	1,105	41,787	1,105	41,787	...	...
Map rev. & orthophotoquads	375	14,288	370	14,540	376	16,598	376	16,943	...	+345
Digital mapping	32	2,027	32	2,010	32	2,034	...	...	-32	-2,034
Small, intermediate & special mapping	185	15,053	180	14,183	192	15,894	192	15,894	...	...
Cartographic & geographic information	26	3,058	26	3,050	26	3,413	26	3,913	...	+500
Subtotal	1,710	72,767	1,713	72,683	1,731	79,726	1,699	78,537	-32	-1,189

Summary of Requirements (Continued)

Comparison by Activities:	1980 B.A. FTP	1980 B.A. Amount	1981 Approp. Enact. to Date FTP	1981 Approp. Enact. to Date Amount	1982 Base FTP	1982 Base Amount	1982 Estimate FTP	1982 Estimate Amount	Increase (+) or Decrease (-) over 1982 Base FTP	Increase (+) or Decrease (-) over 1982 Base Amount
Geologic and Mineral Resource Surveys and Mapping:										
Geologic hazards surveys	420	42,063	449	49,611	449	51,539	449	56,639	...	+5,100
Land resource surveys ---	285	14,809	285	15,087	285	16,074	285	20,574	...	+4,500
Mineral resource surveys	549	34,347	539	33,240	563	38,808	563	44,338	...	+5,530
Energy geologic surveys	508	35,689	504	34,530	520	38,114	520	42,114	...	+4,000
Offshore geologic surveys	250	20,159	250	20,947	250	22,096	250	24,944	...	+2,848
Subtotal ----------	2,012	147,067	2,027	153,415	2,067	166,631	2,067	188,609	...	+21,978
Water Resources Investigations:										
Nat'l water data system:										
Federal program -------	854	48,480	869	48,691	869	51,439	862	54,189	-7	+2,750
Fed.-State coop program	856	40,604	868	41,395	868	44,146	875	48,046	+7	+3,900
Energy hydrology --------	140	19,658	212	21,806	217	23,503	217	23,503	...	...
Subtotal ----------	1,850	108,742	1,949	111,892	1,954	119,088	1,954	125,738	...	+6,650
Conservation of Lands and Minerals:										
OCS Lands ----------	914	64,527	899	68,285	899	70,632	899	75,982	...	+5,350
Federal & Indian lands	812	35,255	837	39,658	861	44,321	861	46,913	...	+2,592
Royalty management ------	227	6,460	227	6,513	267	14,320	267	16,170	...	+1,850
Subtotal ----------	1,953	106,242	1,963	114,456	2,027	129,273	2,027	139,065	...	+9,792
Earth Sciences Applications:										
Earth res. observ. syst.	71	11,775	71	12,065	71	12,554	71	12,554	...	...
Environmental affairs ---	97	4,706	92	3,939	92	4,102	92	4,102	...	...
Land res. data applic. --	51	2,460	51	2,435	51	2,678	51	2,678	...	...
Subtotal ----------	219	18,941	214	18,439	214	19,334	214	19,334	...	...

74-939 O—80——88

Summary of Requirements (Continued)

Comparison by Activities:	1980 B.A. FTP	1980 B.A. Amount	1981 Approp. Enact. to Date FTP	1981 Approp. Enact. to Date Amount	1982 Base FTP	1982 Base Amount	1982 Estimate FTP	1982 Estimate Amount	Increase (+) or Decrease (-) over 1982 Base FTP	Increase (+) or Decrease (-) over 1982 Base Amount
General Administration:										
General administration ---	73	3,048	73	2,921	73	3,101	73	3,101	...	...
Employees compensation ---	...	728	...	890	...	882	...	882	...	...
Subtotal ----------	73	3,776	73	3,811	73	3,983	73	3,983	...	...
Facilities:										
National Center - SLUC ---	...	8,467	...	8,467	...	8,467	...	8,467	...	...
National Center - Fac. Mgmt	35	3,360	35	3,374	35	3,458	35	3,458	...	...
Regional facilities support	...	500	...	...	...	...	...	...	...	...
Subtotal ----------	35	12,327	35	11,841	35	11,925	35	11,925	...	...
Common program services ----	(334)	(16,537)	(334)	(18,141)	(339)	(19,309)	(339)	(20,368)	...	(+1,059)
Increases ----------									-32	+37,231
Total Requirements ---	7,852	469,862	7,974	486,537	8,101	529,960	8,069	567,191	-32	+37,231

Justification of Adjustments to Base and Built-in Changes
(Dollar amounts in thousands)

Adjustments for FY 1981 pay increase and related costs	Perm. Pos.	Amount
Total cost in FY 1981 of pay increase	...	$ 21,915
Less amount absorbed	...	-1,006
Anticipated FY 1981 pay increase supplemental	...	20,909
Additional amount in FY 1982 to provide full-year cost of pay increase	...	+2,090
Total	...	+22,999

The anticipated supplemental in FY 1981 of $20,909,000 includes $20,323,000 for the general schedule pay increase, effective October 5, 1980, and $586,000 for wage board pay increases to be granted during FY 1981.

An additional $2,090,000 is required in FY 1982 to cover the full-year cost of the FY 1981 pay supplemental for the general schedule.

Other Increases

Anticipated FY 1981 supplementals:

a. To implement the Geological Survey's portion of the Alaska National Interests Lands Conservation Act	+50	+6,200
b. To implement an expanded prototype oil shale leasing program as a follow on to the Secretary's decision for additional oil shale leasing under the prototype program	+37	+4,000
c. To improve the efficiency and effectiveness of the Geological Survey's Royalty Management System	+40	+7,400
Subtotal	+127	+17,600
The Geological Survey is requesting restoration in FY 1982 of pay cost and common program service reduction imposed in FY 1981. Common program services are centralized services which are supportive of, and logical extensions of, direct program missions. These services have to be performed if the objectives of the Survey's programs are to be met.	...	+2,824
In FY 1981 funds were transferred to the Department of the Interior's Office of the Solicitor. These funds are included in the FY 1982 estimate for the Geological Survey	...	+145
Total adjustments to base	+127	+43,568

U.S. GEOLOGICAL SURVEY
Analysis by Subactivity

Activity: National Mapping, Geography and Surveys

(Dollars in thousands)

Subactivity	FY 1980 Actual (B.A.)	FY 1981 Approp. Enacted	FY 1981 Revised Estimate	FY 1982 Base	FY 1982 Estimate	Increase (+) or Decrease (-) 1982 Est. over 82 Base
Primary Quadrangle Mapping	$38,341	$ 38,900	$ 41,206	$41,787	$ 41,787	$ ...
Map Revision and Orthophoto-quads	14,288	14,540	15,428	16,598	16,943	+345
Digital Mapping	2,027	2,010	2,010	2,034	...b/	-2,034
Small, Intermediate & Special Mapping	15,053	14,183	14,828	15,894	15,894	...
Cartographic & Geographic Information	3,058	3,050	3,356	3,413	3,913	+500
Total	72,767	72,683	76,828a/	79,726	78,537c/	-1,189

a/ Includes pay cost supplemental pending.

b/ Digital Cartography is proposed as a separate appropriation in FY 1982.

c/ Includes supplemental pending for Alaska Lands, $1,855.

National Mapping, Geography and Surveys a/
Subactivity/Element Change Crosswalk
(Dollars in thousands)

Format of FY 1981 Congressional Budget	FY 1982 Request	Format of FY 1982 Congressional Budget	FY 1982 Request
Quadrangle Mapping and Revision ..	$ 61,430	Primary Quadrangle Mapping	$ 41,787
New Quadrangle Mapping	35,745	Primary Quadrangle Mapping	35,745
Revision	10,423	Modernization of Mapping Tech.	6,042c/
Orthophotoquads	6,520		
Modernization of Mapping Tech.	8,742c/	Map Revision and Orthophotoquads	16,943
		Revision	10,423
Digital Cartographic Mapping ....b/	6,034	Orthophotoquads	6,520
Small Scale and Special Mapping	9,575	Small, Intermediate and Special Mapping	15,894
		Intermediate-Scale Mapping	6,960
		Land-use and Land Cover Mapping	3,619d/
		Airborne Profiling of Terrain System	2,700c/
		Small Scale and Other Special Mapping	2,615
Nat'l Cartographic Info. Center .	3,913	Cartographic & Geographic Information	3,913
Geography	3,619d/		
TOTAL	84,571	TOTAL	78,537

a/ In the FY 1981 Congressional Budget the Activity was entitled, Topographic Surveys and Mapping.
b/ Digital Cartographic Mapping is being requested as a separate appropriation in FY 1982, entitled Digital Cartography (See page GS-254).
c/ In the FY 1982 proposal the Modernization of Mapping Technology element is being shown in two subactivities, as shown.
d/ In the FY 1982 proposal the Geography program is being included in the subactivity Small, Intermediate and Special Mapping, retitled Land Use and Land Cover Mapping.

Justification of Program and Performance

Activity: National Mapping, Geography, and Surveys
Subactivity: Primary Quadrangle Mapping

(Dollar Amounts in Thousands)

		1981 Approp Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Primary Quadrangle Mapping	$	32,900	35,745	35,745	...
	(FTP)	(1,099)	(1,099)	(1,099)	(...)
Modernization of Mapping Technology	$	6,000	6,042	6,042	...
	(FTP)	(6)	(6)	(6)	(...)
(Common Program Services)	$	(1,563)	(1,677)	(1,677)	(...)
Total Requirements	$	38,900	41,787	41,787	...
	(FTP)	(1,105)	(1,105)	(1,105)	(...)

Primary Quadrangle Mapping

Authorization: 43 U.S.C. 31(a)

Objectives: The objectives of the primary quadrangle mapping program are to prepare, print, and make available new 7.5-minute topographic quadrangle maps of areas in the conterminous U.S. and Hawaii not previously mapped in this series, and new 15-minute topographic quadrangle maps of areas in Alaska not previously mapped in the 15-minute series; to produce these multipurpose topographic maps based on national priorities to meet specific requirements, with emphasis on areas such as the coastal zone, energy areas, and public lands; and to print topographic maps to accommodate all uses and users requiring a base map.

Base Program: New 7.5-minute maps are prepared and printed for areas not yet mapped at the 7.5-minute format or 15-minute format in Alaska, with priorities given to those areas of high national interest. They are necessary to support such activities as the identification and development of coal and energy resources; land use and coastal zone planning and management; wetlands inventory; environmental, flood plain, economic, and industrial studies; location and development of transportation and recreational facilities; natural disasters such as earthquakes, floods, and volcanoes; and military and civil defense. The 7.5-minute topographic quadrangle maps and related derivative products are fundamental tools which planners and managers use in making decisions about the Nation's lands and natural resources. In addition to their use for planning, management and recreation, the 7.5-minute maps provide the basic source data for the preparation of intermediate-scale maps, digital data, and other smaller scale and derivative map products.

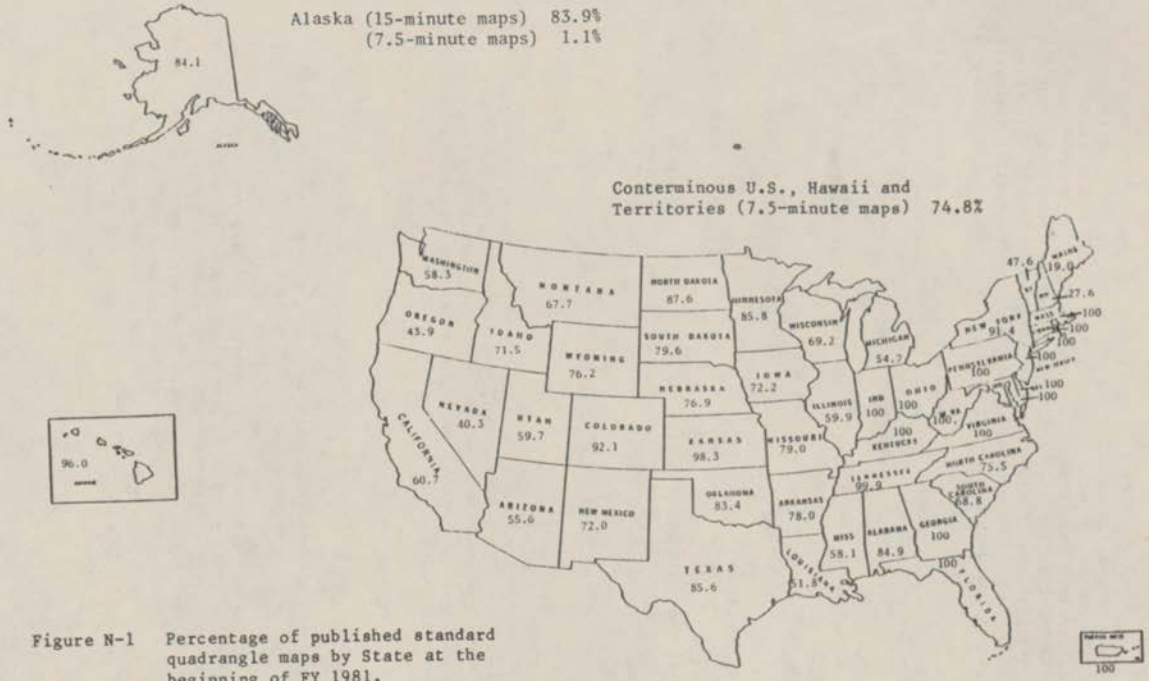


Figure N-1 Percentage of published standard quadrangle maps by State at the beginning of FY 1981.

The new quadrangle mapping effort is a major part of the National Mapping Program. The requirement for accurate and up-to-date maps has continuously increased with the demand for more effective development and conservation of the Nation's resources. Requirements are received through established mechanisms: (1) OMB Circular A-16 requirements are received from about 26 Federal agencies; (2) joint funding programs with an average of 35 States; (3) State Mapping Advisory Committees in 27 States which identify statewide mapping requirements; and others.

The 7.5-minute topographic quadrangle maps are prepared and printed at 1:24,000 scale with U.S. Customary Units or 1:25,000 scale with metric units; 15-minute maps are similarly prepared at 1:63,360 or 1:50,000 scale in Alaska.

The following workload factors are presented for the primary quadrangle mapping program.

	1980	1981	1982
Square miles of new quadrangle mapping	67,000	60,000	57,000

Unit cost varies depending on such factors as map detail (rural versus urban areas), terrain, geographic location, and other factors. Program cost averages about $400 a square mile.

Modernization of Mapping Technology

Authorization: 43 U.S.C. 31(a)

Objectives: To enhance and expand the capability to produce higher quality map products through the acquisition of automated mapping equipment, the development of computer programs, and the development of improved mapping techniques. This includes the development of a new map inventory control and distribution system.

Base Program:

Modernization of Mapping Equipment: The Survey continues with the planned program of replacing most of the outdated analog, graphic output mapping equipment with hardware and software systems capable of producing digital cartographic data. The Survey has acquired special equipment that provides for more efficient production of orthophotoquads and the simultaneous collection of digital terrain data. In addition, some digital data collecting and edit systems are now in production and additional systems will be acquired in FY 1981. The automatic and manual digitizing equipment will be used to collect elevation, boundary, land net, transportation, hydrography, and other digital data to meet Federal and State agencies' requirements. In FY 1982 development will begin on a high resolution mapping camera for use in the National High Altitude Photography Program.

Map Inventory Control and Distribution System: An automated system is being designed under contract to improve the map storage and distribution system, as well as for minimizing the effort required to fill orders.

The system will allow entry and acceptance of map orders and accomplish initial order accounting, order maintenance, and the updating and maintenance of historical files, and, in addition, will maintain a customer master file; automatically prepare mailing labels and required shipping documents; generate automatic sending lists; and maintain accounting for blanket purchase orders and deposit accounts.

During FY 1981, the Survey will continue the development of the inventory control system, completing the major part of the integrated order entry and inventory control system serving the Central Region Distribution Center in Denver, Colorado, and the Eastern Region Distribution Center in Alexandria, Virginia. A distribution management information system will be developed to analyze costs, productivity, and customer preferences, and to forecast product demands and storage requirements. Minicomputers and processing hardware will be purchased for the Distribution Centers in FY 1981. In FY 1982, the minicomputer and processing hardware will be installed and communication control software, for order processing and inventory control, developed and integrated in the Distribution Centers. Remote terminal hardware will be purchased and installed at customer service centers.

Justification of Program and Performance

Activity: National Mapping, Geography, and Surveys
Subactivity: Map Revision and Orthophotoquads

(Dollar Amounts in Thousands)

		1981 Approp Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Revision	$	9,650	10,423	10,423	...
	(FTP)	(260)	(260)	(260)	(...)
Orthophotoquads	$	4,890	6,175	6,520	+345
	(FTP)	(110)	(116)	(116)	(...)
(Common Program Services)	$	(584)	(666)	(676)	(+10)
Total Requirements	$	14,540	16,598	16,943	+345
	(FTP)	(370)	(376)	(376)	(...)

Revision

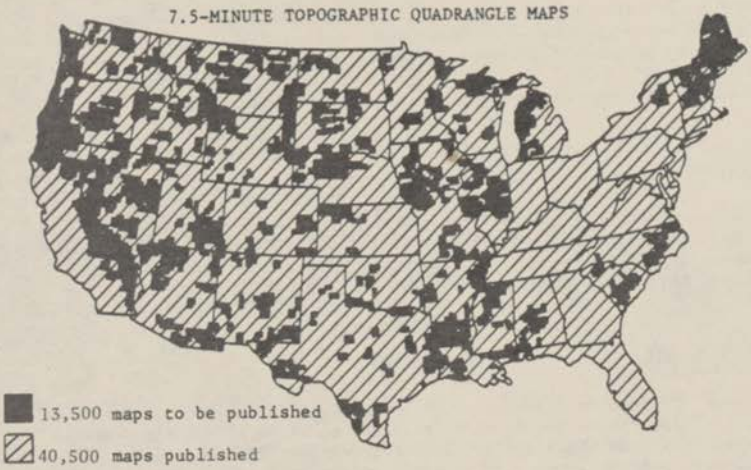
Authorization: 43 U.S.C. 31(a)

Objectives: To keep the content of published 7.5-minute maps current and to improve the accuracy of older published maps through a map maintenance program.

Base Program: Planners, managers, and the general public rely on accurate topographic maps to respond to increased emphasis on intelligent use of the Nation's lands and resources. The Nation has a considerable investment represented by about 42,000 7.5-minute topographic maps published through FY 1980 by the Geological Survey. Protecting the value, therefore the usefulness, of that investment requires they be kept current through periodic inspection, and, where necessary, revised to reflect recent natural and man-made changes.

Without such periodic revision to show changes to the Earth's surface, such as new highways, urban expansion and suburban development, industrial sites, dams, reservoirs, impacts of surface mining, and terrain changes wrought by natural events, such as hurricanes, volcanoes, and earthquakes, the Nation's decisionmakers would not have the accurate maps needed for their analysis and planning. Inaccurate maps not only fail to serve the decisionmakers' needs, but could cause a disservice.

The amount and rate of change in areas covered by the maps determines the need for and complexity of the revisions. Areas with high rates of change, and high national interest, such as urban areas, coastal zones, major transportation routes, and selected airport areas, are inspected on a 5-year



Maps 0-5 years old	14,000
Maps 5-10 years old	12,500
Maps 10-20 years old	12,500
Maps over 20 years old	1,500
Total	40,500

Figure N-2 Periodic revision of maps is necessary to keep map information current.

cycle. Maps of other areas are inspected less frequently. The backlog of maps needing revision remains at about 7,000 maps and the number of revisions will be about 1,700 maps per year.

Following are workload factors for the revision program.

	1980	1981	1982
Quadrangles Revised	1,700	1,700	1,700

Unit cost varies with map detail, such as an urban area compared to a rural area. Also, the type of revision is a factor. The fastest and least costly is photorevision, costing about $50 a square mile and the more expensive is complete revision, averaging about $400 a square mile.

Orthophotoquads

Authorization: 43 U.S.C. 31(a)

Objectives: To provide scale-accurate, photoimage map products in response to specific, identified requirements of State and Federal agencies such as the Bureau of Indian Affairs, Soil Conservation Service, U.S. Forest Service, U.S. Customs Service, Fish and Wildlife Service, Office of Surface Mining, and Bureau of Land Management.

Base Program: Orthophotoquads are scale-accurate photoimage maps produced directly from aerial photographs. The Geological Survey prepares and prints orthophotoquads in the 7.5-minute quadrangle format (15-minute quadrangle format in Alaska) in response to specific requests submitted by many other government agencies. BLM has a requirement for orthophotos over selected areas in Alaska to support their work under the Alaska Native Claims Settlement Act and the Alaska National Interest Lands Conservation Act passed in FY 1981. Production to support this requirement is to be expanded in a FY 1981 supplemental. The U.S. Customs Service has an immediate need for color orthophotos along portions of the Mexican border and long-range plans are for complete coverage between Mexico and Canada as well as additional orthophotos along the Gulf coast and Florida. In FY 1980 aerial photography was flown over approximately 800 miles of the U.S./Mexico border, between El Paso and the Pacific Ocean. Production will begin in FY 1981 to meet OSM requirements for orthophotoquads over selected coal areas for identification of State abandoned mine lands, investigation of mine operator unsuitability petitions, and other inspection and enforcement activities. Other examples of orthophotoquad requirements include the Bureau of Land Management for land and resource management, the Bureau of Indian Affairs for management of Indian lands, the Soil Conservation Service, Department of Agriculture, for soil classification, the Forest Service for land and timber management, and the Fish and Wildlife Service for the National Wetlands Inventory. State governments also require these image products to aid in coastal zone programs and local government planning and management activities. Color orthophotoquads are being produced for the State of North Carolina along the coast to assist in their coastal zone and wetlands management programs.

The following workload factors are indicated in the orthophotoquad program:

	1980	1981	1982
Orthophotoquads----------	3,200	3,390	3,560

Unit cost averages $25 a square mile for the preparation of orthophotoquads.

Orthophotoquads in the conterminous U.S. are prepared on a 7.5-minute quadrangle format. Orthophotoquads in Alaska are prepared on a 15-minute quadrangle format and consequently cover approximately four times as much areas.

Increase for FY 1982	FY 1982 Base	FY 1982 Estimate	Increase
$	6,175	6,520	+345
(FTP)	(116)	(116)	(...)

This increase is requested to fund part of the $845,000 necessary to provide for the production of orthophoto products to support BLM-identified requirements in response to the Alaska National Interest Lands Conservation Act. The remaining $500,000 will be provided from Orthophotoquad Program base funds.

The passing of the Alaska National Interest Lands Conservation Act (Title IX) places increased emphasis on the orderly but more expeditious transfer of lands subject to the Alaska Native Claims Settlement Act. Orthophoto products provide the least expensive yet accurate base of information on which water bodies can be identified and measured and on which protraction surveys can be plotted. Because the acreage of navigable water bodies must be excluded from any land transfers to Alaska Native organizations and individuals and because the Alaska National Interest Lands Conservation Act contains provisions to expedite these land transfers, the Bureau of Land Management now needs the equivalent of an additional 170 orthophotoquads in Alaska each year. Most of this requirement will be met by the production of scaled orthophoto products prepared for BLM's operational use and not necessarily delivered in a publishable format.

Object Class Distribution

Object Class expenses related to their increase are as follows:

	Staff Years	
Permanent positions ----------	11	$275,000
Personnel benefits----------		25,000
Travel & transportation of persons & things		20,000
Other Services----------		20,000
Supplies and materials----------		5,000
Total ----------		$345,000

Justification of Program and Performance

Activity: National Mapping, Geography, and Surveys
Subactivity: Digital Mapping

(Dollar Amounts in Thousands)

		1981 Approp Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Digital Mapping	$	2,010	2,034	...	-2,034
	(FTP)	(32)	(32)	(...)	(-32)
(Common Program Services)	$	(81)	(82)	(...)	(-82)
Total Requirements	$	2,010	2,034	...	-2,034
	(FTP)	(32)	(32)	(...)	(-32)

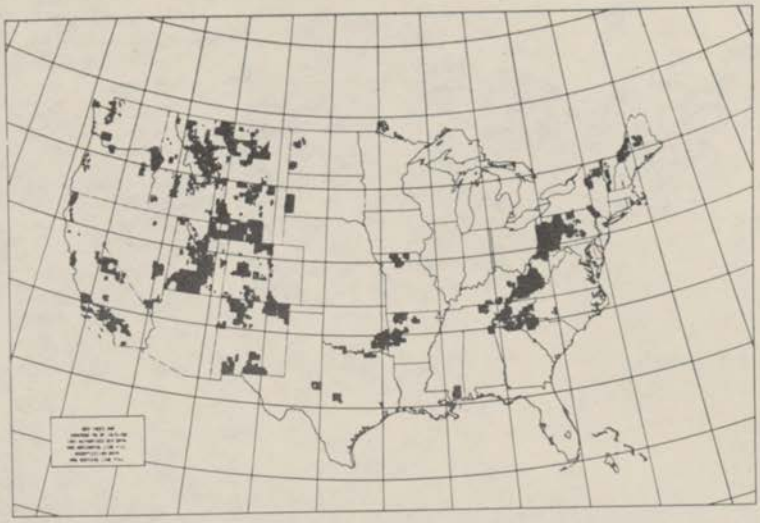
Digital Mapping

Authorization: 43 U.S.C. 31(a)

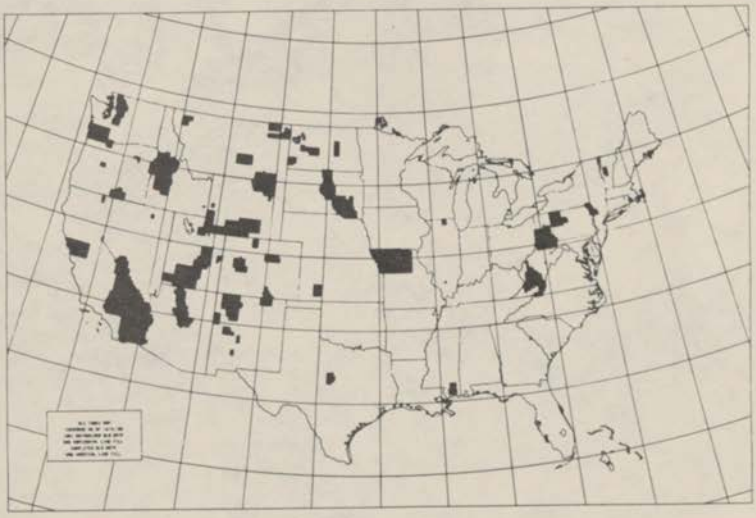
Objectives: To produce base categories of cartographic data at standard scales, accuracies, and formats suitable for computer-based analysis to meet Federal, State, and local governmental agencies' requirements; to coordinate digital mapping programs and activities of Interior Bureaus and other Federal agencies with the objective of minimizing duplication of efforts; and to conduct the program with the objective of eventual full cost recovery.

Base Program: Digital cartographic data are being increasingly used by State and Federal planners and managers responsible for managing natural resources and public lands to solve complex problems of computer-based analysis.

In response to these requirements, the Survey has developed a basic framework for providing multiple use of the digital cartographic data through a Digital Cartographic Data Base and is developing the necessary capacity (equipment, computer software, and training) to perform the work. A Digital Cartographic Unit (DCU) is a yardstick for measuring data production. Digital Cartographic Units (DCU's) can either be Digital Elevation Models (DEM's) containing digitized vertical data or Digital Line Graphs (DLG's) containing digitized line map information of public land net, boundaries, hydrography, transportation, or other cultural map features collected for a single 7.5-minute quadrangle. Production to date has been primarily DEM, land net, and boundaries at 7.5-minute format and scale to meet the requirements of the Department of the Interior Bureaus, Forest Service, and State agencies.



DIGITAL ELEVATION MODELS (DEM)



DIGITAL LINE GRAPHICS (DLG)

Figure N-3 Digital Mapping Production through FY 1981.

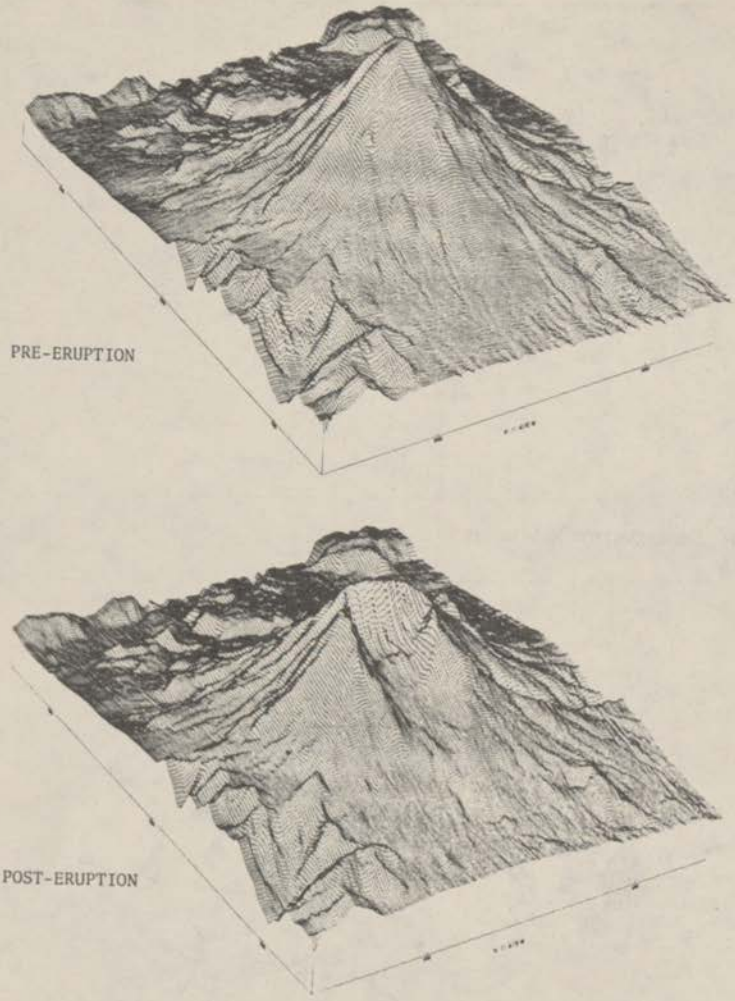


Figure N-4 Computer-generated perspective views of Mt. St. Helens prepared from digital cartographic data.

The Survey is completing the digitization of the National Atlas 1:2,000,000-scale sectional maps for all 50 States to meet the need for a small-scale digital data base of the United States.

The Digital Cartographic Data Base (DCDB) currently contains a limited amount of DEM data which is available to government and private users. DLG data is also being added.

In addition to the applications of digital cartographic data in various resource management and analysis systems, there are also important applications in the mapping process itself. With digital cartographic data, it will be possible to generate small-scale and derivative maps in the future much more simply and efficiently than by current manual techniques. The digital cartographic data will also expedite the process of revising and updating maps.

Workload factors are:

	1980	1981	1982
Digital Cartographic Units	4,400	4,400	...

Unit cost ranges from $200 to $2,000 for digitizing a single category of data at 7.5-minute map scales, to $8,000 for digitizing a particular category of data at small scales, such as 1:2,000,000-scale maps.

Decrease for FY 1982	FY 1982 Base	FY 1982 Estimate	Decrease
$	2,034	...	-2,034
(FTP)	(32)	(...)	(-32)

This decrease is requested to provide part of the base funds for a new appropriation, Digital Cartography. Authorization for the new appropriation is included in legislation proposed by the Department of the Interior to establish a revolving fund through which the program will be conducted.

74-939 O—80——89

Justification of Program and Performance

Activity: National Mapping, Geography, and Surveys
Subactivity: Small, Intermediate, and Special Mapping

(Dollar Amounts in Thousands)

		1981 Approp Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Intermediate-Scale Mapping	$	6,430	6,960	6,960	...
	(FTP)	(123)	(123)	(123)	(...)
Land-Use and Land-Cover Mapping	$	3,463	3,619	3,619	...
	(FTP)	(39)	(39)	(39)	(...)
Airborne Profiling of Terrain System	$	2,700	2,700	2,700	...
	(FTP)	...	...	...	(...)
Small-scale and other Special Mapping	$	1,590	2,615	2,615	...
	(FTP)	(18)	(30)	(30)	(...)
(Common Program Services)	$	(570)	(638)	(638)	(...)
Total Requirements	$	14,183	15,894	15,894	...
	(FTP)	(180)	(192)	(192)	(...)

Intermediate-Scale Mapping

Authorization: 43 U.S.C. 31(a)

Objectives: The objective of the Intermediate-Scale Mapping Program is to provide multi-purpose base maps at 1:50,000 and 1:100,000 scales in quadrangle and county formats to meet a variety of Federal and State requirements.

Base Program: Priority requirements are for 1:50,000- and 1:100,000-scale topographic maps for: (1) Bureau of Land Management's range, timber, and mineral management activities; (2) Department of Defense for field training purposes in selected areas; (3) Soil Conservation Service for its important farmlands inventory program; and (4) preparation of topographic/bathymetric maps under a joint program with the National Ocean Survey of NOAA and BLM for offshore leasing and management activities. Intermediate-scale maps are a necessary tool used by the Survey in the Coal Resources Program and BLM's Mineral Management Program along with their coal trespass identification. In addition, these maps are an essential tool for Federal and State planners and managers engaged in coastal zone activities, the Fish and Wildlife Service National Wetlands Inventory program, and studies of coal resources and activities associated with mining.

Land-Use and Land-Cover Mapping

Authorization: 43 U.S.C. 31 (a)

Objectives: The objectives of this subactivity are to: 1) compile land use and land cover maps and data for public release at 1:250,000-scale and at 1:100,000 scale for selected areas; 2) demonstrate and experiment with other techniques for land use and land cover mapping, using different formats or scales, and with different combinations of remotely sensed data, and techniques for spatial data handling and geography information system development; 3) determine trends in land use and land cover based on statistical analysis of land use and land cover maps; and 4) analyze land use and land cover patterns, trends, and changes associated with areas of critical national concern such as coastal areas likely to be impacted by offshore oil development (such as the middle Atlantic coast) and areas undergoing expansion and other development which may adversely affect environmental quality (such as rapidly developing cities like Atlanta or Phoenix).

Base Program: Geography--Land Use activities include:

1) Land use and land cover map and data production: Three hundred and sixty land use and land cover maps, covering a total of 1,900,000 square miles, will have been released to the open file and made available to the public by September 1981. Information on existing land use and land cover and on changes in land use and land cover over time is used to analyze current demands on land and to plan for better future use of land resources. Mapping of coastal, energy, irrigated farmlands, and metropolitan areas have received high priority since the initiation of the land use and land cover mapping program in FY 1975. Maps for Alabama, Arkansas, Florida, part of Georgia, Hawaii, Illinois, Kansas, Kentucky, Louisiana, Missouri, North Carolina, Pennsylvania, and West Virginia, will be completed under cooperative cost-sharing agreements. Updating of land use and land cover maps compiled using remotely sensed data of the early 1970's began in FY 1980 with priority given to the mapping of rapidly changing areas such as coastal, urbanizing, and energy-producing areas. Maps updated in FY 1982 will be selected on the basis of availability of current remotely sensed source materials and 1:100,000-scale base maps, and the amount of land use and land cover change which has occurred since the original compilation.

   Specific products being provided under this activity are: maps showing current land use and land cover, county boundaries, hydrologic units, census county subdivisions, and areas of federally owned land, at the scale of 1:250,000 with selected areas mapped at 1:100,000; experimental and demonstration maps produced to test other aspects of map compilation, digital data handling and data analysis; and analytical studies on land use and land cover and other geographic patterns, trends, and changes. In addition, a new two-color Land Use Series was inaugurated in 1979; 173 maps will be published in this series by the end of FY 1981.

2) Statistical data production: A geographic information system has been developed for producing and handling land use and land cover statistical summaries for counties, watersheds, census county subdivisions, and federally owned land. By the end of FY 1981, such statistical summaries will have been produced for the States of Florida, Kansas, Pennsylvania, West Virginia, Alabama, New Jersey, Delaware, and Missouri.

3) Experimental and demonstration land use and land cover map and data production: Activities in this area are: a) experimental mapping of land use change for selected rapid-growth areas of Florida; b) experimental land cover mapping of areas of Alaska using Landsat digital data with emphasis on determining permanent snow and ice; c) continued production of 1:100,000-scale land use and land cover maps for inclusion in the geologic folios being prepared for the "Western coal quads"; d) experimental printing of full color land use and land cover maps for the Harrisburg and other selected quadrangles using the new rapid laser drum plotter technology; and e) a jointly funded agreement with the State of Connecticut for detailed Level III land use/land cover mapping at scales of 1:24,000 and 1:50,000.

4) Geographic publication activities: Planned publications as USGS Professional Papers or Circulars include: Analysis of Land Use and Land Cover for the River Quality Assessment of the Upper Chattahoochee River Basin in Georgia; Specifications for the Updating of Land Use and Land Cover Maps; Determination of Map Update Frequency for Land Use in a Dynamic Urban Setting Based on Portion of Phoenix Area; The Oil and Gas Industry of Coastal Louisiana and its Effect on Land Use and Other Socioeconomic Patterns; Land Use and Land Cover Statistics; The Accuracy of Selected Land Use and Land Cover Maps at Scales of 1:250,000 and 1:100,000; A Review and Evaluation of Alternatives for Updating Land Use and Land Cover Maps: 1099-A, An Analysis of the Washington-Baltimore Area that Couples Remote Sensing with Numerical Simulation, and various articles published in scientific journals.

5) Technical assistance: Assistance has been provided to users of Geological Survey land use and land cover data and maps, as well as data in computer compatible format as an aid in their resource planning and management. Among those assisted are the Fish and Wildlife Service, the Federal Emergency Management Agency, Forest Service, Soil Conservation Service, Environmental Protection Agency, National Aeronautics and Space Administration, Bureau of Land Management, Nuclear Regulatory Commission, Appalachian Regional Commission, Ozarks Regional Commission, Pacific Northwest Regional Commission, and cooperating State and local agencies.

Examples of such technical assistance include: a) providing maps and data to the Federal Emergency Management Agency for use in disaster planning and hazard mitigation; b) assisting the Nuclear Regulatory Commission in applying USGS land use and land cover maps and data in the locational analysis of nuclear reactor sites; and c) a technical assistance program in cooperation with the Ozarks Regional Commission which helps State agency personnel within the five Ozarks States apply USGS land use and land cover maps, data, and geographic information system technology to their land resource management problems, such as the development of the lignite field in northwestern Louisiana.

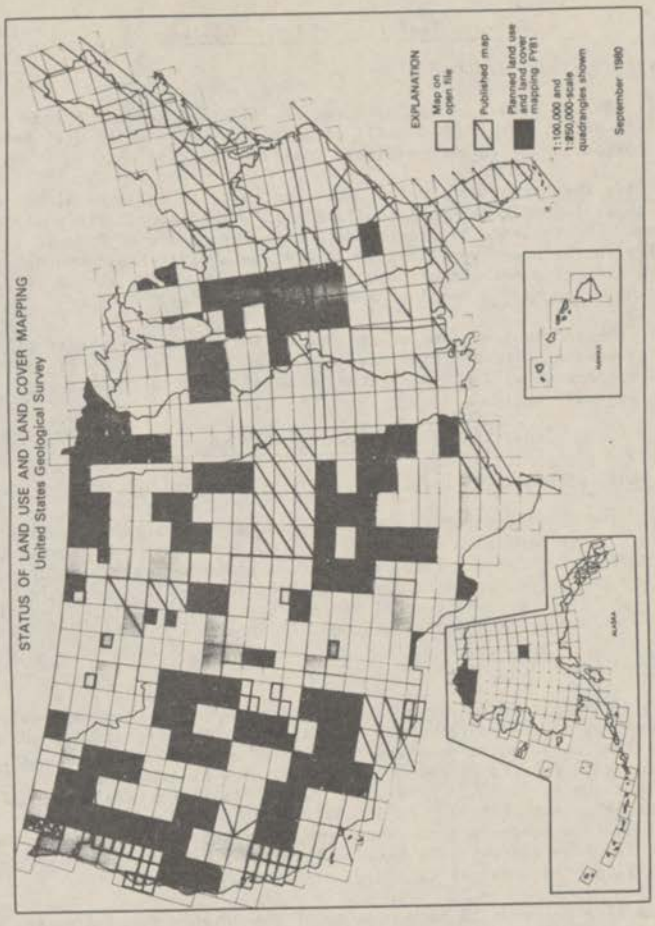

STATUS OF LAND USE AND LAND COVER MAPPING
United States Geological Survey
EXPLANATION
Map on open file
Published map
Planned land use and land cover mapping FY81
1:100,000 and 1:250,000-scale quadrangles shown
September 1980
HAWAII
ALASKA

Figure N-5

Airborne Profiling of Terrain System

Authorization: 43 U.S.C. 31(a)

Objectives: The objective of the Airborne Profiling of Terrain System Program is to build, test, and operate an airborne system which will permit the rapid collection of three-coordinate position information.

Base Program: The Survey continues, under contract, to build an airborne system which will permit the rapid collection of three-coordinate position information. The system will provide data with accuracies of 2 feet horizontally and 0.5 feet vertically. It will be a major breakthrough in rapid, cost-effective methods of acquiring data for such activities as flood plain mapping, topographic mapping, and geologic studies.

In FY 1981, the fabrication and lab testing of the system components will be completed as well as aircraft modifications to a Twin Otter. In FY 1982, the system components will be integrated, mounted in the aircraft, and flight testing will begin.

Small-Scale and Other Special Mapping

Authorization: 43 U.S.C. 31 (a)

Objectives: The objectives of the small-scale and other special mapping program are: 1) to prepare a variety of multipurpose base maps at various scales to meet the demands of resource planners and managers, research analysts, and educators for maps that show large geographic areas on a single map; and 2) to prepare special map products to meet unique requirements of Federal and State agencies.

Base Program:

1:250,000-Scale Maps: There are 627 published maps in this series providing complete coverage of the conterminous United States, Hawaii, and Alaska. Activity in this program includes the revision of about 60 maps per year. This revision effort is to be expanded to this level by supplemental appropriations during FY 1981 in response to the Alaska National Interest Lands Conservation Act of 1980. As a result of this expansion, thirty Alaska maps in this series are revised annually to support the National Park Service and the Fish and Wildlife Service in their preparation of management plans for Alaska's National Parks and Wildlife Refuges.

This program also responds to requirements of the Defense Mapping Agency to support their 1:250,000-scale joint air and ground operations graphic products; and includes a joint mapping effort with the National Ocean Survey of NOAA for the preparation of topographic/bathymetric 1:250,000-scale maps of coastal areas to provide support for the management of the coastal zone and the administration of the Outer Continental Shelf (OCS) under the OCS Lands Act Amendment of 1978.

National Park Maps: The Geological Survey in coordination with the National Park Service, prepares new maps of park areas and revises existing maps. These maps are for sale to park visitors and the general public.

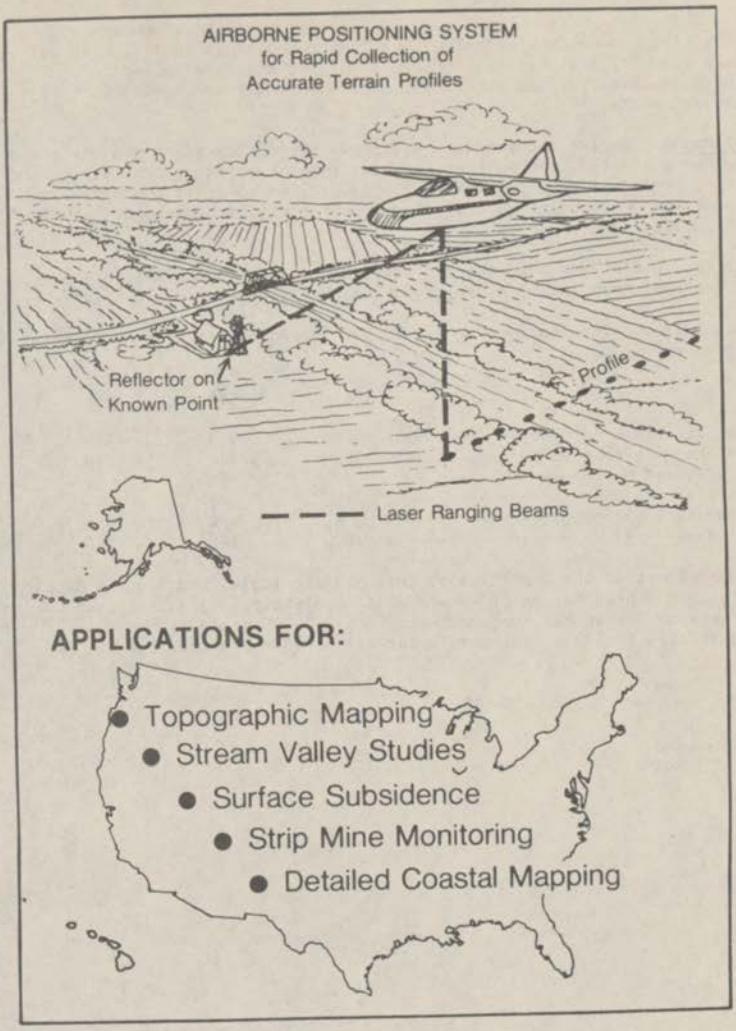

AIRBORNE POSITIONING SYSTEM
for Rapid Collection of
Accurate Terrain Profiles
Reflector on
Known Point
Profile
Laser Ranging Beams
APPLICATIONS FOR:
Topographic Mapping
Stream Valley Studies
Surface Subsidence
Strip Mine Monitoring
Detailed Coastal Mapping

Figure N-6

U.S. and State Base Maps: These maps are used by the Federal, State and local agencies, educational institutions, and the general public. Federal and State agencies are pressing for revision of these bases prior to digitizing so that they can accurately depict information unique to their programs and needs.

Special Maps: Special map products are produced from existing map bases and information collected from various sources, some of which is provided by the requesting organization. Special maps produced for government programs often meet the need for commercial firms, public utility companies, and the general public.

Request for special map products and services are numerous within any one fiscal year and examples of activity during FY 1980 are shown in Figure N-7.

The following workload factors are indicated in the Small-Scale and Special Mapping subactivity:

	1980	1981	1982
Intermediate-Scale Mapping----------	400	350	325
Land Use/Land Cover Mapping (sq. mi.)-	340,000	380,000	380,000
1:250,000-Scale Maps----------	30	60	60
National Park Maps----------	3	3	4
U.S. and State Base Maps----------	4	4	4
Special Maps----------	260	260	260

The major effort of the Small Scale, Intermediate scale, and Special Mapping activity is the preparation of intermediate-scale maps. The unit cost ranges between $50 to $65 a square mile for 1:50,000-scale topographic mapping and $15 to $19 a square mile for 1:100,000-scale mapping.

SPECIAL MAPPING ACTIVITY - FY 1980

Product/Service	User/Uses
National Atlas Map Separates	Federal, State and local governments, libraries and general public for planning, study and bases for preparation of other maps.
Maps for the National Waterways Study	Institute for Water Resources, Corps of Engineers for the National Waterways Study.
Federal Lands Subject to Mineral Restrictions Maps	USGS to modify base for National Atlas Separate.
Slope Maps	Federal and State agencies for planning and management of timber, range lands, surface mining and local zoning.
Antarctic Maps and Geodetic Field Surveys	To support the United States Operations Antarctica Research program of the National Science Foundations.
Maps for the Visually Handicapped	A joint project with NOAA to prepare maps of an area of Wallops Island.
Revision and Update of Map Indexes of States	Distributed free to all users on request for aid in map selection and ordering.
National Hydropower Study	Institute for Water Resources, Corps of Engineers. A special map to support the final stages of the National Hydropower Study.
Coal Slurry Pipeline Map	A Commerce, Science and Transportation Committee, request for revision and update of the existing Coal Slurry Pipeline map to support their study on coal slurry pipeline systems.
Mt. St. Helens Volcano Map Products	In cooperation with State of Washington, and prior to the May 18 eruption, the Survey prepared 4 special sequential maps to study the developing bulge in the northernly face of the mountain. Numerous post eruption special maps and map data are being prepared to support scientific and hazard mitigation studies.

Figure N-7

Justification of Program and Performance

Activity: National Mapping, Geography, and Surveys
Subactivity: Cartographic and Geographic Information

(Dollar Amounts in Thousands)

		1981 Approp Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Cartographic and Geographic Information	$	3,050	3,413	3,913	+500
	(FTP)	(26)	(26)	(26)	(...)
(Common Program Services)	$	(122)	(137)	(155)	(+18)
Total Requirements	$	3,050	3,413	3,913	+500
	(FTP)	(26)	(26)	(26)	(...)

Cartographic and Geographic Information

Authorization: 43 U.S.C. 31(a)

Objectives: To disseminate information generated by the National Mapping Program and other activities within the Geological Survey as well as to serve as a clearinghouse for all domestic cartographic and geographic information.

Base Program: The Cartographic and Geographic Information Program (CGI) of the National Mapping Division is an outgrowth of a reorganization within the Geological Survey. The CGI includes the former National Cartographic Information Center (NCIC), but with an expanded role to include geographic data, and the distribution of Geological Survey Earth science information through the Public Inquiries Offices.

The Cartographic and Geographic Information is a national clearinghouse and repository for cartographic and geographic information, and has become the central focus of an integrated public and private cartographic and geographic information network. The operation of such a central facility is consistent with the objectives of OMB Circular A-16. The Cartographic and Geographic Information Service gathers, reviews, indexes, and catalogs information about the Nation's cartographic and geographic products and provides it in a timely manner to all customers.

To handle the rising number of requests as well as the large volume of information to be cataloged, the program continues to expand its information systems and delivery network. The Service currently has agreements with 26 States as Affiliates and is continually expanding the number of State Affiliates. They provide information services on a local basis, using their

own facilities and employees. The Geological Survey provides the State offices with initial informational data files, i.e., catalogs, indexing microfiche, computer output microfilm and updates to these files as required. At the beginning of FY 1981, signed agreements involve the following States: Alabama, Arizona, California, Georgia, Hawaii, Kentucky, Louisiana, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Jersey, New Mexico, Nevada, North Carolina, North Dakota, Pennsylvania, South Carolina, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin, and Wyoming.

The Public Inquiries Offices provide a convenient public contact for obtaining general information on all Survey activities. Offices are located in the cities of Anchorage, Dallas, Denver, Los Angeles, Reston, Salt Lake City, San Francisco, Spokane, and Washington, D.C. Each office (except Reston, Virginia, and Washington, D.C.) maintains a reference library of Survey publications, and each office serves as a depository for selected open-file reports. The Anchorage, Los Angeles, Spokane, and Washington, D.C., offices maintain an Earth Resources Technology Satellite (ERTS) reference file and viewer where the public may view satellite imagery of the U.S. for purchasing. Each office acts as a sales agent for the Superintendent of Documents and provides over-the-counter and mail-order service for geological book reports of its geographic area and selected Survey reports of general interest. Each office is a sales outlet for Survey maps relating to its geographic areas and for selected Survey maps of general interest (two exceptions are the Reston, Virginia, and Washington, D.C., offices which provide over-the-counter sales of maps for the entire U.S.).

The following workload factors are presented for the CGI program:

	1980	1981	1982
Informational inquiries (processed)			
CGI	220,000	240,000	260,000
PIO	315,000	350,000	380,000
Maps sold through PIO's	605,000	670,000	735,000
State Affiliates	26	30	35
Approximate number of maps and charts described in the data base	190,000	250,000	275,000
Approximate total number of aerial photos and space images described in the data base	13,750,000	14,500,000	15,000,000

Activity within this program is more of a research (informational data base file) nature than the production of a product that can be measured by unit cost. An example is the processing of inquiries: some inquiries are simply furnishing a brochure or a map index; other inquiries involve research of the map and chart, photography and geodetic data bases and preparing a reply about the availability of these data. Inquiries often involve the ordering and distribution of data as well as research for and dissemination of information about cartographic and geographic data. A schedule of fees is used to cover cost of reproduction for standard and special products.

Increase for FY 1982	FY 1982 Base	FY 1982 Estimate	Increase
$	3,413	3,913	+500
(FTP)	(26)	(26)	(...)

An increase of $500,000 is requested to expand the collection of cartographic and geographic data used by Federal, State, local and private users, and to make information data bases of the National Cartographic and Geographic Information Data Service more available by providing computer access through the Survey's Public Inquiries Offices and through State affiliates.

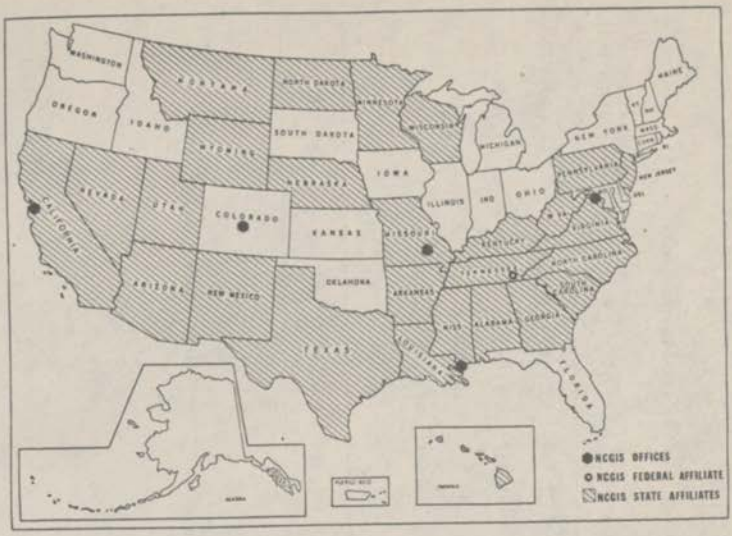
Information currently in these files was gathered for the most part from indexed files and was often obtained from readily available computerized bases. Valuable cartographic and geographic information can be added to these files but in most instances this information must be indexed and coded by USGS staff, its contractors, or affiliates. The expansion of data collection activities is proposed to be handled through cooperatively funded projects with affiliated States agencies. Many States have already recognized the value of a national cartographic and geographic information program and have supported it with manpower and funds. The expanded data acquisition effort requires resources beyond which the States already provide. Because it benefits both the Federal and State governments, joint funding of the effort appears to be the most reasonable approach. A pilot project with the State of Texas has demonstrated the viability of this approach.

This increase is also requested to improve service by providing direct computer access to cartographic and geographic information files at USGS Public Inquiries Offices and State affiliates. This increased access would triple the potential availability of national cartographic and geographic information to the public.

Object Class Distribution

The Object Class detail for this increase is as follows:

Other Services	$485,000
Supplies and Materials	10,000
Equipment	5,000
Total	$500,000



National Cartographic and Geographic Information Services Network

Figure N-8

U.S. GEOLOGICAL SURVEY
Analysis by Subactivity

Activity: Geologic and Mineral Resource Surveys and Mapping

(Dollars in thousands)

Subactivity	FY 1980 Actual (B.A.)	FY 1981 Approp. Enacted	FY 1981 Revised Estimate	FY 1982 Base	FY 1982 Estimate	Increase (+) or Decrease (-) 1982 Est. over 82 Base
Geologic Hazards Surveys	$42,063	$ 49,611	$ 51,161	$51,539	$ 56,639	$ +5,100
Land Resource Surveys	14,809	15,087	15,893	16,074	20,574	+4,500
Mineral Resource Surveys	34,347	33,240	34,816	38,808	44,338	+5,530
Energy Geologic Surveys	35,689	34,530	36,143	38,114	42,114	+4,000
Offshore Geologic Surveys	20,159	20,947	21,881	22,096	24,944	+2,848
Total	147,067	153,415	159,894a/	166,631b/	188,609	+21,978

a/ Includes pay cost supplemental pending.

b/ Includes supplementals pending for Oil Shale Leasing, $1,600; and Alaska Lands, $3,620.

Geologic and Mineral Resource Surveys and Mapping
Subactivity/Element Change Crosswalk
(Dollars in thousands)

Format of FY 1981 Congressional Budget	FY 1982 Request	Format of FY 1982 Congressional Budget	FY 1982 Request
Land Resource Surveys	$ 77,213[a/]	Geologic Hazards Surveys	$ 56,639[a/]
Geologic Framework	17,287	Earthquake Hazards Reduction	37,425
Geomagnetism	2,229	Volcano Hazards	13,135
Earthquake Hazards Reduction	37,425	Ground Failure & Construction Hazards	2,877
Volcano Hazards	13,135	Reactor Hazards Research	3,202
Ground Failure & Constr. Hazards	2,877		
Reactor Hazards Research	3,202		
Climate Change	1,058		
		Land Resource Surveys	20,574[a/]
		Geologic Framework	17,287
		Geomagnetism	2,229
		Climate Change	1,058
Mineral Resource Surveys - No change	44,338	Mineral Resource Surveys - No change	44,338
Energy Resource Surveys - No change	42,114	Energy Geologic Surveys - No change	42,114
Offshore Geologic Surveys - No change	24,944	Offshore Geologic Surveys - No change	24,944
TOTAL	188,609	TOTAL	188,609

a/ The Land Resource Surveys subactivity is divided into two subactivities for the FY 1982 request.

Justification of Program and Performance

Activity: Geologic and Mineral Resource Surveys and Mapping
Subactivity: Geologic Hazards Surveys

(Dollar Amounts in Thousands)

		FY 1981 Appro. Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Earthquake Hazards Reduction	$	32,286	33,625	37,425	+3,800
	(FTP)	(304)	(304)	(304)	(...)
Volcano Hazards	$	12,624	12,835	13,135	+300
	(FTP)	(50)	(50)	(50)	(...)
Ground Failure & Construction Hazards	$	1,751	1,877	2,877	+1,000
	(FTP)	(31)	(31)	(31)	(...)
Reactor Hazards Research	$	2,950	3,202	3,202	...
	(FTP)	(64)	(64)	(64)	(...)
(Common Program Services)	$	(1,996)	(2,118)	(2,266)	(+148)
Total Requirements	$	49,611	51,539	56,639	+5,100
	(FTP)	(449)	(449)	(449)	(...)

Earthquake Hazards Reduction

Authorization: 43 U.S.C. 31(a)
Public Law 95-124 Earthquake Hazards Reduction Act of 1977. The objective of this act is to reduce the risks of life and property from future earthquakes in the United States through the establishment and maintenance of a balanced earthquake program encompassing earthquake prediction, hazard reduction, and research.

Objectives: The goal of the Earthquake Hazards Reduction Program is to mitigate earthquake losses that can occur in many parts of the Nation by providing Earth science data and evaluations essential for land-use planning, engineering design, and emergency preparedness decisions. The five major objectives are: (a) to map and evaluate areas having potential earthquake hazards, (b) to develop the capability to predict the time, place, magnitude, and effects of earthquakes, (c) to determine how reservoirs cause earthquakes and develop criteria for evaluating the potential for inadver-

tent triggering, (d) to aquire and disseminate information on earthquake occurrences, and (e) to establish and maintain a seismic network of digital recording stations.

Base Program: These objectives are mandated as research elements of the Earthquake Hazards Reduction Act of 1977 (P.L. 95-124). In addition, the responsibility for issuance of warnings of earthquake and other geologic hazards under Section 202 of the Disaster Relief Act of 1974 (P.L. 93-288) has been redelegated to the Director, U.S. Geological Survey. The programs of research described below will support development of the capability to carry out these responsibilities in ways that will reduce the effects of natural disaster on life and property.

Expertise in earthquake studies that exists outside of the Federal Government is utilized through a substantial program of contracts with universities, State, regional, and local governmental agencies and private industry.

a. Hazards delineation and evaluation (including identification and delineation of active faults, and areas subject to strong shaking and ground failure) is conducted on a regional scale in major urban areas of high seismic risk. Products, including scientific techniques and various types of maps and reports describing and interpreting geographic variations in earthquake hazards, are aimed primarily at providing a well-informed basis for land zoning decisions at the State, regional, and local governmental levels, and for planning land use by private individuals and groups. The major urban areas of primary concern are: San Francisco, Los Angeles-San Diego, Seattle, Anchorage, Salt Lake City, St. Louis-Memphis, Charleston, South Carolina, Boston, San Juan, Puerto Rico, Reno-Carson City, and Albuquerque (Figure G-1). Typically, studies in any one of these areas begin with a reconnaissance of the geologic causes for past earthquakes and of geologic conditions that influenced the patterns of earthquake damage. These studies then are intensified to a comprehensive, regional delineation, and evaluation of the potential for future earthquakes and of the nature and distribution of geologic conditions that will influence patterns of earthquake damage in the future.

Overall, reconnaissance analysis of the geology and tectonics of earthquake-prone regions with respect to seismicity is underway for much of the Nation. In the Western United States, where high seismic risk is evident on the basis of frequent historic earthquakes, the delineation and evaluation of hazards are partially completed. Activity is now being extended to some Eastern United States urban areas. Intensified studies in FY 1980 were underway in San Francisco and Los Angeles-San Diego, and at least reconnaissance information is being obtained in most other western areas. Evaluation of seismic risk in the Eastern United States region is of concern because, although damaging earthquakes occur less frequently in the East, their severity is demonstrated by such events as the New Madrid, Missouri (1811 and 1812), and Charleston, South Carolina (1886), earthquakes. Moreover, the damaged areas around eastern earthquakes have been larger than those around western earthquakes. By monitoring earthquake activity in selected areas of the Eastern United States, improved estimates of earthquake vulnerablity are expected. Geologic studies are beginning to yield data that can be used to estimate the long-term frequency of earthquakes in both the Eastern and Western United States.

74-939 O—80——90

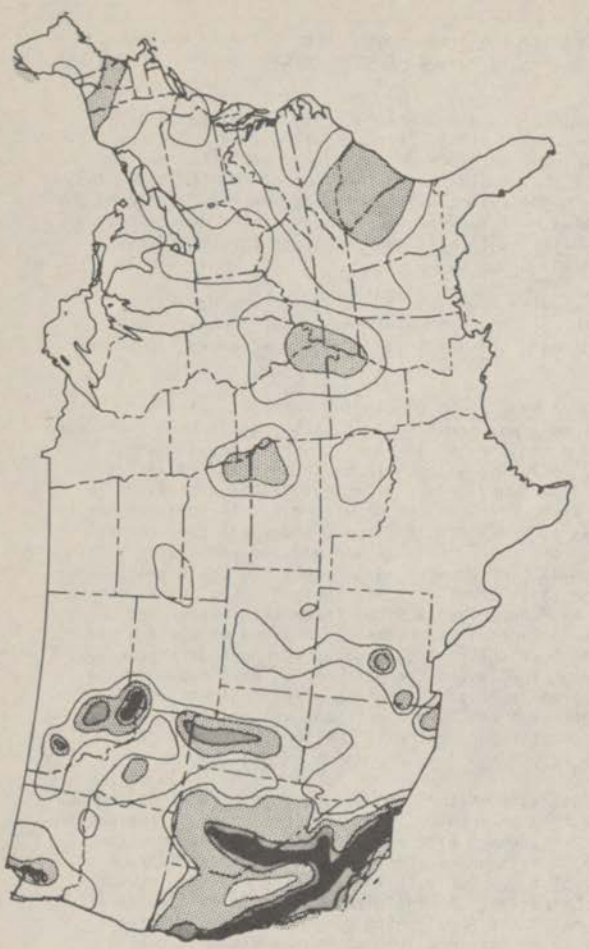


Figure G-1. Regions of earthquake hazards in the United States
(In general, the darker shading represents greater hazards.)

New techniques for evaluation of earthquake hazards and for seismic risk estimation are being developed. Significant advances are being made, e.g.:

- Techniques to estimate recurrence intervals of large earthquakes from the geologic record. Average intervals of 140 years for the San Andreas fault in southern California and approximately 700 years in the upper Mississippi Valley have been estimated based on detailed studies of recent geologic deposits.

- Oil exploration techniques (seismic reflection) have been applied to the problem of identifying the sources of large, Eastern United States earthquakes. In the upper Mississippi Valley, a possible major fault not evident from surface studies was revealed by use of this technique. This fault is coincident with the location of small earthquakes in the New Madrid seismic zone.

- Seismic reflection techniques also identified a subsurface fault in the Charleston, South Carolina, region that could be the source of a large earthquake in 1886 (this work is partially supported by NRC).

- The earthquakes of August 6, 1979, in central California, and October 15, 1979, in Imperial Valley, California, have yielded the most significant suites of strong-motion data ever recorded from single earthquakes. This represents a positive result of years of planning and effort in the installation of strong-motion instrumentation.

- Development of a prototype, digital strong-motion recorder was completed. Testing of the prototype continues.

b. Earthquake prediction research includes field, laboratory, and theoretical investigations of earthquake mechanisms and of the physical characteristics of fault zones. These investigations have been focused on the central and southern California regions and in a few other selected areas of high seismicity around the World, because frequent earthquakes are required to provide field observations and valid tests of possible earthquake precursors. Assessment of various possible geophysical precursors of earthquakes is emphasized in order to develop the analytical and instrumental capabilities for prediction. Reliable prediction depends on observing a variety of precursors, understanding their causes, and understanding the basic physics of the earthquake source. Thus, a prediction research program must be broadly based and its success will depend heavily on observations of precursors and earthquakes using a variety of densely spaced instruments. Multiple observations on a variety of instruments are needed to develop an accurate physical model for earthquake precursors. Instrumentation being installed in foreign areas of high seismicity significantly accelerates the gathering of these observations.

Specific activities which are being undertaken include the following:

- Studies of several types of earthquake precursors including abnormal seismicity patterns, geodetic straining, waterwell fluctuations, geochemical, electrical, and magnetic variations, and unusual animal behavior.

- Experiments in boreholes to determine the physical properties and conditions in active fault zones at depths down to about one kilometer. These experiments are designed to test hypotheses concerning the physics of the earthquake process and precursory phenomena.

- Deployment of networks of instrumentation through cooperative efforts with foreign governments for earthquake prediction research in highly seismic foreign areas including Turkey, the New Hebrides, Caribbean, the People's Republic of China, and others.

- Development of improved capability for processing seismic data at six regional centers to facilitate the analysis and research of possible seismic precursors to earthquakes.

- Development and improvement of instruments for field use that show significant promise of detecting earthquake precursors, including laser-ranging instruments and sensitive strain instruments.

- Integrated, intensive instrumentation and field surveys of a few selected sites in California where moderate earthquakes are expected in the next few years.

- Studies of the physical behavior of rocks near rupture, and modeling of the earthquake processes in the laboratory with specific application to earthquake prediction.

Some recent significant accomplishments include:

- Extensive laboratory and field investigations of earthquake processes and fault zone characteristics have been conducted. In situ stress measurement techniques used in profiles of boreholes gave important results on the state of stress at shallow depths along the San Andreas fault. Drilling in the fault zone itself has yielded important information on the strength and deformability of fault gouge.

- Standardized data recording and computing facilities are being developed with cooperating universities, so that data can be shared between investigators, results verified, and data analysis techniques tested under various conditions and assumptions.

- Dense instrumentation networks have been established and are operating in central and southern California, Utah, Missouri, and other locations. On August 6, 1979, a moderate earthquake occurred near Morgan Hill, California, within one of these heavily instrumented regions, and extremely valuable data were obtained and are being studied for possible premonitory activity.

- A "seismic gap" theory of earthquake occurrence has been developed that states that the rupture zones of large earthquakes tend to fill in, over time and space, the boundaries between crustal plates moving relative to one another. In May 1979, the Director of the Geological Survey publicized the potential for a large earthquake in the Yakataga region of Alaska. The concern was due to a large earthquake in February 1979, with a rupture zone which only partially filled a seismic gap in the region.

- A large volume of important data was obtained before and during an earthquake sequence that occurred in Imperial Valley, California, during October 1979. Twenty-nine, 3-component acceleraometers have yielded the most complete near field strong ground motion data set ever recorded. These data will contribute greatly to establishing engineering design criteria for critical structures in seismically hazardous areas. Geodetic strain and geochemical anomalies were detected prior to this earthquake which may have been valid earthquake precursors. These data contribute to our effort of developing a physical basis for earthquake prediction.

- Detailed geologic studies of the San Andreas Fault zone have revealed that at least nine large earthquakes have occurred in the past 1500 years with an average recurrence interval of 140 + 30 years. Since the last of these large earthquakes occurred in 1857, we are clearly within the period in which the next large earthquake can be expected.

- Observation that since late 1979: 1) about twice as many earthquakes exceeding magnitude 5.5 occurred in California as in the previous 6 years; 2) the rate and direction of strain accumulation in Southern California which had previously been uniform and linear throughout the entire region was undergoing a rapid change in the direction and rate of strain accumulation; and 3) that the detection of unusual increases in radon emanations in wells in the Transverse Ranges is evident.

c. Studies of induced seismicity--Efforts to determine how reservoirs cause earthquakes are being carried out through geologic and geophysical investigations of sites where earthquakes have been triggered and by a major in situ experiment to examine the phenomenon of reservoir-induced seismicity at a reservoir in South Carolina. The filling of this reservoir, during the last quarter of 1977, triggered a large number of small earthquakes at a shallow depth.

Some recent significant accomplishments include:

- Completion of two 1 km deep boreholes into an earthquake cluster at Monticello Reservoir, South Carolina, with associated measurements of stress and fluid pressure. Boreholes at Monticello have demostrated a hydrological connection between the fluids in the reservoir and those at depth. Measure of fluid pressures and stresses in these holes has significantly improved our understanding of the cause of the induced seismicity. This has enabled us to more accurately assess the seismic hazard that the earthquakes represent.

- Installation of a six-station array of seismometers to augment continuing study of induced seismicity of the Toktogul Reservoir, USSR.

- Establishment of a positive correlation between induced seismicity and water depth for a worldwide population of reservoirs.

- Development of a physical model of the processes responsible for reservoir induced seismicity that pose a potential hazard to a nuclear power facility at Monticello Reservoir, South Carolina. This model, based on measurements obtained from wells drilled to observe this

phenomina suggests that the seismic events are occurring on extremely shallow joints and fractures, within several hundred meters of the surface, that the earthquakes are triggered by the subsurface change in fluid pressure resulting from impoundment of the reservoir and that these conditions limit the maximum size of the events.

- o Investigations have begun to determine if a link exists between the Oroville reservoir in California, the magnitude 5.7 earthquake that occurred there in 1975, and ongoing seismicity in the area.

d. Data and Information Services--The National Earthquake Information Service (NEIS) rapidly locates and evaluates the large earthquakes that occur throughout the world, provides data support for the Tsunami Warning System of NOAA, and acquires fundamental data critical for seismic risk appraisal. Products of NEIS include weekly, monthly, quarterly, and annual reports on earthquake activity, maps of earthquake distribution, and information services to the public. Improvement in the efficiency and capability of this earthquake reporting system is being accomplished by addition of telemetry links to Alaska and by increased computer processing of data. Research is carried out on the internal structure of the Earth and its effect on earthquake location and severity, seismicity patterns related to the occurrence of large earthquakes, and on the specification of earthquake sources.

e. In FY 1980 the Geological Survey assumed responsibility for the Global Digital Seismography Network (GDSN) established by the Defense Advanced Research Projects Agency (DARPA) (Figure G-2). The GDSN, which provides extremely high quality, digital seismic data for seismological research, is a unique international information resource. Data from this network and analog data from the Worldwide Standardized Seismographic Network (WWSSN) are provided to Government, university, and private seismological research activities. Data from these networks are used in studies of plate tectonics, Earth structure, and earthquake source mechanisms, and are the key elements in observational research and in the verification of theoretical hypotheses in all areas of seismology.

f. Earthquake Hazards Warning--Effective transmission of technical information about significant earthquake hazards and warnings to State and local officials requires the development of established and knowledgeable points of contact. Points of contact in virtually all States have been established for geologic hazards. Meetings and background educational materials are being prepared to describe the nature and use of technical information about earthquakes. An Earthquake Prediction Evaluation Council has been established to advise the Director on issuing prediction, completeness, and scientific validity of the available data and related matters.

Program Outputs:

	FY 1980	FY 1981	FY 1982
Research projects	150	145	155
Research contracts	120	110	120
Technical reports and maps	230	230	230
Station-years of seismograms from WWSSN and GDSN	124	130	136

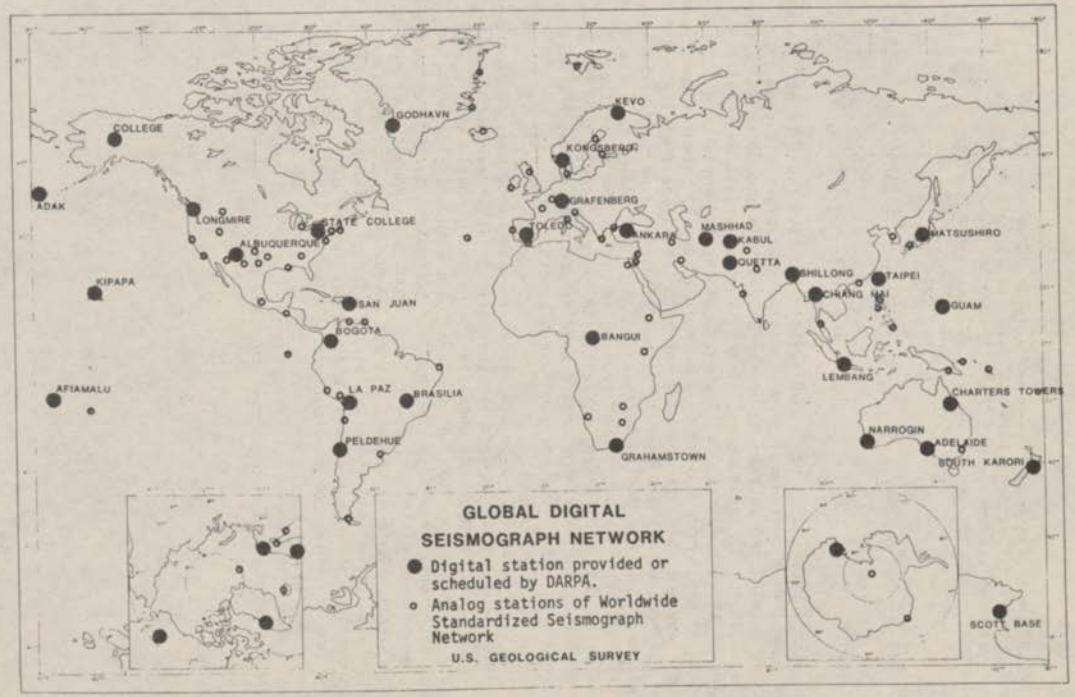

GLOBAL DIGITAL
SEISMOGRAPH NETWORK
Digital station provided or scheduled by DARPA.
Analog stations of Worldwide Standardized Seismograph Network
U.S. GEOLOGICAL SURVEY
COLLEGE
ADAK
LONGMIRE
ALBUQUERQUE
STATE COLLEGE
GODHAVN
KEVO
KONGSBERGH
GRAFENBERG
TOLEDO
ANKARA
MASHHAD
KABUL
QUETTA
SHILLONG
CHIANG MAI
TAIPEI
MATSUSHIRO
GUAM
KIPAPA
SAN JUAN
BOGOTA
BANGUI
LEMBANG
CHARTERS TOWERS
AFIAMALU
LA PAZ
BRASILIA
PELDEHUE
GRAHAMSTOWN
NARROGIN
ADELAIDE
SOUTH KARORI
SCOTT BASE

Figure G-2

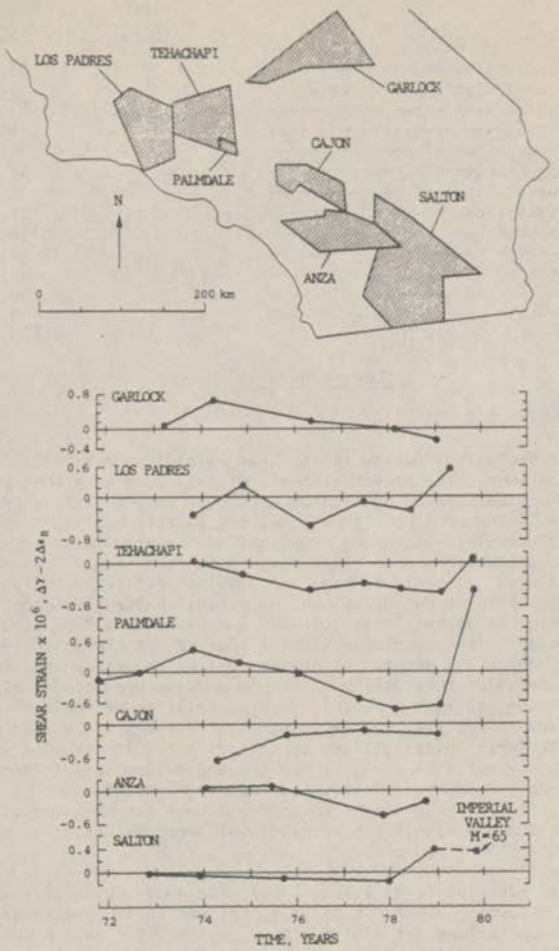
Estimated unit costs for program outputs in FY 1982:

Research projects (internal)	155 @	$158,500
Research contracts (external)	120 @	80,000
Station-years of seismograms from WWSSN and GDSN	136 @	17,000

Increase for FY 1982	FY 1982 Base	FY 1982 Estimate	Increase
$	33,625	37,425	+3,800
(FTP)	(304)	(304)	(...)

The requested increase will be primarily used for five types of activities. 1) Development of a continuous geodetic strain measurement system to observe, in detail, the pattern of pre-seismic strain accumulation on the San Andreas fault. 2) Measurement of the level of stress and other properties of the San Andreas fault zone at depth, and emplacement of instruments at depth for monitoring the fault zone. 3) Expanded geophysical surveys of deep geologic structures related to the Palmdale uplift in southern California, the New Madrid, Missouri seismic zone, and other areas of seismic hazard in the United States. 4) Expanded analytical, field, and laboratory studies of strong ground shaking to assess the effects on structures situated in different terrains and geologic settings. 5) Improve techniques for dissemination of hazard warning and predictive information to local governments, agencies, and land-use planners.

Intensified studies of this type are needed in many earthquake prone areas of the United States but the need is especially great in southern California. Recent geophysical anomalies (abnormal geodetic strain and seismicity) are highly unusual for the area (See Figure G-3) and new earthquake recurrence data suggests that the next major earthquake on the southern San Andreas fault will occur (with about 50% probability) within the next 30 years. This earthquake without adequate warning may cause thousands of fatalities and property loss of tens of billions of dollars. The steps outlined above can greatly aid the prediction of this event as well as reduce its impact on the populace. These activities cannot be undertaken under the base program due to the large cost of each of the individual items without severely reducing the ability of the program to accomplish the objectives stated under the base program.



Geodetic networks in southern California in which deformation of the Earth's surface is measured. Significant changes in surface deformation have been observed before major earthquakes and are evident on some of the southern California networks in recent years. Requested increase will allow wider and more frequent observation of surface deformation.

Figure G-3

Object Classification	Staff Years	Cost
Permanent Positions	3	$ 83,000
Other Personnel compensation		1,000
Total compensation	3	$ 84,000
Personnel benefits		16,000
Travel and transportation of persons		80,000
Transportation of things		50,000
Standard level user charges		10,000
Communication, utilities and other rents		100,000
Printing and reproduction		150,000
Other services		1,530,000
Supplies and materials		80,000
Equipment		1,200,000
Grants		500,000
Total		3,800,000

Volcano Hazards

Authorization: 43 U.S.C. 31(a)

Objectives: The Geological Survey is the lead Federal agency for volcano hazards investigations. The principal goals of this program are to provide up-to-date information, including hazards warnings, to officials of Federal, State, and local Governments, Civil Defense, and disaster relief organizations, of possible impending eruptions and related hazards, such as mudflows, blockage-induced stream flooding, and forest fires. The seven major objectives are: a) monitor, map, and develop predictive tools for the Hawaiian volcanoes Kilauea and Mauna Loa, b) establish baseline geophysical networks and begin geological investigations and hazards mapping studies of selected Cascade and Alaskan volcanoes other than Mt. St. Helens, c) maintain a fulltime monitoring program at Mt. St. Helens and add to the knowledge about its behavior that will permit more precise predictions of subsequent eruptions, d) study crustal dynamics relating tectonic plate movements to volcanic activity and earthquakes of the Western United States, e) carry out hydrologic investigations to determine the impact of a volcanic eruption on water resource systems, f) compile and disseminate information on volcanic hazards to Federal, State, and local governments, and g) establish a facility in the Cascades to act as a base for on-going volcanic monitoring, hazards, and baseline studies of volcanoes potentially threatening to human life and property.

Base Program: In addition to 43 U.S.C. 31(a), the above objectives are mandated by the Disaster Relief Act of 1974, and particularly extend the Supplemental Appropriations Act of 1980, P.L. 96-304. The base program includes a FY 1981 Amendment for $11.5 million. The work described below will support the development of the capabilities to monitor and predict volcano hazards in the United States:

a. Studies of the Hawaiian volcanoes have been ongoing since 1912. The objective of monitoring and developing predictive tools for these volcanoes is achieved by development of fundamental knowledge of volcanoes

and volcanic phenomena peculiar to the Hawaiian chain, where tens of thousands of residents and tourists can be threatened by volcanic activity.

Program activities to be emphasized in FY 1981 and 1982 include:

- o Continuous surveillance of Hawaii's Kilauea and Mauna Loa, two of the world's most active volcanoes.
- o Development and refinement of contingency plans with Hawaii State and county officials, should an eruption of Mauna Loa threaten the city of Hilo (population of about 30,000).
- o Investigations of the mobility and crystallization of lava, during eruptions as well as subsurface injections.
- o Continuation of planning for urgently needed upgrading of the Hawaiian Volcano observatory.

Recent accomplishments include:

- o Expansion of effort in volcanic gas monitoring as another means of detecting premonitory signals of eruptions.
- o Acquisition of additional age determinations to improve understanding of Kilauea's prehistoric eruptive record and recurrence interval, as a basis of eruption prediction.
- o Refinement of the prehistoric behavior of Hualalai Volcano, an eruption of which could pose a serious hazard to the Kona area, a major tourism center, on Hawaii's west coast.

b. Baseline networks, including geophysical (seismographic and tiltmeter), geochemical sensors, and hydrologic stations are being deployed on and around Cascade and Alaskan volcanoes that pose the greatest potential hazards to human life and property. Geodetic stations have also been established on these volcanoes, and are being extended to additional volcanoes in priority order of potential threat. These networks will provide baseline data needed to ascertain any future, long-period ground deformation associated with magmatic processes that might augur eruptive activity. Aerial photographs are being used extensively to provide detail bases for the geological hazards mapping of these volcanoes. The baseline scientific information thus derived may provide a basis for prediction and early warning of an eruption. Administrative and public reports will be issued identifying the extent and location of potentially hazardous volcanoes; these reports will be prepared in a format that will be useful for contingency planning by State and local governments as well as by other concerned Federal agencies.

c. The current eruptive activity at Mt. St. Helens can be expected to last several years, perhaps even decades, if the 19th century activity of the volcano provides any analogy. Thus, the Geological Survey must

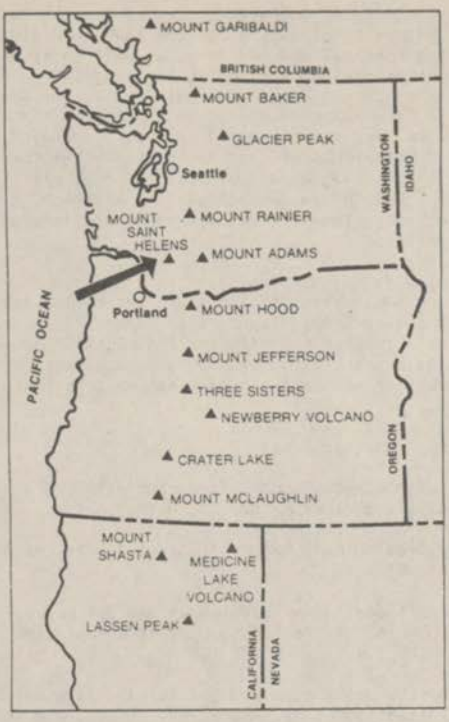
maintain the equipment and operating center, as well as the capability to continue a close watch on Mt. St. Helens in order to provide the day-to-day assessment of volcanic hazards to the Forest Service, FEMA, and other Fedral agencies, as well as to State and local emergency preparedness, law enforcement, public health and safety agencies of Washington and Oregon. A substantial part of the funds for this program are for helicopter contracts, this being the only way to get to large parts of the region quickly and safely.

d. The volcanoes that comprise the Cascade Range (Figure G-4) such as Mt. St. Helens, make up a part of the so-called "Ring of Fire" around the Pacific Basin. All of these volcanoes are products of Earth plate motion, along with most of the large-magnitude earthquakes in the areas. In light of the recent awakening of Mt. St. Helens, plus a series of large earthquakes in California, a study is being undertaken in order to provide broad-based understanding of the regional tectonic setting relating to volcanism and earthquakes. The ultimate results of this study provide critical information needed to sharpen our predictive capabilities for future eruptions by better establishing any causal relationships between volcanism and these other processes.

e. Scientific investigations of changes in land and water relationships caused by the eruption of Mt. St. Helens are enabling the Geological Survey to better evaluate the current and long-term effects of volcanic and seismic activity on water resource systems. These investigations will provide the basis for predicting future changes and impacts on land and water resources as a result of volcanic activity at Mt. St. Helens or other volcanic centers in the Pacific Northwest or Alaska.

f. Hydrologic activities at Mt. St. Helens include: 1) Flood potential studies to (a) improve the capability to model mudflows and floods in steep terrain conditions, and (b) constantly update the hazard potentials for the Toutle, Lower Cowlitz, Kalama, and Lewis Rivers. 2) Geomorphology studies to (a) determine the manner and rates of debris pile and channel erosion in the Toutle-Lower Cowlitz system, and (b) establish the present conditions and to monitor changes in erosion processes in the Kalama and Lewis River Systems. 3) Sediment transport modeling of the Toutle-Lower Cowlitz system. 4) Determination of snow and ice volumes and the effects of ash deposition on the melting of glacial ice. 5) Biological studies of lakes and streams to determine the effects of mudflows and ashfall. 6) Determination of the effects of massive sedimentation in the Lower Cowlitz River on ground water levels and quality. 7) Determination of the effects of volcanic ash on irrigated agriculture in Eastern Washington.

Hydrologic activities for other volcanoes in California, Oregon, Washington, and Alaska include: 1) Estimates of the volume of ice and on the volcanoes at different times during the year and the potential runoff given various melting rates. 2) Measurement of stage discharge relationships, stream channel geometry, and floods. 3) Identification of streams, lakes, and reservoirs that might be adversely affected by landslides, mudflows, and floods, caused by an eruption. 4) Baseline water-quality information on streams, reservoirs, lakes, precipitation, and ground water which are likely to be affected by ash falls.



LOCATION MAP - MOUNT ST. HELENS
and other Volcanoes of the Cascades

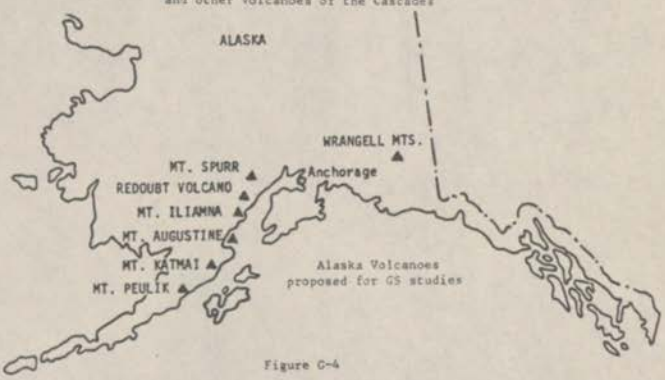


Figure C-4

g. A series of reports is being prepared on the continuing hazards resulting from Mt. St. Helens. This series covers the immediate eruptive hazards such as ash fall-out and mudflows, as well as secondary effects on agriculture, public health, air pollution, and other socioeconomic factors. This series consolidates data obtained by the Geological Survey, as well as information supplied by the Public Health Service, NOAA, Forest Service, and other Federal and State agencies. This series on Mt. St. Helens, as well as reports on other Cascade and Alaskan volcanoes, are being made available to local officials in Washington, Oregon, California, and Alaska; in addition, a series of workshops is being conducted to further disseminate information to State and local officials.

h. A facility is currently being established to provide a base for ongoing volcanic monitoring and hazards studies, and the collection of baseline data on volcanoes posing greatest potential hazards. This facility will also serve as a support facility for the continuing monitoring and study of Mt. St. Helens activity, and serve as a common data collection point for continuous seismic and ground tilt monitors installed on Cascade volcanoes.

Other significant accomplishments are:

- Installation of seismic and ground-deformation networks and automated gas detection/analysis devices on Mt. St. Helens.
- Publication of revised volcano hazards reports for Mt. Hood, Mt. Shasta, and Mt. Baker.
- Installation of additional seismic networks and the upgrading of older networks on Mt. Hood and Mt. Ranier to provide a real-time monitoring capability.
- Reconfiguration of the Washington and California State seismic networks to improve event-detection at Mt. Adams, Mt. Shasta, and Lassen Peak.

Projected workload:	FY 1981	FY 1982
Volcano hazards mapping (km^2)	750	750
Seismographs installed	12	9
Seismographs monitored/data processed	28	37
Seismic refraction/reflection lines measured	4	2
Tiltmeters installed	6	6
Tiltmeters monitored	13	19
Geodimeter lines established	18	--
Geodimeter lines monitored	25	25
Gravity stations established	18	3
Gravity stations monitored	25	28
Infrared survey's	4	2
Geochemical (gas) monitoring (no. volcanoes)	1	1
Global volcanological data analysis	3	3
Volcano observatories	2	2
Publications	8	8
Flood Modeling of Stream Systems (miles)	500	500
Aerial Stream Photography (miles)	1,200	1,500
Determination of volumes of glacial ice	24	24
Determination of volume of lakes	12	6
Survey river reaches	14	20
Lake limnology surveys	36	21
Operation of streamflow stations	18	18
Operation of water quality recorders	8	4
Operation of water quality sampling sites	140	140
Quality of precipitation sites	15	15
Infiltration test plots (debris and ash fall areas)	4	4
Study reaches-river borne sediment	16	8
Intensive surveys of sediment transport-Toutle River	3	3
Develop photogrametric maps of streams impacted by volcanic debris and ash (stream miles)	100	100
Operation lake gage	17	17

Estimated unit costs for selected program outputs:

	FY 1981	FY 1982
Volcano hazards mapping (km^2)	$ 935	$ 950
Seismographs installed	60	45
Seismographs monitored/data processed	1,450	1,880
Seismic refraction/reflection lines measured	400	300
Tiltmeters installed	30	35
Tiltmeters monitored	1,070	1,200
Geodimeter lines established	35	--
Geodimeter lines monitored	1,360	1,400
Gravity stations established	35	20
Gravity stations monitored	665	700
Infrared survey's	350	200
Geochemical (gas) monitoring (no. volcanoes)	500	500
Global volcanological data analysis	50	10
Volcano observatories	250	250
Publications	35	35

Aerial Stream Photography	150	150
Determination of volumes of glacial ice	7,500	7,500
Operation of streamflow stations	4,200	4,200
Operation of water quality recorders	8,700	8,700
Operation of water quality sampling sites	6,000	6,000
Quality of precipitation sites	8,000	8,000
Operation lake gage	1,700	1,700

Increase for FY 1982	FY 1982 Base	FY 1982 Estimate	Increase
$	12,835	13,135	+300
(FTP)	(50)	(50)	(...)

The increase will be used to offset increased cost for helicopter services, which are vital to program accomplishment.

Object Classification

Other Services	$300,000
Total	$300,000

Ground Failure and Construction Hazards

Authorization: 43 U.S.C. 31(a)

Objectives: This program is the primary focus of engineering geology research in the United States Government. Emphasis is placed on the study of the engineering behavior of earth materials and geologic processes as they affect the works of man. Particular emphasis is directed to those materials and processes that pose ground failure hazards. The program also conducts Arctic Environmental Geology Studies that collect and synthesize geologic information needed by planners for proposed Alaska facilities such as pipelines.

Base Program:

a. The Ground Failure and Construction Hazards Program emphasizes field and laboratory engineering geology research into geologic processes, particularly processes that may result in ground failure hazards; techniques for measuring properties and for predicting behavior of earth materials as they affect engineered structures; and areal engineering-geologic mapping either to demonstrate how to apply new techniques and scientific advances or because a major Federal interest is involved. This Program, though small, is the principal source of expertise to implement provisions of the Disaster Relief Act of 1974 concerning landslides, mudslides, and other ground failure hazards.

Principal activities include:

- Development of soil-mechanics techniques to determine relative susceptibility of slopes to failure, to predict dynamic response to seismic shaking, and to solve other problems important in studying ground failure hazards.

- Rock-mechanics investigations, including instrumentation for monitoring slope movements and rock deformation, measurement of rock properties, and case studies of rock types in regard to their behavior when used as foundation and construction material.

Significant recent results include:

- Completion of engineering geology mapping of Salt Lake City and vicinity and of reports on the subsurface geology of Washington, D.C., Boston, and New York City that will influence engineering practice in those areas.

- Completion of a detailed geologic map of the Pacific Palisades landslide area in the city of Los Angeles indicates rock types susceptible to landslides.

- Completion of UNESCO publication "Principles and Practice of Landslide Hazards Zonation."

Program Outputs:

	FY 1980	FY 1981	FY 1982
Research projects	12	19	30
Major technical reports	19	10	10
Maps	5	13	5

Estimated unit costs for program outputs for FY 1982:

	FY 1982
Major technical reports	10 @ $184,000 per study
Maps	5 @ $184,000 per study

b. Arctic Environmental Studies emphasizes study of the unique geologic-environmental conditions that exist in Alaska. Geotechnical data are especially important in order to determine the proper engineering techniques and procedures to use for transportation/development routes, not only to minimize disruption of the natural environment, but also to provide economical and safe methods of design. Current major areas of study pertain to engineering-geologic mapping of transportation/development corridors, including the proposed Alaska Highway gas pipeline and the Arctic Coastal Plain between Prudhoe Bay and the Canadian border.

Significant recent results include:

- Completion of additional maps showing near-surface geologic materials along the proposed Alaska Highway pipeline route. Conditions in the Brooks Range will be especially critical to the uninterrupted flow of oil and gas to environmental impact problems.

74-939 O—80——91

Increase for FY 1982	1982 Base	1982 Estimate	Increase
$	1,877	2,877	+1,000
(FTP)	(31)	(31)	(...)

Ground failure as caused by landslides, subsidence, swelling clay shales, and construction-induced rock deformation is the most wide spread and costly geologic hazard in the United States affecting most communities from time to time and many communities severely much of the time. A recent National Academy of Science report states that over the past 50 years damage from landslides and subsidence alone have exceeded combined losses from floods, earthquakes, hurricanes, and tornadoes by more than a factor of three. Another recent National Academy of Science report, dated 1978, estimates that direct and indirect costs of landslides in the United States now exceeds a billion dollars a year. While the annual toll on lives is less than that from other natural hazards such as floods, catastrophic ground failures are responsible for some deaths every year in addition to this vast property damage.

The national concern about losses from hazardous environmental events was strongly expressed through the enactment of PL 93-288, the Disaster Relief Act of 1974. This act which includes provisions that the Federal Government be prepared to issue warnings of disasters to State and local officials and provide technical assistance to them concerning the warnings, specifically enumerate certain geological hazards; i.e., earthquakes, volcanic eruptions, landslides, and mud slides, and include a similar obligation toward other ground failure hazards other than landslides.

At the present time the Federal Government through the Geological Survey is developing comprehensive programs for providing hazard warnings and assistance in such areas as volcanoes and earthquakes. But presently there is no such comprehensive program in operation for landslides or other ground failure hazards. Figure G-5 shows the distribution of these hazards in the conterminous United States and Alaska.

The proposed increase begins to address this gap in the Survey's natural geologic hazards program. The objectives of the program are to:

- o establish a nationwide information exchange for ground failure hazards;
- o establish an operating subprogram for landslide hazards;
- o establish a coordinated program for swelling clay hazards mitigation;
- o initiate a program of subsidence hazard mitigation; and
- o do research in rock deformation hazard mitigation.

In FY 1982 a program that begins to meet these objectives is proposed. Specifically U.S. Geological Survey will:

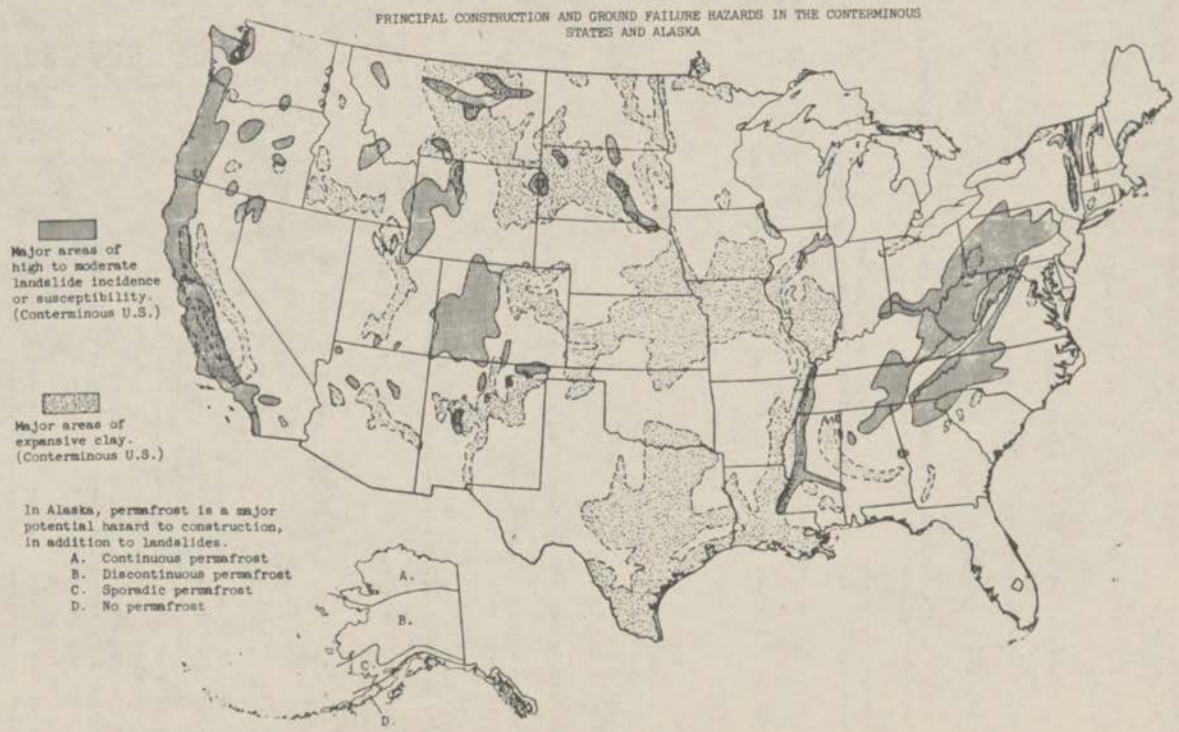

PRINCIPAL CONSTRUCTION AND GROUND FAILURE HAZARDS IN THE CONTERMINOUS STATES AND ALASKA
Major areas of high to moderate landslide incidence or susceptibility. (Conterminous U.S.)
Major areas of expansive clay. (Conterminous U.S.)
In Alaska, permafrost is a major potential hazard to construction, in addition to landslides.
A. Continuous permafrost
B. Discontinuous permafrost
C. Sporadic permafrost
D. No permafrost
A.
B.
C.
D.

Figure C-5

- o initiate establishment of a nationwide information exchange for ground failure hazards;
- o initiate landslide hazard information exchange for ground failure hazards;
- o initiate landslide hazard mitigation programs;
- o develop techniques for landslide hazard zonation;
- o initiate a nationwide regional inventory of landslide hazards;
- o begin the development of predictive models for landslide occurrence based on reoccurrence intervals; and
- o conduct technology transfer workshops on occurrence, distribution, and severity of landslides and swelling clay shale hazards.

Eventually, the program will concern itself with all types of ground failure hazards, including landslides, subsidence, swelling clay shales, and rock deformation. For each hazard, the following will be examined:

- o where the hazard occurs;
- o what happens during the event;
- o how it can be predicted;
- o how it can be avoided;
- o how to lessen the impact to address the societal needs; and
- o how to translate the scientific and technical information generated into terms helpful to a wide spectrum of specialized and general users.

The program will involve jointly funded projects with State and local agencies and will utilize expertise in academic institutions and private industry as well. Participation at the State and local level will insure that the results of such scientific research are applied to the most severe problem areas.

Object Class Distribution

Object Classification	Staff Years	Cost
Permanent positions	1	$35,000
Personnel benefits		4,000
Travel and transportation of persons		30,000
Transportation of things		10,000
Standard level user charges		5,000
Communication, utilities and other rents		15,000
Printing and reproduction		60,000
Other services		491,000
Supplies and materials		200,000
Equipment		150,000
Total		$1,000,000

Reactor Hazards Research

Authorization: 43 U.S.C. 31(a)

Objectives: The Reactor Hazards Research Program is designed (1) to identify and improve our understanding of geologic processes that may be hazardous to nuclear power reactors, and (2) to determine the geographic distribution and expected frequency and severity of these processes, in order to help expedite the safe siting and design of nuclear power reactors in the United States. Figure G-6 shows the locations of nuclear power plants under construction where geologic analyses are needed prior to licensing.

Base Program: Information developed in the Reactor Hazards Research Program is fundamental to safe siting of nuclear reactors and in the safety review and licensing process of the Nuclear Regulatory Commission (NRC). In addition, knowledge and expertise developed in this program enables the Geological Survey to advise the NRC of the adequacy of geologic and seismic studies of sites that have been conducted and submitted by applicants during the licensing process. The information also is directly applicable to siting of other major installations, such as coal or oil shale fuel plants, oil and gas pipelines, and liquified natural gas facilities.

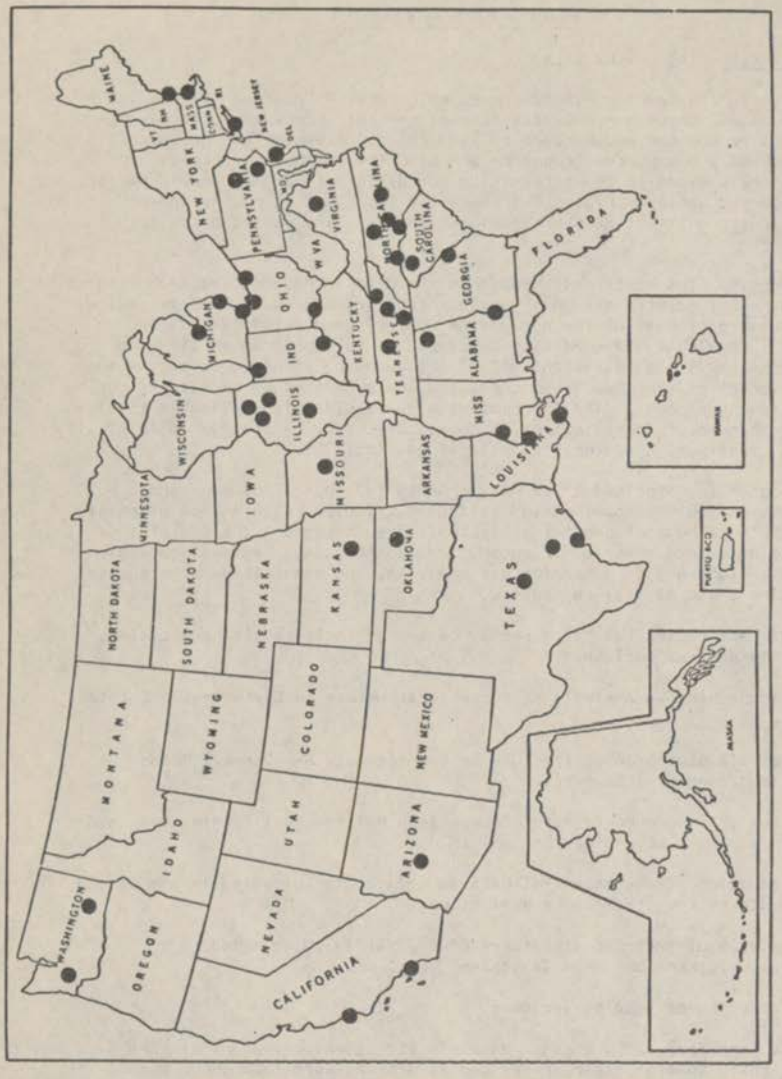
This program is comprised of two major parts (a) topical studies and research, and (b) regional geologic studies. Topical studies are primarily research in methods of age-dating tectonic events through the use of paleontologic, radiometric, or geophysical techniques. Regional geologic studies include geologic mapping and analysis, and examination of trenches, excavations, and natural exposures.

Principal activities related directly to energy facility siting decisions under this program include:

- o A comprehensive analysis of tectonic structure in the Atlantic Coastal Plain.
- o Analysis of tectonic structure in Connecticut, New Jersey, Rhode Island, and Massachusetts.
- o Research in ground failure processes in Arizona, California, and Texas for use in site evaluation.
- o Evaluation of the potential hazards related to volcanism in the Cascade Mountains for use in site evaluation.
- o Analysis of tectonic structures of California, Washington, Missouri, Kentucky, and Tennessee.

Significant recent results include:

- o The Cape Fear Arch, a major Mesozoic structural component of the Atlantic Coastal Plain, persisted as a broad warp throughout the Pleistocene. The lack of associated young faulting expressed in the



MAP SHOWING NUCLEAR POWER PLANTS UNDER CONSTRUCTION WHERE GEOLOGIC ANALYSIS IS NEEDED PRIOR TO LICENSING.

Figure G-6

shallow subsurface and the low level of seismicity provides the basis for concluding that the arch does not present severe restraints in engineering design of critical facilities such as nuclear power plants.

- Studies of subsidence resulting from saline solution mining have provided data regarding minimum thickness of overburden and rock strength parameters necessary to assure that no catastrophic failure of the bedrock occur which could damage large engineered facilities.

- Geologic mapping of the Virginia Coastal Plain has permitted delineation of a major en echelon fault zone extending from Stafford to at least a few miles east of Richmond. Although strata as young as Pliocene are displaced by some segments of the faults the zone does not appear to have been active since early Pleistocene and the structure should not present problems in seismic engineering design.

- The recent series of eruptions at Mt. St. Helens provided baseline data for risk assessment of the various hazards to engineered structures resulting directly or indirectly from volcanism.

Program Outputs:

	FY 1980	FY 1981	FY 1982
Research projects	30	25	23
Maps	20	17	15
Major technical reports	10	10	10

Estimated unit costs for program outputs in FY 1982:

Maps	15 @ $132,000 per study
Major technical reports	10 @ 99,400 per study

Justification of Program and Performance

Activity: Geologic and Mineral Resource Surveys and Mapping
Subactivity: Land Resource Surveys

(Dollar Amounts in Thousands)

		FY 1981 Appro. Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc (+) or Dec (-)
Geologic Framework	$	11,940	12,787	17,287	+4,500
	(FTP)	(246)	(246)	(246)	(...)
Geomagnetism	$	2,135	2,229	2,229	...
	(FTP)	(29)	(29)	(29)	(...)
Climate Change	$	1,012	1,058	1,058	...
	(FTP)	(10)	(10)	(10)	(...)
(Common Program Services)	$	(607)	(661)	(792)	(+131)
Total Requirements	$	15,087	16,074	20,574	+4,500
	(FTP)	(285)	(285)	(285)	(...)

Geologic Framework

Authorization: 43 U.S.C. 31(a)

Objectives: To increase the understanding of the Nation's geologic framework and the geologic processes that have shaped it in order to better support national mission programs, among them: prediction and mitigation of geologic hazards; land, mineral, and energy resource use and development; and man's impact on the environment.

Base Program: The Land Resource Surveys Subactivity is described in terms of three program elements; Geologic Framework, and Geomagnetism and Climate Change which emphasize acquisition of baseline information needed to support ongoing and future mission activities. Application of this knowledge provides mission programs critical data necessary for more effective utilization of the Nation's land resources and a reduction in losses from geologic hazards. Mineral and energy resource mission programs also depend on a fundamental understanding of the Nation's geologic framework.

Research carried out under the Geologic Framework item is critical not only to hazards reduction, resource utilization, and environmental impacts, but also to many other mission-oriented activities of the Geologial Survey. This research provides a major part of the information-base utilized by other Federal and State agencies, as well as the scientific community and private industry in meeting the Nation's need for geologic information regarding its land, energy, and environmental resources.

This program element includes three subelements: (1) geological, geochemical, and geophysical surveys to determine the distribution and properties of both rocks and unconsolidated materials, (2) studies to determine the ages of those materials in order to determine rates and frequencies of particular geologic processes, and (3) studies of geologic processes responsible for the formation, modification, and distribution of those materials within and at the surface of the Earth.

Geological surveys determine the spatial relations of rock materials at or near the surface of the Earth. Combined with geophysical measurements of variations in gravity and the local magnetic and electrical fields, this information can be projected to infer the distribution and shape of rock bodies at greater depths. Data from drill holes, where available, are used to augment this synthesis. This baseline information is commonly summarized in the form of geological or geophysical maps which show the distribution of rocks and surficial materials such as gravel, sand, and soil, as well as unstable areas (of crucial interest in engineering and environmental applications as well as resource assessment), and other maps which show the relations of rocks at the surface and at various depths (used in mineral and energy resource evaluation and other applications). Geochemical surveys indicate the distribution of trace elements in near-surface rocks, soils, and vegetation. These surveys are crucial to a better understanding of the natural and man-induced distribution of these elements and to the acquisition of knowledge of chemical processes. Knowledge of both is necessary to an evaluation of major environmental problems affecting energy and mineral development.

Knowledge of geologic history is basic to an understanding of the geologic framework of an area. Ability to accurately date geologic desposits and to correlate them both with deposits in nearby areas and other parts of the world is critical to an understanding of problems such as history of ore formation, timing of latest fault activity, earthquake frequency, rate of climate change and others.

Determination of age is based on the decay of suitable radioactive elements held in rocks and minerals; relative ages are commonly established by studies of fossil plants and animals contained in rock strata. Studies to provide this information and to improve techniques for dating and correlation are, therefore, an essential part of this program.

An understanding of the processes that have interacted through geologic time to produce rocks and shape the geologic structure is also essential to an understanding of the Nation's geologic framework. Especially critical are field and laboratory studies of processes by which igneous and metamorphic rocks are formed in the Earth's crust and studies of the manner in which chemical reactions between various rock components are affected by heat and pressure.

Improved understanding of the Nation's geologic framework has:

- Provided the knowledge base without which mission programs related to earthquake hazards reduction, nuclear reactor siting, and urban studies would have been delayed for decades.

- Developed a better basis for hazard assessment and mitigation which has resulted in better site selection or in improved design criteria for nuclear reactors, dams, and petroleum pipeline routes.

- Provided the Nation with concepts which have enabled it to meet the challenge of new problems in geothermal energy, climate change, and nuclear waste management.

- Enabled the Geological Survey to synthesize mission-produced data to more effectively serve the Nation in areas of nuclear test containment and in EIS preparation.

- Provided a better informed basis for resource appraisal and related national policies in oil and gas, uranium, and geothermal resource exploration and development.

- Promoted more effective use of the Nation's energy and mineral resources and at the same time minimized the potential for negative environmental impact in coal lands of both Eastern and Western States.

Accelerated depletion of energy and mineral resources, increased reliance on alternate energy sources (solar, magmatic, geothermal, and nuclear), as well as geologic factors controlling food production (climate, fertilizer availability, soils) and the relation between water, soils and disease, and other diverse problems will require increasingly detailed and sophisticated knowledge of the Nation's geologic framework in the coming decade. Concurrently, ongoing mission programs in environmental impacts, energy and mineral resource assessment and development, and reduction of geologic hazards will continue to rely on an enlarged and up-to-date fund of geologic knowledge. A major goal of this program is to put into place tools essential to ongoing Survey missions.

Principal activities under this program element in FY 1982 will include:

- Continue systematic analysis of the geologic structure and history of Appalachians and Coastal Plain in Georgia and the Carolinas. Geologic mapping of one 2° area will be completed. Vital stratigraphic and paleontologic investigations will continue. Gravity and magnetic investigations at selected sites across the eastern overthrust will be completed (missions impacted: oil and gas and mineral resource assessment, reactor hazards, earthquake hazards, nuclear waste management).

- Continue systematic analysis of the framework geology of northwestern conterminous United States from the tectonically stable interior to the active margin of the continent. Geologic maps of two 2° areas will be completed and one new investigation begun (missions impacted: volcano hazards, mineral assessment, energy and geothermal resource assessment, earthquake hazards, nuclear waste management).

- Study the geologic transition between the Colorado Plateau and Basin and Range Province. One additional geologic investigation will begin and seismic reflection data will be acquired across the transition (missions impacted: mineral resource assessment, oil and gas, earthquake hazards, reactor hazards).

- Study the geologic structure and earth history from the ocean floor onto the continent along two corridors on the tectonically active western edge of the continent in northern California and northern Washington (missions impacted: oil and gas and mineral resource assessment, earthquake hazards, reactor hazards, nuclear waste management).

- Continue analysis of the rock types and structure of the Precambrian core of the continent from Lake Superior into the eastern part of the Rocky Mountains.

- Investigate the origin, composition, and history of emplacement of major granitic plutons in Alaska, California, and Idaho. Begin investigations in the heretofore unknown west-central part of the Idaho batholith (missions impacted: mineral and oil and gas resource assessment, geothermal energy, uranium resources, volcano hazards, and nuclear waste management).

- Study the composition, physical properties, and tectonic response of the lower crust and upper mantle through geophysical characterization of the deep structure, laboratory investigation of rock properties at conditions simulating great crustal depths, and field investigations of rocks derived from great depths in the crust (missions impacted: mineral and oil and gas resource assessment, geothermal energy, nuclear waste management, reactor hazards).

- Continue systematic investigations to establish the ages of rocks and earth materials on the continent and adjacent offshore areas. Studies incorporating paleontologic techniques will be focused to provide timely stratigraphic and chronometric data, applicable to other Bureaus and Department programs (missions impacted: environmental aspects of coal development, mineral resource assessment, nuclear waste management).

Recent accomplishments include:

- Identification of surface structure and rock types in the southern Appalachian Piedmont and Blue Ridge, in support of interpretations of seismic data concerning the thrust-origin of the Appalachians and the resulting expansion of potential for hydrocarbon occurrence.

- Completion of surficial geologic material maps in Massachusetts and Connecticut, these maps will provide basic information concerning the distribution of construction aggregates, environmental geologic hazards associated with surficial materials, and latest earth history in southern New England.

- Completed maps depicting in detail the crustal structure of eastern Kentucky. These maps show for the first time the distribution of faults and fractures in the region; the data are vital to interpreting the origin of earthquakes recently experienced in the region, and to interpreting the structural position of potential fossil fuel resources.

- Developed a dating technique, using sequences of selected rodent fossils that permit refined dating of deposits as old as eight million years. Where other techniques cannot be used, the new technique is essential to evaluate times and frequency of crustal movements in areas considered for reactor or waste isolation facilities.

- Recognized for the first time the overthrust character of large tracts of Precambrian rocks in northwestern Montana, opening new possibilities there in exploration for minerals and fossil fuels.

Program Outputs:

	FY 1980	FY 1981	FY 1982
Reports	163	155	149
Maps	62	58	54

Estimated unit costs for program outputs in FY 1982:

Reports and maps----------203 @ $59,270

Increase for FY 1982	FY 1982 Base	FY 1982 Estimate	Increase
$	12,787	17,287	+4,500
(FTP)	(246)	(246)	(...)

Systematic knowledge of the deep geologic structure beneath the North American continent is required to develop a better understanding of the occurrence of U.S. energy and mineral resources, as well as the origin of geologic hazards.

Within the last few years, new seismic data have revealed extensive areas where possible mineral and energy-bearing geologic formations have been concealed in overthrust belts in the Eastern and Western United States (Figure G-7). Identification of the concealed formations has doubled the area in the eastern U.S. and has greatly increased the area in the western U.S. for petroleum and mineral exploration. Only deep continental exploration can identify additional structures that have not been recognized and probed by conventional practices. Knowledge of the deep structure of the United States is also useful for meaningful understanding of the origin of volcano and earthquake hazards. Investigations will identify the position of zones at great depths along which crustal plates may be slipping past one another or over the mantle; this movement produces crustal stress with rupture and resultant earthquakes. Levels of intrusion of molten rock can be identified, permitting identification of possible sites of volcanic activity well in advance of eruptions.

This increase will be used to gather data using geophysical and geochemical techniques to identify the structure, composition, age, and processes active in the deep crust. Analysis of the data will lead to new concepts and understanding of the deep crust for direct application to exploration for mineral and fossil fuel deposits, and mitigation of geologic hazards.

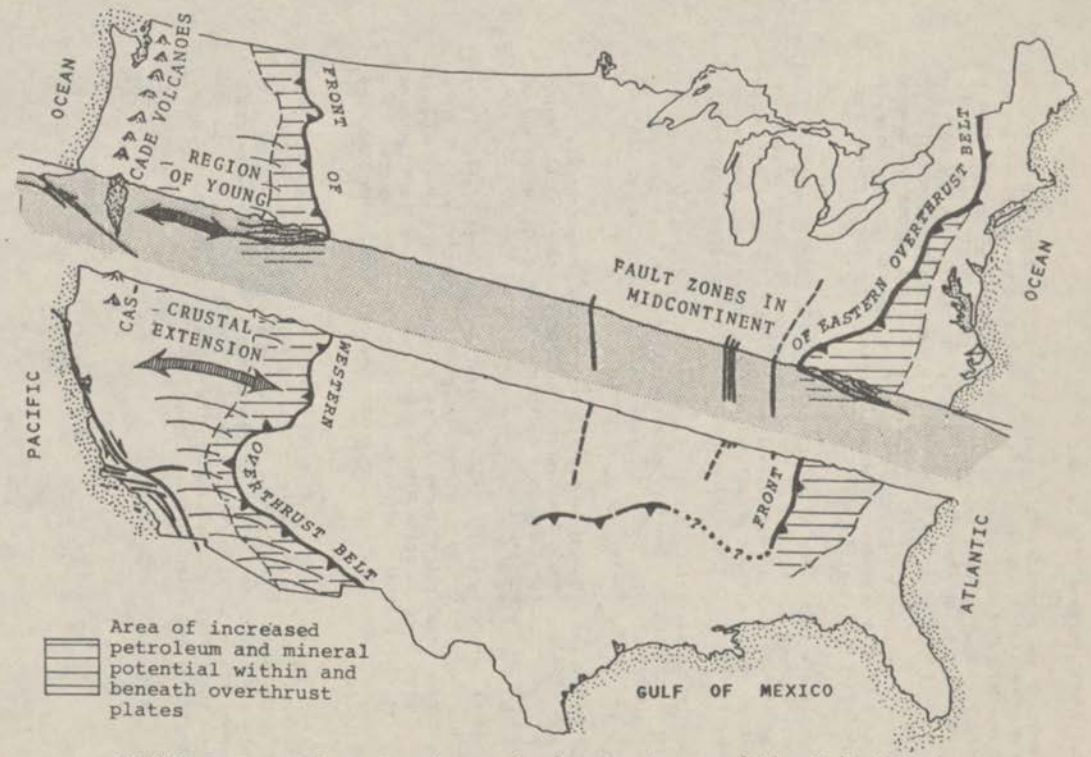


FIGURE G-7 . Selected major geologic structures of the United States to be investigated in deep crustal studies activities. Shaded area is vertical section showing inferred configuration of the upper crust.

Specifically the increase will be used:

- to acquire and process seismic reflection data in order to understand the deep crustal structure in (1) the overthrust belts of eastern and western United States, where potential for occurrence of petroleum in deeply buried structures has recently been demonstrated; (2) Midcontinent region where buried major structures likely control occurrences of metallic mineral deposits and sites of potential earthquake activity; and (3) western United States across the area of youthful extension of the continental crust where physical changes in the deep crust and upper mantle may be responsible for high earthquake and volcanic activity (Figure G-7).

- To accelerate completion of a national magnetic anomaly map, which will greatly improve delineation of the structure of Precambrian basement buried beneath younger sedimentary rocks. The U.S. is the only major developed nation without a national magnetic anomaly map; completion of a map is vital to our mineral and petroleum exploration industries.

- To acquire geoelectrical soundings, heat flow, and gravity measurements, and to identify properties of deep crustal materials whose distribution has been delineated by the seismic reflection surveys of item 1 above.

- To determine the chemical composition and ages of deep crustal materials using isotopic techniques. Such determinations will help define major structural breaks and differences in origin among buried segments of the lower crust.

- To collect materials and geophysical data through participation in deep drilling projects on the continent designed to identify and characterize deep crustal materials and processes. The studies would be conducted in cooperation with industry, Federal and State agencies, and universities as part of the national program of continental drilling for scientific purposes, recommended by the National Academy of Sciences.

About half of the funding for this increase will be used for data collection through commercial contracts involving the application of existing industrial technology in geophysical exploration and drilling. Joint laboratory measurements and data interpretation will be conducted by the Survey, universities, and industry. Results of investigations will be published by the Survey as data sets for the geophysical investigations, maps and sections, and interpretative papers.

Object Classification	Staff Years	Cost
Permanent Positions	20	$ 600,000
Other personnel compensation		1,000
Total personnel compensation		$ 601,000
Personnel benefits		60,000
Travel and transportation of persons		100,000
Transportation of things		20,000
Standard level user charges		60,000
Communication, utilities and other rents		80,000
Printing and reproduction		80,000
Other Services		2,520,000
Supplies and materials		479,000
Equipment		300,000
Grants		200,000
Total	20	$4,500,000

Geomagnetism

Authorization: 43 U.S.C. 31(a)

Objectives: The Geomagnetism Program supports observatories and laboratories which make measurements of changes in the strength and direction of the Earth's magnetic field. The data are used in the preparation and publication of navigational charts, topographic maps, and specialized magnetic surveys used by industry and Federal and State Governments.

Base Program: The Geological Survey maintains 11 geomagnetic observatories. These are located in Fredericksburg, Virginia; San Juan, Puerto Rico; College, Sitka, and Barrow, Alaska; Guam; Tucson, Arizona; Boulder, Colorado; Newport, Washington; Fresno, California; and south Texas. Data from these observatories, from the NOAA observatory at Hawaii, a State operated observatory at Tulsa, Oklahoma, and from about 150 field sites throughout the United States where measurements are taken at 5-year intervals, are used to produce the five-year revisions of the U.S. Magnetic Charts and the mathematical model of the world magnetic field. The continuous data obtained by the observatories are studied to characterize and record the slow changes and evolution of the magnetic field and to understand the interaction between the Earth's magnetic field and that of the Sun. Values of the magnetic declination resulting from these studies are used on a great number of charts and maps produced by various Federal agencies including the topographic maps produced by the Geological Survey, the navigational charts produced by the National Oceanographic and Atmospheric Administration and FAA. Within the Geological Survey, the basic geomagnetic data provide the basis for interpretation of aeromagnetic anomaly maps used in exploration for fossil fuels, geothermal energy and minerals, and in studies of geologic structures associated with earthquake and volcanic hazards. Research in the Geological Survey under this program has improved our understanding of the geomagnetic field, and by inference, the composition and properties of the Earth's interior. All of these

studies support the broader Survey mission of assessing the land, mineral, and energy resources of the United States and are carried out in cooperation with State Surveys.

Principal activities under this program element which will continue in FY 1982 include the following items:

- Operation of the existing eleven (11) Geological Survey observatories will be continued and with NSF cooperation, an observatory may be operated at the South Pole.
- To augment observatory measurements for tracking long-term changes in the Earth's magnetic field, repeat measurements will be made at about 35 sites in the conterminous United States.
- A new analysis of the secular change of the earth's field will be made using new data, particularly MAGSAT data.
- A comparison will be made between the crustal anomaly map derived from satellite and anomaly maps derived from surface data and calculated from geologic information.

Program Outputs:

	FY 1980	FY 1981	FY 1982
Research projects	7	7	7
Geomagnetic observatories	11	12	12
Interpolative (field) surveys	40	45	35

Estimated unit costs for program outputs in FY 1982:

Research projects	7 @ $105,800
Geomagnetic observatories	12 @ 106,300
Interpolative (field) surveys	35 @ 3,790

Climate Change

Authorization: 43 U.S.C. 31(a)

Objectives: To develop a basic understanding of impacts of climate and climate change on land and water resources; to determine probability of occurrence of extreme climatic events; to develop an understanding of the reasons for climate change; and, to develop improved methods of monitoring the climatic system.

Base Program: The U.S. Geological Survey Climate Change Program was developed in response to PL 95-367, the "National Climate Program Act," and is conducted in close cooperation with the National Climate Program Office in NOAA. The Program emphasizes study of geologic and hydrologic responses to present climate and climate change; rates, frequencies, and magnitudes of past climate changes, and effects of these changes on land and water resources; the dependency of geologic hazards on climate; and, the geologic effects of catastrophic climatic events.

The Climate Program seeks to find evidence of distinctive patterns of climate changes that exist in the geologic record, and to identify precursors of such changes in both modern and ancient sediments. The Program is basic to ongoing work in other Federal agencies because it provides a geologic record of past climate changes that can validate extensive modeling work in those agencies.

Principal activities under this program that will be emphasized in FY 1982 include:

- Study of catastrophic aeolian erosion and deposition of surficial materials as a function of windstorms and drought.

- Documentation of the prehistoric frequency of hurricanes and severe coastal storms along the Atlantic and Gulf coasts and determination of the role of changing land use in magnifying impacts of coastal storms.

- Core drilling to obtain short- to intermediate-length sediment sequences in lakes and other depositional areas that record climate variation and have high time resolution. Examples will include study of pollen, ostracode, diatom, geochemical and isotopic changes that reflect climate change.

- Study of stable and unstable isotopes in tree rings, lake and cave deposits and other sequences of materials that reflect changes in temperature or in isotopic ratios in precipitation.

- Study of times and magnitudes of past atmospheric variation using stable mineral phases, isotopes, compilations of carbon reservoir magnitudes, and other criteria; and to establish and test carbon cycle models.

Significant recent results include:

- Analysis of 3.2 million-year sediment core from Searles Lake, California, revealed climatic fluctuations during the last interglacial-glacial cycle (125,000 years to present) which correlate with fluctuations in evidence from deep-sea isotopic and faunal records. The pre-125,000-year records does not, however, agree totally with deep-sea climatic cycles.

- Interglacial marine deposits from the southeastern United States were dated at 440,000, 188,000, 120,000, 94,000, and 72,000 years before present using $^{230}Th/^{234}U$ ratios of fossil corals. These deposits contain marine invertebrae and pollen assemblages indicative of climates as warm or warmer than modern climates in the region. These data generally support the Milankovitch theory of astronomical causes of glaciation in that the timing of western North Atlantic Ocean interglacials corresponds to predicted periods of hemispheric warmth.

- Examination of volcanic ash from major eruptions from several thousand deep sea cores revealed no apparent relation between volcanic activity during the last 130,000 years and climatically induced ice volume and surface water temperature fluctuations.

74-939 O—80——92

- Varved lacustrine sediments from a Minnesota core were found to contain an 11,000 year record of climatic change with a resolution of one year. These deposits are now under detailed study.

- Crysomonad cysts have been found to be widely distributed geographically, most frequently in freshwater lakes of low ph and thus they have high potential as paleoenvironmental indicators, especially in acid precipitation studies.

- Preliminary studies of tree-ring chronologies of coastal and Sierran California redwoods show that redwood may be more sensitive to surficial processes such as slope stability or surface faulting than to changing climate.

- Basal calcite from stalagtites in caves in Tulare County, California, yielded a uranium series age of 105,000 years before present; oxygen isotopic analyses of the speleothem record now underway should produce a temperature history for this region for this length of time which covered the last interglacial-glacial cycle.

Program Outputs:

	FY 1980	FY 1981	FY 1982
Projects	25	30	29
Reports	15	19	24

Estimated unit costs for program outputs in FY 1982:

Reports	24 @ $42,375

Justification of Program and Performance

Activity: Geologic and Mineral Resource Surveys and Mapping
Subactivity: Mineral Resource Surveys

(Dollar Amounts in Thousands)

		1981 Approp Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Alaska	$	4,382	8,268	9,298	+1,030
	(FTP)	(70)	(94)	(94)	(...)
Conterminous States	$	4,948	5,310	5,310	...
	(FTP)	(95)	(95)	(95)	(...)
Wilderness mineral surveys	$	8,708	8,983	8,983	...
	(FTP)	(77)	(77)	(77)	(...)
Resource information and analysis	$	4,485	4,722	4,722	...
	(FTP)	(65)	(65)	(65)	(...)
Development of assessment techniques	$	10,613	11,415	15,915	+4,500
	(FTP)	(231)	(231)	(231)	(...)
Mineral Discovery Loan Program (MDLP)	$	104	110	110	...
	(FTP)	(1)	(1)	(1)	(...)
Common program services	$	(1,338)	(1,595)	(1,755)	(+160)
Total requirements	$	33,240	38,808	44,338	+5,530
	(FTP)	(539)	(563)	(563)	(...)

The Mineral Resource Surveys subactivity program consists of six interrelated elements designed to meet the following objectives:

- Assess the mineral resource potential of selected areas in the United States for land-use planning and resource management.
- Provide timely and credible assessments of mineral resources on which to base foreign and domestic policy decisions and to plan for future supplies of mineral raw materials.
- Identify mineral deposits that will increase the domestic resource base of mineral raw materials.

- Improve current methodology and develop new techniques for identifying and evaluating mineral resources and analyzing resource data more efficiently and with greater precision.

- Protect the Government's interest in mineral properties explored with Federal financial assistance.

The Alaska and Conterminous States elements systematically assess the mineral resource potential of selected 2-degree quadrangles (3-degree quadrangles in part of Alaska) at a scale of 1:250,000 (1 inch equals about 4 miles). Lands proposed for inclusion in the National Wilderness Preservation System are assessed in more detail under the Wilderness Mineral Surveys element. The Resource Information and Analysis element provides data on domestic and world mineral resources and resource potential and on their geologic occurrence and availability, and develops new methodology for the interpretation and analysis of resource information. The Development of Assessment Techniques element improves our ability to identify and evaluate mineral resources by defining the geologic environments in which resources form and by developing techniques for detecting concealed deposits. The Geological Survey is responsible for monitoring completed Minerals Discovery Loan Program exploration contracts having royalty obligations.

Geological Survey mineral assessments are used in land-management decisions at all levels of Government from the Congress and Executive Branch of the Federal Government to State and local Governments. The resource and geoscience data generated by the program provide the basic information used by government and industry regarding the long-range availability of nonfuel minerals on a national and international scale. The descriptive information and conceptual advances on mineral occurrence are key elements used by industry in planning and executing its mineral exploration and development activities. The geoscience and resource data generated by the program constitute the basic factual information widely utilized by researchers in the scientific and business communities on the state of mineral resources. There are no alternatives to this program to provide such information either inside or outside of Government.

Alaska

Authorization: 43 U.S.C. 31(a)

Objectives: To evaluate Alaska's mineral resources, to identify areas where new resources are likely to occur, and to provide systematic mineral resource information for planning the use of Alaska lands and for assessing the Nation's total resource base.

Base Program: The systematic assessment of Alaska's mineral potential is based on currently available geoscience and resource data supplemented by reconnaissance geologic, geochemical, and geophysical mapping and remote sensing interpretations. These data are synthesized into assessments of resource potential including, where the data permit, probabilistic estimates of the numbers of deposits that might occur within a given area and their probable tonnage and grade. The assessments are published as 1:250,000-scale (1 inch equals approximately 4 miles) quadrangle folios that include geologic, geochemical, geophysical, and interpretive mineral resource maps

accompanied by a written text. Where more detailed or specific types of information of a specialized nature are needed, geologic and mineral resource maps at larger scales are prepared for specific mineral-bearing regions or of individual deposits.

By the end of FY 1981, 19 folios will be published or scheduled for publication. Each folio consists of 12 or more maps accompanied by an explanatory text. In FY 1982, 4 additional folios will be completed. Certain of the folios cover more than a single 1:250,000 quadrangle and by the end of FY 1981, 23 of the 100 quadrangles in Alaska with mineral potential will have been completed.

Program Outputs:

	FY 1980	FY 1981	FY 1982
Completed folios published or scheduled for publication	4	19	23
Folios in preparation	3	4	1
Field studies underway--number of quadrangles	8	7	9
New starts		2	2

Estimated average unit costs for program outputs in FY 1982:

Folios in preparation	1 @ $ 250,000
Field studies underway--number of quadrangles	9 @ 750,000
New starts	2 @ 1,150,000

Increase for FY 1982	FY 1982 Base	FY 1982 Estimate	Increase
$	8,268	9,298	+1,030
(FTP)	(94)	(94)	(...)

The Alaska National Interest Lands Conservation Act, P.L. 96-487, of December 2, 1980, requires the U.S. Geological Survey to:

1. Accelerate assessments of the oil, gas, coal, and nonfuel mineral potential of all Federal lands in Alaska south of 68° north latitude.

2. Review the wilderness characteristics of all Federal land north of 68° north latitude and east of the Petroleum Reserve which includes an assessment of the mineral and energy resource within 8 years; an annual report is required.

3. Prepare an annual report to Congress that includes all mineral data collected by Federal agencies in Alaska.

These requiremenst of the Alaska Lands Act will be implemented by accelerating the AMRAP program in FY 1981 by a supplemental appropriation of $3.62 million and in FY 1982 by the requested increase of $1.03 million. These increases will raise the AMRAP program funding to a level which will enable U.S. Geological Survey to complete the regional mineral resource

assessment of Alaska by the year 2000. The selection of the quadrangles to be started in FY 1981 will ensure mineral data will be available to promptly consider the wilderness status of lands north of 68° as required by the Act.

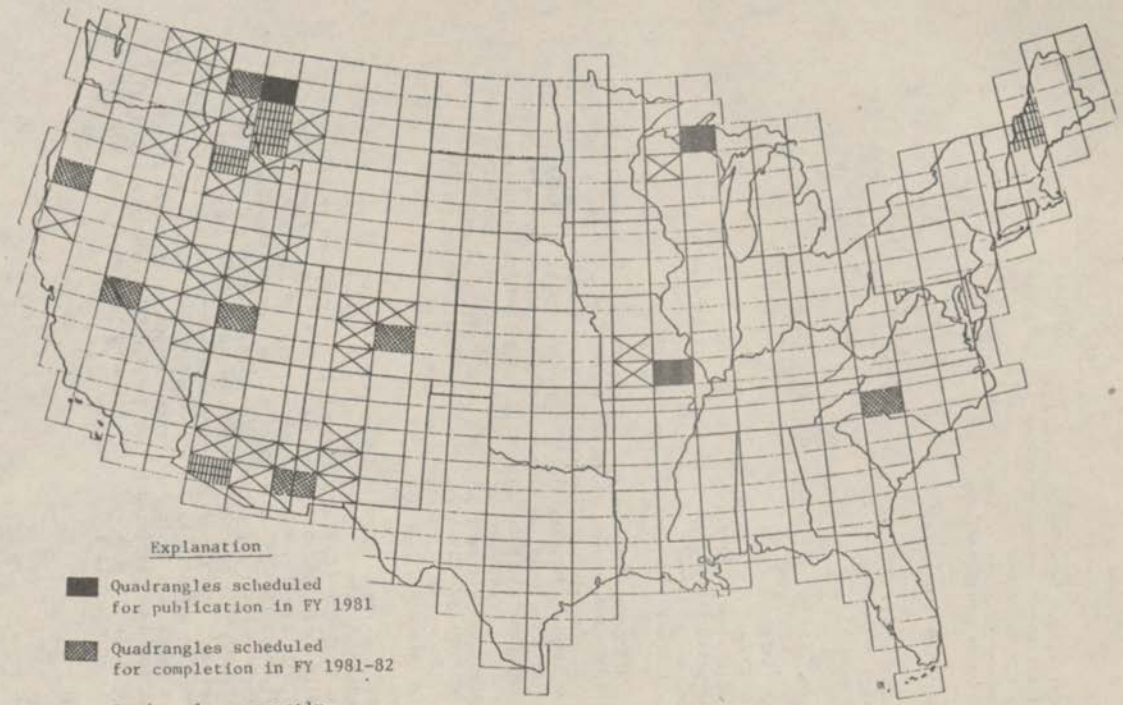
Object Classification	Staff Years	Cost
Permanent positions	5	$ 150,000
Other personnel compensation		1,000
Total personnel compensation		151,000
Personnel benefits		69,000
Travel and transportation of persons		50,000
Transportation of things		10,000
Communication, utilities and other rents		40,000
Printing and reproduction		20,000
Other services		530,000
Supplies and materials		150,000
Equipment		10,000
Total		$1,030,000

Conterminous States

Authorization: 43 U.S.C. 31(a)

Objectives: To provide basic data on the resource potential of the Conterminous United States for evaluating domestic mineral resources and for a variety of land-management and planning activities.

Base Program: The mineral resource potential of selected 2-degree 1:250,000- scale (1 inch equals approximately 4 miles) quadrangles in the Conterminous United States is systematically assessed under this program element (Figure G-8). As in the counterpart program in Alaska, this is a comprehensive multidisciplinary study to determine the location, extent, and importance of the mineral resource potential of the quadrangle. All existing pertinent geoscience and resource data are compiled and new data are gathered utilizing a variety of geologic, geochemical, ground and airborne geophysical, and remote sensing techniques. These data are interpreted and synthesized to produce an assessment of the resource potential of the quadrangle including, where possible, probabilistic estimates of the number, size, and grade of deposits that may occur within the quadrangle. This broad spectrum of information is made available to users in the folio form that includes geological, geophysical, geochemical, and resource potential maps and interpretive reports. Together they provide a basis for the identification of areas with special resource values requiring special consideration or further evaluation as distinct from areas that can be eliminated from further consideration because of low or insignificant mineral resource potential. Criteria considered in selecting quadrangles for study include the amount of Federally owned land that they contain, the probable importance of their contained mineral resources, and the urgency of the need for resource information on them.



Status of Systematic Mineral Resource Assessments
of Conterminous United States
1:250,000-scale Quadrangles

Figure C-8

Program Outputs:

	FY 1980	FY 1981	FY 1982
Completed folios published or scheduled for publication		3	6
Quadrangles scheduled for completion	3	6	2
Quadrangles under study	12	6	7

Unit costs for program outputs:

Quadrangles scheduled for completion		2 @ $215,000
Quadrangles under study		7 @ 651,000

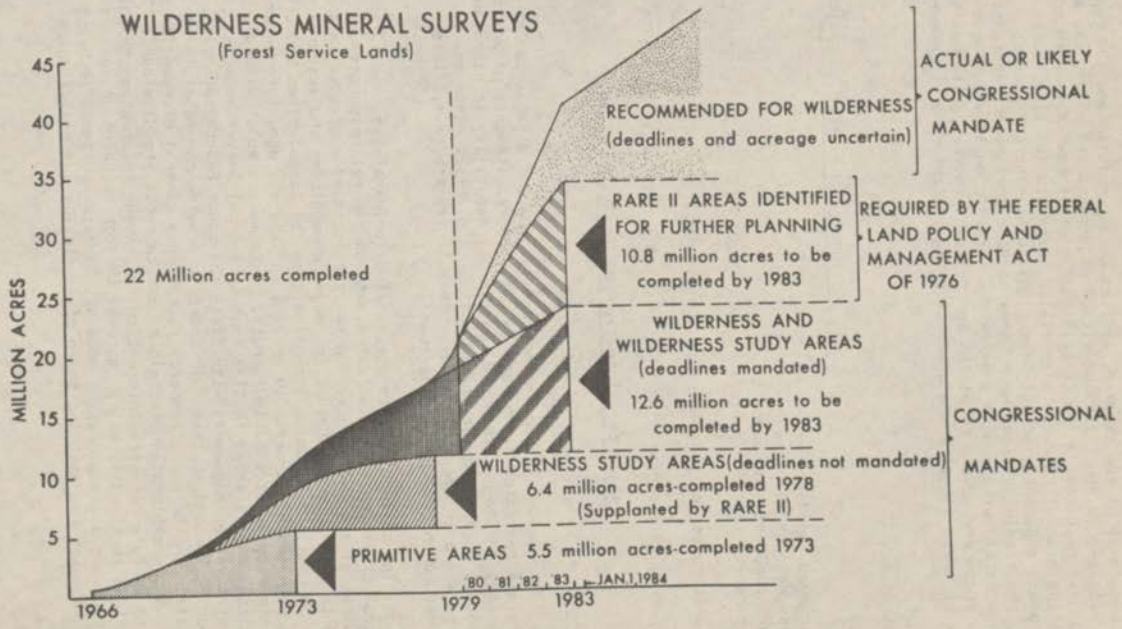
Wilderness Mineral Surveys

Authorization: 43 U.S.C. 31(a)

Objectives: To assess in detail the mineral resource potential of areas included or proposed for inclusion in the Forest Service portion of the National Wilderness Preservation System to assure that potential deposits identifiable with current technology are identified.

Base Program: Wilderness mineral surveys are conducted in cooperation with the Bureau of Mines and include geologic mapping and geochemical and geophysical surveys. This information constitutes a data reservoir which is interpreted and evaluated by an interdisciplinary scientific team to determine the resource potential of the individual wilderness area. Areas studied are those Federal lands originally designated for inclusion in the Wilderness System as prescribed by the Wilderness Act of 1964 and Wilderness Study areas added by subsequent acts or Forest Service inventories. These surveys are conducted principally on National Forest lands; surveys of Bureau of Land Management Wilderness areas are being conducted with funds appropriated to that agency.

Between the start of the program in 1965 and the end of 1981, studies will have been completed in about 26 million acres of Forest Service lands (Figure G-9). About 2 million acres remain to be completed by 1983 under the original Wilderness Act and subsequent related acts. In addition, the Forest Service Roadless Area Review and Evaluation (RARE II) released January 4, 1979, identified 11 million acres for further planning and study to determine their suitability for wilderness designation. About 6 million acres of these lands will be completed by the end of 1981. The Forest Service has indicated that it plans to prepare recommendations on these 11 million acres by the end of 1983 and will need mineral surveys completed in advance of that date. All Geological Survey inputs to all these wilderness mineral surveys could be completed by January 1, 1984, under current levels of funding, staffing, and workload, provided adequate travel funds are made available for field operations.



GS-101

Figure G-9

Since the beginning of the program, studies were completed and 107 reports have been released on about 220 individual wilderness and wilderness study areas, and have resulted in the identification of 34 new areas with moderate to significant mineral resource potential. These studies also showed that about 110 areas apparently do not have significant mineral resource potential; the remaining areas were known to have some mineral potential before the mineral surveys were undertaken. Reports on 18 wilderness and wilderness study areas were completed and released to the public during FY 1980; 4 of these identify new areas with significant mineral resource potential.

Program Outputs:

	FY 1980	FY 1981	FY 1982
Acres surveyed (million)---------	5.0	4.8	4.5
Wilderness reports completed-----	18	65	70
Field work completed and reports in preparation (million acres)-	2.0	4.8	4.8

Estimated unit costs for program outputs in FY 1982:

Acres surveyed (million)--------- 4.5 million acres @ $1.94

Resource Information and Analysis

Authorization: 43 U.S.C. 31(a)

Objectives: To provide information on domestic and world resources of the nonfuel minerals raw materials needed to meet the requirements of United States industry, and to maintain and improve the capability to store and analyze resource information generated both within this program and from other sources wherever available (i.e., other Survey programs, State Surveys, Bureau of Mines, State Department).

Base Program: The collection, storage, evaluation, analysis, and interpretation of national and worldwide data on mineral resources and resource potential are the principal activities carried out under this program. Data files are maintained for major commodities and resource information is continually being assembled into the Computerized Resource Information Bank (CRIB) in order to provide for the storage of resource information in readily accessible formats. Information about mineral deposits is continually added to CRIB from Geological Survey sources, through cooperative arrangements with State and other Federal agencies, and from a number of foreign sources. In order to provide and maintain up-to-date information on the world resource picture new mineral discoveries are evaluated, and new exploration techniques and concepts are developed. The capability to analyze resource information to provide information to policy-making questions is steadily being improved through research on quantitative resource occurrence and exploration models. Computer software is being improved to increase the ease and speed of retrieving and analyzing resource information.

Significant contributions to the program include: (1) completion of a review of domestic and international platinum resources as part of a special National Materials Advisory Board study, (2) development of a new method for estimating mercury resources based on historic production and grade records, (3) completion of a study which estimates that the domestic reserve base of fluorspar to be 117 million tone, which represents a 40-year supply at our current rate of consumption.

Program Outputs:

	FY 1980	FY 1981	FY 1982
Projects	48	39	32

Estimated costs for program outputs in FY 1982:

Projects---------- 32 @ $141,000

Development of Assessment Techniques

Authorization: 43 U.S.C. 31(a)

Objectives: To develop concepts and techniques to improve the capability for identifying new resources and for their evaluation.

Base Program: Field and laboratory investigations of known mineral districts, mineral provinces, and mineral-bearing environments are directed toward the recognition and understanding of the processes that form mineral deposits. Information gathered by these investigations is analyzed to develop new means of recognizing geologic environments favorable for the occurrence of mineral deposits and for the identification of heretofore unrecognized geologic environments in which mineral deposits may occur. New geochemical and geophysical techniques are developed to detect and evaluate concealed mineral deposits. Specific activities of the program include: (1) investigations in areas with high potential for conventional types of mineral deposits; (2) study of the factors influencing ore deposition in known mineral districts; (3) geochemical studies of the trace element distribution in selected mineralized areas; (4) laboratory studies of ores and their host rocks; (5) studies to increase the understanding and interpretation of geochemical and geophysical information as applied to resource problems; (6) improvements in existing geochemical and geophysical technology; and, (7) development of new types of chemical and physical sensing equipment. Concepts and techniques developed or refined as a result of this program are utilized in support of other mission programs including the Alaska, Conterminous States, Wilderness Mineral Surveys, and Resource Information and Analysis elements. This support work incorporates all proven techniques and methodology and provides a test ground for the evaluation of new developments for future use.

Recent significant contributions of the program include: (1) developed instrumentation that makes it more practical to use water as a sampling medium for geochemical exploration, (2) demonstrated that a combination of

several geophysical techniques could be used to explore for concealed "podiferm" chromite deposits in northern California and Oregon, (3) completed national metal- non-metal province maps for 17 commodities, (4) outlined massive sulfide ore bodies concealed by as much as 200 feet of glacial drift by analyzing soil gases for carbon and carbon compounds using a quadripole mass spectrometer; and (5) developed a field test for concealed sulfide occurrences using microbiological techniques.

Program Outputs:

	FY 1980	FY 1981	FY 1982
Projects	121	99	80

Estimated unit cost for program outputs in FY 1982:

Projects---------- 80 @ $133,700

Increase for FY 1982	FY 1982 Base	FY 1982 Estimate	Increase
$	11,415	15,915	+4,500
(FTP)	(231)	(231)	(...)

Analysis of discovery rates for metallic minerals in the United States shows a declining discovery/cost relationship over the last decade, which has led to a steady decline in the domestic mining industry while world mining prospers, increased reliance on imported mineral raw materials, and rapidly escalating costs of replacing the domestic reserves currently being mined. This drop in discovery cost relationship is due to lack of new exploration techniques and targets for industry development. A reversal of this trend will require increased basic research on U.S. mineral deposits as recognized in the National Minerals and Mineral Policy, Research and Development Act of 1980.

The proposed increase will be used to revitalize research into the geology of minerals deposits as a basis for improving the productivity of minerals exploration and to develop techniques for finding the "hard to find" mineral deposits yet to be found, thereby reducing dependence on foreign sources. The increase will lead to the development of exploration techniques combining geological data, subsurface drilling, and resource models. The program will coordinate the strengths of private industry, the U.S. government, and the university sector drawing on the unique expertise of each to produce the improved productivity in our domestic minerals industry needed to meet the high mineral demands that our society will incur in the next decade.

Specifically the increase will be used to:

- Develop mineral occurrence models which systemize the available empirical and theoretical knowledge about non-fuel mineral deposits;
- Conduct studies of known, newly forming and suspected mineralized zones using and testing advanced geological, geochemical and geophysical techniques;

- Provide third-dimensional control by drilling for scientific information when necessary;

- Devise and institute a program with industry whereby grade and tonnage data are compiled for as many deposits as possible (especially including the marginal and sub-economic deposits) in a manner consistent with the preservation of propriatary rights of the industry and at the same time consistent with the scientific and technical goals of ascertaining the magnitude of resources;

- Initiate planning with industry and universities leading toward the establishment of research centers oriented toward the solution of important resource-related geological problems.

This increase will significantly improve productivity in the search for non-fuel minerals by refining concepts and developing discovery methodologies that may be applied widely. It will accomplish this goal by even more closely integrating the research efforts of the Geological Survey with the needs of the mining industry and by incorporating more scientific input from universities.

Object Classification	Staff Years	Cost
Permanent positions	20	600,000
Other personnel compensation		5,000
Total personnel compensation		605,000
Personnel benefits		61,000
Travel and transportation of persons		100,000
Transportation of things		50,000
Standard level user charges		60,000
Communication, utilities and other rents		180,000
Printing and reproduction		400,000
Other Services		1,624,000
Supplies and materials		420,000
Grants		1,000,000
Total	20	$4,500,000

Mineral Discovery Loan Program

Authorization: 43 U.S.C. 31(a)

Objectives: To protect the Government's interest in mineral properties explored with Federal financial assistance under the Mineral Discovery Loan Program and its predecessor programs.

Base Program: Federal assistance to small private business to explore for certain mineral deposits was available under PL 83-701. Although no new funds have been made available for loans since 1974, the Geological Survey has a continuing responsibility to monitor remaining contracts that are still active to assure that royalty payment obligations to the Government are fulfilled.

Justification of Program and Performance

Activity: Geologic and Mineral Resource Surveys and Mapping
Subactivity: Energy Geologic Surveys

(Dollar Amounts in Thousands)

		1981 Approp Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Coal investigations	$	11,777	12,409	15,409	+3,000
	(FTP)	(180)	(180)	(180)	(...)
Onshore oil and gas investigations	$	6,878	7,298	7,298	...
	(FTP)	(92)	(92)	(92)	(...)
Oil shale investigations	$	760	2,404	3,904	+1,500
	(FTP)	(11)	(27)	(27)	(...)
Uranium/thorium investigations	$	5,726	6,131	7,131	+1,000
	(FTP)	(95)	(95)	(95)	(...)
Geothermal investigations	$	7,889	8,372	8,372	...
	(FTP)	(126)	(126)	(126)	(...)
World Energy Assessment	$	1,500	1,500	...	-1,500
	(FTP)	(...)	(...)	(...)	(...)
(Common program services)	$	(1,389)	(1,567)	(1,683)	(+116)
Total requirements	$	34,530	38,114	42,114	+4,000
	(FTP)	(504)	(520)	(520)	(...)

Coal Investigations

Authorization: 43 U.S.C. 31(a)

Objectives: The basic objectives of this program are: to collect, analyze, and publicly disseminate information about the quantity and quality of the Nation's major coal deposits as a prerequisite for effective long-term planning for coal extraction and domestic consumption or export, to collect and synthesize data on landforms, surficial geologic materials, distribution of trace elements, active geomorphic processes, and geologic hazards in regions of coal resource development, and to present these data in forms most useful for leasing policy and decisionmaking and on the most efficient methods of extraction, providing the Federal land managing agencies, particularly the Bureau of Land Management, with coal resource information portrayed on

1:100,000-scale maps, to enter the resource information into the National Coal Data Resource System (NCRDS) so that it can be retrieved from the system by OSM, BLM, Forest Service, EPA, and the Geological Survey and utilized in the analyses of specific tracts for selection and evaluation.

Base Program The Coal Program is divided into two subprograms, coal resource and environmental aspects of coal development. The coal resource subprogram consists of three elements: (1) coal resource assessment studies, (2) coal exploration related to Federal coal leasing, and (3) the development and maintenance of a coal resources data system. These studies currently are focused on coal in the Western United States and on low-sulfur coal in the central and southern Appalachian Basin. Special emphasis is placed on the identification and delineation of coal beds. Investigations of coal stratigraphy and structure permit the projection of coal quality and quantity point-source information throughout a coal basin and enable a quantitative assessment of a basin's coal resources.

Data generated by these investigations are incorporated in the National Coal Resources Data System (NCRDS), which is being established in two phases. Phase I consists of aggregated data on coal resources, derived from existing noncomputerized resource files. Data records in the Phase I file are being used to generate assessments of coal quantity by Region, State, or county, but they do not contain information on coal quality. Phase II, now being implemented, consists of disaggregated or point-source geologic data obtained from mines, core holes, and outcrops and includes measurements such as coal bed and overburden thickness, moisture, sulfur, ash, and trace-element content, and heating value. The point-source data file can be used to produce computer-drawn resource maps of various types, including coal quality distributions, as well as quantitative resource calculations. Data for inclusion in NCRDS are being gathered with the cooperation of the Geological Surveys of the 38 coal-bearing States.

The Coal Exploratory Program provides geologic and coal resource information about Federal coal lands for leasing decisions as required by the Federal Coal Leasing Amendments Act of 1975. The key elements in the program, in part done cooperatively with State Geological Surveys, are core drilling on coal lands distant from coal bed outcrops, subsurface mapping of coal beds using well logs and geophysical exploration techniques, and geochemical analyses of core samples. Core drilling is necessary because existing oil, gas, and water wells either are located improperly for coal assessment research or were not adequately cored or logged.

The scientific data and interpretive resource reports generated by both the national coal resource assessment studies and the Federal coal exploration work will be portrayed predominantly on 1:100,000-scale maps (approximately 100 such maps cover the important Federal coal lands of the Western United States). These maps, compiled in loose-leaf folios, will assist (1) national energy policy planning, (2) siting and technology development for coal energy-conversion facilities, (3) environmental assessment, (4) coal extraction technology development by the Bureau of Mines, and (5) leasing and regulatory programs of the Department of the Interior, including BLM and the Office of Surface Mining. This information is necessary to assist BLM in its land-use planning program for the preparation of resource management

plans which are used as bases for selecting future competitive coal leases beyond the first round of lease sales to be held in accordance with the Secretary's decisions. Larger scale maps and reports will be developed for various special studies.

Implementation of the Secretary of Interior's coal leasing policy will be assisted by providing as much objective information as possible regarding the coal resources and the physical environment that surrounds the resource to BLM, OSM, and the Conservation Division of the U.S. Geological Survey as well as the general public. This will be done both by continuing scientific research in such pertinent areas as trace-element content of the coal, geologic factors in coal-mine subsidence, highwall stability in surface mines, and environments of deposition of coal beds; and by continuing mapping of coal resources and environmental concerns at 1:100,000 scale for regional assessments. New funds requested in FY 1982 will be utilized to initiate additional coal resource investigations at 1:100,000-scale for BLM's Management Framework Plan areas, to obtain subsurface data, to establish regional coal-bed correlation networks, to expedite interpretive mapping and analysis to meet BLM leasing needs. The Coal Resource Program for FY 1982 will be directed primarily to States containing large quantities of Federal coal to provide information and support BLM planning in advance of decisions on where to conduct Federal lease sales.

The Environmental Aspects of Coal Development Subprogram provides the base geologic mapping for coal resources assessment as well as information for assessing the environmental impact of planned coal developments which is required by law before Federal leasing or development. Most work is concentrated in the Appalachian and Rocky Mountain provinces, with individual federally funded State efforts in the Gulf Coast and Interior provinces.

Much of the work by Environmental Aspects of Coal Development Subprogram augments regulatory needs of Conservation Division, of other agencies such as BLM, OSM, and EPA, and of State agencies by furnishing reports and maps and other cartographic information regarding environmental geologic concerns such as alluvial valley floors, natural state of the hydrologic regime, background or base level environmental geochemistry, natural and manmade geologic hazards, and unstable geology. Many of the maps are at the 1:100,000 scale used by BLM for resource management. In FY 1979, the Kaiparowits Plateau, Utah, and the Recluse area of northeastern Wyoming were characterized by a series of maps showing geologic aspects of those areas. Folio treatment of the southern part of the Wasatch Plateau coal field, Utah, was completed prior to FY 1979. In FY 1980 eight 1:100,000 scale maps of geologic aspects of coal areas were produced. Most of those were in the Fort Union and Powder River Basin regions, which are high priority regions for Federal coal leasing. Folios of maps similar to these are planned for priority 1/2 x 1° areas throughout the coal provinces. The schedule for these mapping projects is generally governed by the priority lease-sale schedule of BLM. Major accomplishments planned in FY 1981 also include: Maps showing climatic aspects of reclamation in the Fort Union coal region; computer-generated maps showing environmental aspects of reclamation in parts of the Four Corners region; and completion of grant-funded studies in the Missouri and Colorado coal fields.

Over the next two years (FY 1982-1983) the Environmental Aspects of Coal Development Subprogram will focus most of its research activities on western coal lands, with only essential studies in midwest and Appalachian coal lands. Investigations of all coal lands will include bedrock geology, surficial geology, engineering properties of rocks and soils, geologic hazards such as ground subsidence and landslide, and baseline geochemistry. The extent and severity of geologic hazards will be evaluated for selected coal basins. Baseline geochemical conditions will be delineated for most western and some eastern coal lands, and research investigations of selected geochemical problems will be conducted. Advanced methods of display of scientific data for planners will be tested and evaluated. Seven or more regional maps showing environmental geologic conditions will be prepared each year for inclusion in coal folios.

In FY 1982, the Environmental Aspect of Coal Development Subprogram will be strengthened by increasing efforts in scientific evaluation of soils and rocks overlying, interbedded with, and underlying coal deposits (1) to determine properties affecting mining and reclamation; (2) to assess natural and man-induced geologic hazards in areas of large-scale coal development; and (3) to establish baseline geochemistry of the coal lands for comparison with post-development geochemistry.

As in the Coal Resources Subprogram, activity in FY 1982 will focus on States containing large quantities of coal to provide BLM information on environmental aspects of coal development prior to and during leasing; Geological Survey's Conservation Division with data to be utilized in the revision of mine plans; and, to other Federal and State agencies to assist with their coal management missions.

Outputs for this program are:

	FY 1980	FY 1981	FY 1982
Assessments			
Topical studies	10	10	17
Coal resource assessments	32	32	45
State grants	2	2	5
Drilling (feet)	46,135	46,135	62,000
Geophysical logging (feet)	46,135	46,135	62,000
Sample analysis (number)	840	840	900
National Coal Data System			
State contracts	7	7	12
1:100,000 map data entries	1	1	6
Environmental Aspects of Coal			
Coal environmental assessments	25	28	28
Coal environmental topical studies	15	15	15

74-939 O—80——93

Estimated unit costs for program outputs in FY 1982:

Assessments

Topical studies	17 @ $61,000
Coal resource assessments	45 @ $93,000
State grants	5 @ $100,000
Drilling (feet)	62,000 @ $32.00
Geophysical logging (feet)	62,000 @ $3.50 per ft.
Sample analysis (number)	

National Coal Data System

State contracts	12 @ $40,000
1:100,000 map data entries	6 @ $60,000

Environmental Aspects of Coal

Coal environmental assessments	28 @ $143,000
Coal environmental topical studies	15 @ $106,000

Increase for 1982	FY 1982 Base	FY 1982 Estimate	Increase
$	12,409	15,409	+3,000
(FTP)	(180)	(180)	(...)

In June 1979 the Department of the Interior initiated a new Federal Coal Management Program. Under this program the Geological Survey is responsible for providing the Bureau of Land Management (BLM) with extensive information on coal resources and folios of other earth science information related to meeting legal requirements to environmental protection.

The Federal Coal Management Program mandated considerable restructuring of the Survey's coal programs. The Geological Survey and BLM, in conjunction with the Department of the Interior's Office of Coal Coordination, have examined the needs of BLM for land-use planning in advance of detailed tract selection and tract evaluation leading to a sale. A request by the Geological Survey for expansion of its Coal Resources Program is a result of these mutual investigations. The requested increase will provide additional funding for Geological Survey to initiate fifteen more 1:100,000-scale coal resource appraisals in order to complete them on a six-year cycle in BLM's first priority areas and to meet the deadlines required by BLM in their land-use planning cycle in advance of their decision to initiate coal leasing. Data gathered will be formated, stored, and retrievable from the Coal Resource Data System (NCRDS) and the system will be brought to full responsive level as defined in the Coal Data Task Force Report.

Finished products at the 1:100,000-scale will not be published for all areas for the first round of lease sales but the program will provide consultation to BLM and Conservation Division on preliminary program accomplishments and sufficient coal data for the second and third rounds of lease sales.

Without this increase the Geological Survey will not be able to provide BLM the necessary resource information required for scientifically informed multiple-use determinations.

Object Classification	Staff Years	Cost
Permanent positions	8	$ 214,000
Other personnel compensation		1,000
Total personnel compensation		$ 215,000
Personnel benefits		22,000
Travel and transportation of persons		150,000
Transportation of things		20,000
Standard level user charges		20,000
Communication, utilities and other rents		60,000
Printing and reproduction		45,000
Other services		2,018,000
Supplies and materials		200,000
Equipment		50,000
Grants		200,000
Total	8	$3,000,000

Onshore Oil and Gas Investigations

Authorization: 43 U.S.C. 31(a)

Objectives: The principal objective of this program is to provide continuously updated, credible, reliable, and scientifically based oil and gas resource assessments for public and private lands, both onshore and offshore.

Base Program: The Oil and Gas Resources Program provides periodic, credible, and scientifically based oil and gas resource assessments of the Continental United States, both onshore and offshore. In support of these domestic resource assessment studies, research is conducted on oil and gas resource assessment methodologies and on the origin, migration, entrapment, and detection of hydrocarbons; for purposes of understanding domestic resources, some investigations are conducted of significant foreign occurrences of petroleum.

Resource assessment studies of domestic oil and gas resources are undertaken in support of national energy policy planning (coordinated with DOE) and the Environmental Policy Act of 1969 (coordinated with BLM and DOE). The results of these studies are made available to Federal and State Government planners, the petroleum industry, and the concerned public. The public availability of the basic data and analyses lends credibility to the resource assessments and permits application of the work to land-use planning. Foreign oil and gas resource assessments are made for other Federal agencies upon request.

Some assessment investigations are conducted jointly with other Government programs. For example, in cooperation with the Department of Energy, the Geological Survey has conducted research on the resource potential and

physical properties of eastern coal-bearing shales and is conducting studies of western tight-gas sands. The ultimate objective of these USGS/DOE/ industry programs is to expand domestic gas supplies.

Early in FY 1981, a revision of Geological Survey Circular 725, Geological Estimates of Undiscovered Recoverable Oil and Gas Resources in the United States will be published. This publication is relied upon heavily by various Congressional committees, by State and Federal Government agencies, and by industry for planning purposes. In particular, it is used by the Department of Energy as a source of essential data for DOE reports to the Congress on the status of United States energy supply. Preliminary oil and gas assessments of the Outer Continental Shelf (OCS) have already been submitted to Congress and to DOE.

Recent seismic surveys acquired and interpreted by the Geological Survey in the Appalachian Mountains suggest the present area for natural gas exploration from Virginia to Alabama can perhaps be doubled in size based on a new understanding of Appalachian geology in the area of the Eastern overthrust belt, which indicates that oil-bearing formations may be overlain by older rocks. Figure G-10 shows this area and other active oil and gas exploration areas in the conterminous United States and Alaska. In FY 1981, limited additional seismic lines will be acquired in order to initiate a delineation of potential areas of hydrocarbons.

Research will continue into oil and gas appraisal methodology. Two such studies, the Permian Basin and the Gulf of Mexico, have been completed for these two major United States petroleum-producing areas. Topical petroleum research activities in geochemistry, biostratigraphy, sedimentary analysis, geophysics, and remote and direct detection of hydrocarbons will be continued. The results of these research activities will continue to provide the foundation for increased public confidence in the reliability of our geological based oil and gas resource assessments. The final reports of the 5-year DOE-sponsored studies of eastern gas shales will be released in FY 1981. Preliminary results of the DOE-sponsored western tight gas sands also will be released in FY 1981. The results of both of these research efforts should have a substantial impact on future exploration in these two areas. A joint USGS-DOE report has been released on the oil and gas reserves, resources, and production potential of the Federal Republic of Nigeria. In 1982, similar studies should be completed in Mexico, Venezuela, Trinidad, Indonesia, and the Middle East countries.

Outputs for the oil and gas program are as follows:

	FY 1980	FY 1981	FY 1982
Wells logged	25	50	40
Geochemical analyses of samples	800	1,000	1,200
Data system entries	150,000	200,000	220,000
Maps/reports released	400	400	375

ACTIVE OIL AND GAS EXPLORATION AREAS

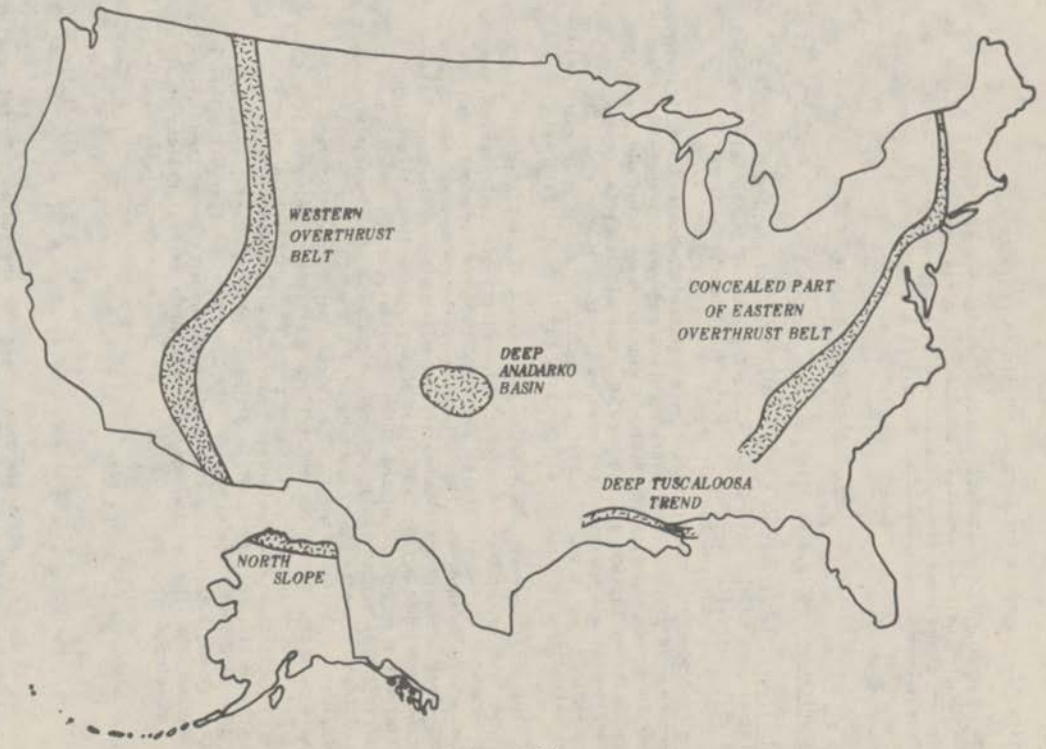


Figure G-10

Estimated unit costs for program outputs in FY 1982:

Topical Studies	28 @ $124,000
Regional Studies	15 @ $142,000
Resource Appraisals	3 @ $310,000
Energy Data Systems	3 @ $133,000

Oil Shale Investigations

Authorization: 43 U.S.C. 31(a)

Objectives: To assess the Nation's principal oil shale deposits as an integral part of the DOI oil-shale leasing program and to help determine the environmental effects of oil shale development.

Base Program: The Geological Survey's oil shale resource investigations are conducted primarily in Colorado, Utah, and Wyoming, where the Green River Formation contains the Nation's richest deposits of oil shale. Because the extraction and recovery of shale oil involves complex technological and environmental problems, a large resource base is needed to permit the selection of specific deposits for development that will meet established environmental standards and technological requirements.

The geological and resource information produced by these investigations is important to the Department of the Interior's oil shale leasing program and is useful to the oil shale industry. Industry has adopted and incorporated in their detailed oil-shale development plans the terminology, stratigraphic correlations, oil-shale zonation, and other concepts developed by the Geological Survey. Mineralogical studies determine the amount and distribution of associated sodium-aluminum minerals that are potentially economic byproducts of oil shale processing and of trace elements that may be harmful either to a shale-retorting process or to the environment. The checkerboard pattern of Federal and private ownership throughout the tri-State oil shale region requires many detailed land evaluations, including resource studies, to protect Federal ownership rights and to facilitate equal value exchanges that allow industry to assemble blocks of land that are logical exploitation units. The program provides basic data for the Department of Energy's effort to foster oil shale technology and development and also for determinations by the Environmental Protection Agency of the environmental effects of oil shale development.

Program accomplishments include:

- Development of computer models to identify shale zones especially well suited for extraction of oil by an in situ process.
- Completion of an oil shale data system for the storage and retrieval of oil shale data by Governmental and private user groups.
- Completion of surfical geologic maps for five quadrangles.
- Completion of bedrock maps covering most of the primary oil shale basins.

In order to implement the Department's decision for a permanent oil shale leasing program in major oil shale basins in Colorado, Utah, and Wyoming, where the Green River Formation contains the Nation's richest deposits of oil shale it will be necessary for the Geological Survey to accelerate its oil shale activities in FY 1981 and FY 1982 (supplement pending) to assure that necessary regional data and reports for management leasing decisions are available by the end of FY 1984 for Colorado and Utah and by the end of FY 1985 for Wyoming.

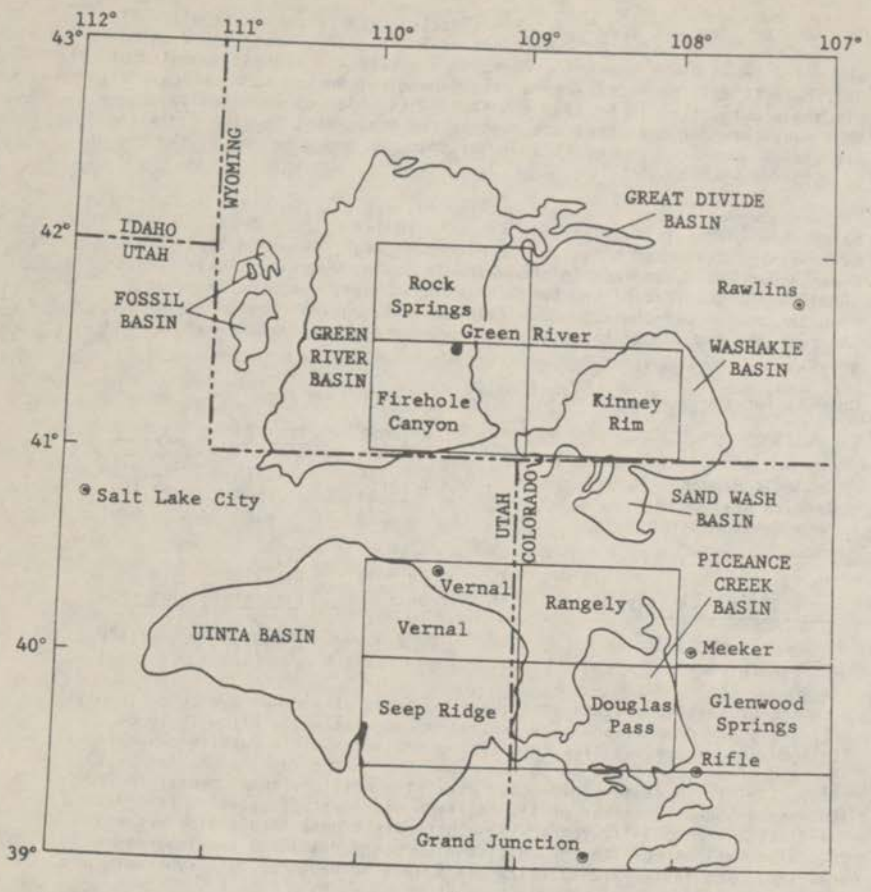
The areas underlain by 30 gallon-per-ton oil shale in Colorado and Utah can be shown on eight 1:100,000-scale geologic folios (Figure G-11): two in the Uinta Basin, Utah, and three in the Piceance Creek, Colorado, two in the Green River Basin, and one in the Washakie Basin, Wyoming. These folios should contain surficial and bedrock geologic maps, resource maps, and tabular data on oil shale geochemical analyses, engineering-geologic information, and economic or deleterious minerals associated with the oil shale.

Outputs for the base program in FY 1981 are as follows:

	FY 1980	FY 1981	FY 1982
Geologic Mapping (sq. km.)	325	1,375	2,375
Samples analyzed	2,500	7,500	12,500
Data system entries	200	1,180	2,070

Increase for FY 1982	FY 1982 Base	FY 1982 Estimate	Increase
$	2,404	3,904	+1,500
(FTP)	(27)	(27)	(...)

With the present budget and staff, the programs will require another twenty (20) years for completion. The requested increase would allow it to be finished in 5 years, in time for leasing decisions. This entails expansion of the professional staff by 30 and expansion of the current program by $3.1 million. This increase would occur as a $1.6 million, supplemental in FY 1981 and a budget increase of $1.5 million and 15 staff years in FY 1982. The first 2-1/2 to 3-1/2 years will constitute a data acquisition phase involving various on-site geologic studies, core drilling, and laboratory analyses. The last 1-1/2 to 2-1/2 years will be used for data synthesis and folio compilation.



Map of sedimentary basins underlain by Green River oil shale and location of 1:100,000 quadrangles containing 30 gallons-per-ton oil shale.

Figure G-11

GS-116

Object Classification	Staff Years	Cost
Permanent positions	15	$ 290,000
Other personnel compensation		2,000
Total personnel compensation	15	292,000
Personnel benefits		29,000
Travel and transportation of persons		150,000
Transportation of things		30,000
Standard level user charges		25,000
Communication, utilities and other rents		40,000
Printing and reproduction		120,000
Other Services		700,000
Supplies and materials		64,000
Equipment		50,000
Total		$1,500,000

Uranium/Thorium Investigations

Authorization: 43 U.S.C. 31(a)

Objectives: The objectives of the Uranium/Thorium Resource Program are to refine the concepts, techniques, and tools needed in exploration for ore deposits that are increasingly difficult to find, and to apply these improvements where they are urgently needed to improve the accuracy of the continuing quantitative assessment of regional, national, and foreign resources.

Base Program: Uranium/thorium resource investigations in the Geological Survey can be grouped into two major categories, topical research and resource assessment. Both of them rely on, and contribute to, a computerized file of information on uranium and thorium deposit characteristics and environments.

Topical research is concerned with development of occurrence models that can improve techniques for finding new deposits, for assessment of those already found, and for assessment of those believed to exist ("potential" ore). Topical research categories include: (1) uranium geochemistry and mineralogy (investigations of ore-forming processes, geochronology, organic geochemistry, source rocks, and geophysical and geochemical exploration techniques); (2) uranium in sedimentary deposits (includes projects designed to help understand these deposits well enough to construct useful models for exploration and resource assessment); (3) geophysical techniques for uranium and thorium exploration (detection of haloes associated with ore bodies, and testing and demonstration of new techniques and instrumentation to aid in the search for concealed ore); and (4) uranium in igneous and metamorphic rocks (especially the huge but poorly understood "world-class" deposits recently discovered in Canada and Australia, which were being studied to decipher the ore-forming processes so that exploration models could be designed for the search for similar deposits possibly concealed beneath glacial deposits in the north-central United States) have been terminated in FY 1981 due to lack of funds.

Resource assessment if primarily concerned with uranium, although a small but potentially important effort will continue to be directed toward thorium and lithium. Much of the Survey's effort is applied to developing and improving depositional models and assessment methods that can increase the credibility of regional, national, and foreign resource estimates. Virtually all the topical research projects in uranium contribute concepts and data to the development and improvement of the resource-assessment models. In one instance, a coordinated group of projects dealing with a wide variety of geologic-geochemical-geophysical research is adding considerable sophistication to the assessment of the San Juan Basin of New Mexico, the region of greatest past production and probable future resources. Resource assessment of thorium is less advanced than that for uranium because of low demand for thorium in the past, although the Survey maintains a modest program in anticipation of future need to know the magnitude of this potentially significant energy source. A preliminary Survey estimate in 1979 pointed out the possible large potential of heretofore unappreciated types of thorium deposits, and continuing research will improve the basis for future assessments of the resource. Under a Memorandum of Understanding signed with the Department of Energy in FY 1978, the Survey has been funded for major participation in the National Uranium Resource Evaluation (NURE) effort to supply reliable resource numbers for governmental planning purposes. The tonnages for potential resources to be reported at the end of FY 1980 are derived by methods that are not universally approved. The development of improved methods is a continuing process that the Survey will pursue. The estimates of potential resources are expected to be refined in FY 1981 and FY 1982, using sophisticated techniques and applying them first to areas of major importance to the Nation's future supply of nuclear fuel.

Ongoing base program activities for this program in FY 1982 are:

	FY 1980	FY 1981	FY 1982
Geochemistry and mineralogy-----	16	15	14
Uranium and sedimentary deposits	22	20	20
Uranium in igneous and metamorphic rocks----------	11	--	7
Geophysical techniques for exploration----------	8	6	5
Resource assessment----------	6	6	8

Estimated unit costs for program outputs in FY 1982:

Geochemistry and mineralogy-----	14 @ $170,000
Uranium and sedimentary deposits	20 @ $95,000
Uranium in igneous and metamorphic rocks----------	7 @ $100,000
Geophysical techniques for exploration----------	5 @ $281,000
Resource assessment----------	5 @ $89,000

Increase for FY 1982	FY 1982 Base	FY 1982 Estimate	Increase
$	6,131	7,131	+1,000
FTP	(95)	(95)	(...)

The vital importance of uranium and thorium as an energy source necessitates a continuing national research effort to safeguard the Nation's interests. Nuclear fuel will be required along with coal for fueling the vast bulk of both replacement and new power-generation facilities. This dependence (which was recognized in the National Materials and Minerals Policy, Research and Development Act of 1980) requires that discovery rates of new domestic sources of uranium and thorium be improved. The proposed increase will:

1. Permit Survey scientists to evaluate the vast amounts of scientific data collected during the recent major phases of the Department of Energy's National Uranium Resource Evaluation Program. Application of this unprecedented data source will lead to improvements in methods of resource evaluation and development of exploration models for uranium.

2. Enable U.S. Geological Survey to resume research activities and investigations to identify "world-class" uranium deposits in crystalline terrains which are being recessed in 1981 due to budget reduction. Such deposits are extremely important elsewhere in the world but have not yet received adequate attention in the United States due to the fact that the most promising areas in the United States for "world-class" deposits occur on the fringes of the Canadian Shield. Here they are covered by glacial deposits, making their identification at the surface difficult and necessitating the development of specialized exploration instrumentation and capabilities.

Object Classification	Staff Years	Cost
Permanent positions	6	180,000
Other Personnel compensation		1,000
Total personnel compensation		181,000
Personnel benefits		18,000
Travel and transportation of persons		60,000
Transportation of things		20,000
Standard level user charges		18,000
Communication, utilities and other rents		45,000
Printing and reproduction		80,000
Other services		378,000
Supplies and materials		80,000
Equipment		120,000
Total	6	$1,000,000

Geothermal Investigations

Authorization: 43 U.S.C. 31(a)
Public Law 93-410 Geothermal Energy Research, Development, Demonstration Act of 1974. The objective of this Act is to further the conduct of research, development, and demonstrations in geothermal energy technologies.

Objectives: The principal goal of the Geothermal Investigations Program is to provide a scientific basis for describing the nature and for estimating the magnitude and location of geothermal resources. This is accomplished by carrying out geological, hydrological, geophysical, and geochemical studies to understand the factors that control the occurrence and distribution of geothermal resources, to evaluate new concepts for improving the technology for resource exploration, to develop a current national inventory of these resources, and to determine geological constraints to development of these resources as sources of energy. The program is designed to support and complement the geothermal R&D program of the Department of Energy (DOE), and is coordinated with DOE during both its planning and implementation (Figure G-12). Resource information derived from this program is also used for classification and evaluation of Federal lands prior to leasing.

Base Program: The main elements and objectives of the program are: (a) resource characterization, including descriptions of the geological and hydrological settings of various types of geothermal systems as well as their energy content; (b) exploration technology, including evaluation of concepts for instrumentation techniques and for data interpretation methods; (c) regional assessment and national inventory, including acquisition, reduction, interpretation, and computer storage of the nature, magnitude, and location of geothermal resources on a regional and national basis; (d) subsurface environmental impact, including an understanding of the induced seismic activity, land subsidence, and changes in ground water quality or flow which may occur as a result of fluid withdrawal or injection; and, (e) subsurface permeability control, including studies of mineral deposition and dissolution within geothermal systems which may affect permeability and consequent productivity of the system as fluids are withdrawn or injected.

The results are documented in a variety of reports and maps. Primary outputs of the program are: (a) conceptual and numerical models of the structure, fluids, and dynamic processes (including thermal and fluid flow) of characteristic geothermal systems; (b) estimates of location, size, and energy content of both identified and hidden geothermal systems; (c) determination of scientific feasibility of new exploration concepts and data interpretation methods; (d) assessments of the likelihood and degree of increased seismic activity, land subsidence, ground water changes, and subsurface permeability changes that may occur; (e) analyses of water-rock interactions within geothermal systems; (f) petrophysical properties of the materials in geothermal systems and their correlation with field geophysical data; and, (g) high quality field data from mapping, water samples, borehole cores, and geophysical surveys at geothermal areas.

FLOW CHART FOR USGS/GRP AND DOE/DGE
GEOTHERMAL PROGRAM ACTIVITIES

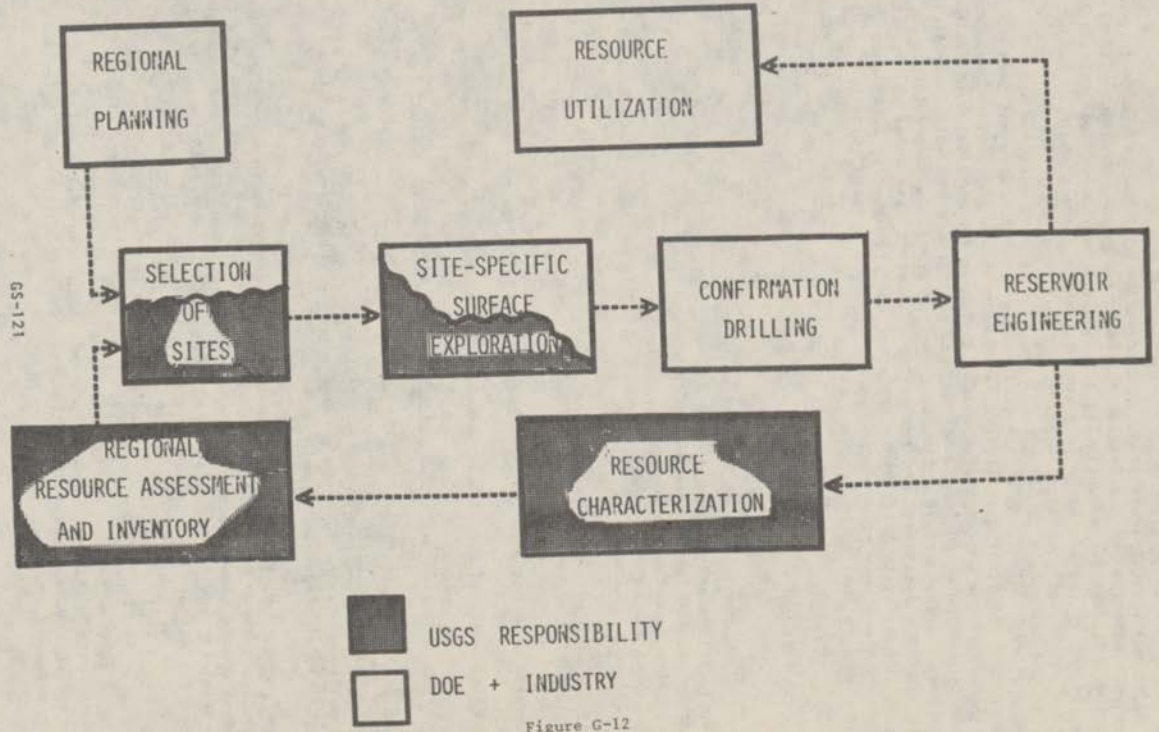


Figure G-12

GS-121

A major multidisciplinary study in cooperation with DOE of the geothermal resource potential of the Cascade Mountains of Oregon, Washington, and northern California is continuing but at a reduced pace. This study looks at the entire Cascade Range in a reconnaissance fashion and then focuses on a few individual geothermal systems. A similar study in the northern Great Basin and Range is also being continued at a reduced pace. A new temperature gradient map of the conterminous United States has been prepared as part of the first quantitative assessment of low temperature geothermal resources of the United States which is planned for completion in FY 1982. Work is continuing on improving chemical geothermometers which have already provided low cost, rapid estimates of subsurface fluid temperatures, for use in geothermal assessment and exploration. Seismic wave delay studies to detect low velocity material in the crust have resulted in techniques to identify the likely presence and extent of magma beneath volcanic fields, as a means of estimating the thermal energy and longevity of geothermal reservoirs.

Program Outputs:

	FY 1980	FY 1981	FY 1982
Publications and reports	75	50	50
Areas studied for geothermal system characterization	5	3	3
Regional assessments for resource estimates	4	2	2
Chemical determinations	150	120	120
Models of geothermal systems	3	2	2
Research grants funded	15	4	0

Estimated unit costs for program outputs in FY 1982:

Publications and reports 50 @ $156,500 each

World Energy Resource Assessment

Objectives: The objectives of the World Energy Resource Assessment program are to provide geologic information and assessments on world energy resources, with a strong focus on oil and gas, as input to national planning and policy decisions relative to energy use, availability, ownership, international trade, and foreign policy.

Base Program: Most of the world's energy resources are in a very few, large deposits. Nearly 80 percent of current energy supplies comes from only 20 percent of the known deposits. Regional studies to determine the geologic potential for additional large deposits can provide the resource information needed for certain critical aspects of national energy planning and decisionmaking. In FY 1981, the Geological Survey program will focus on three activities: 1) regional investigations leading directly to resource assessment; 2) topical studies focusing on particular aspects of world energy resource occurrence that are not well developed in the literature; and 3) computer data system development to permit archiving of essential information and make that information readily available to the scientists in the program.

In order to build the level of world energy geology understanding, most of the effort in FY 1981 is directed toward regional studies including geological analyses and resource assessment of the major petroleum producing regions of the world: USSR, Middle East, North Africa, Venezuela, Mexico, Indonesia, South Asia, China, and the North Sea. Frontier area investigations must also be a part of regional world energy activities to search for promising new source areas of energy; Antarctica will be the frontier study area for FY 1981. The regional assessments will be supported by topical studies on the distribution of energy source and reservoir rocks. Computer data systems and country by country data file acquisition to support the regional and topical studies and to provide immediate intelligence on the quantity, quality, and distribution of world energy will be expanded.

Decrease for FY 1982	FY 1982 Base	FY 1982 Estimate	Decrease
$	1,500	--	-1,500
(FTP)	(...)	(...)	(...)

The program is being reduced in FY 1982.

Object Classification for Decrease	Staff Years	Cost
Permanent positions	-5	$ 200,000
Other personnel compensation		1,000
Total personnel compensation		201,000
Personnel benefits		20,000
Travel and transportation of persons		120,000
Transportation of things		5,000
Standard level user charges		20,000
Communication, utilities and other rents		30,000
Printing and reproduction		100,000
Other services		904,000
Supplies and materials		50,000
Equipment		50,000
Total	-5	-1,500,000

Justification of Program and Performance

Activity: Geologic and Mineral Resource Surveys and Mapping
Subactivity: Offshore Geologic Surveys

(Dollar Amounts in Thousands)

		1981 Approp Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Offshore oil and gas resources	$	11,084	11,774	11,774	...
	(FTP)	(147)	(147)	(147)	(...)
Energy-related environmental investigation	$	8,455	8,813	8,813	...
	(FTP)	(76)	(76)	(76)	(...)
Marine geology investigation	$	1,408	1,509	1,509	...
	(FTP)	(27)	(27)	(27)	(...)
Environmental studies of marine frontier areas	$	...	...	1,948	+1,948
	(FTP)	(...)	(...)	(...)	(...)
Geologic evolution of the Atlantic margin	$	...	...	900	+900
	(FTP)	(...)	(...)	(...)	(...)
(Common program services)	$	(843)	(908)	(990)	(+82)
Total requirements	$	20,947	22,096	24,944	+2,848
	(FTP)	(250)	(250)	(250)	(...)

Offshore Oil and Gas Resources

Objectives: The principal objective of this program is the acquisition and analysis of regional geological and geophysical data required for assessing the oil and gas resource potential of the United States continental shelf, continental slope, and deep-water areas. These assessments identify areas which have significant petroleum potential for Outer Continental Shelf (OCS) lease sales and provide geological resource data and analyses to the Federal Government, the coastal States, and the concerned public.

Base Program: The base program is designed to provide estimates of the magnitude of the Nation's offshore petroleum resources required for periodic assessment of domestic oil and gas resources used in support of long-range energy planning and for the development of a national energy policy as required under the amendments to the OCS Lands Act. Information on the oil and gas resource potential of each OCS area and estimates of the undiscovered recoverable quantities of petroleum at various water depths and environments is needed for planning of a multi-year OCS leasing program, to determine the size and timing of OCS lease sales and identify location of potential lease areas in reference to other coastal-zone and offshore

activities, and the relation of unleased OCS areas to leased tracts and to the adjacent coastal States. The offshore oil and gas resource program is directed to both near-term OCS lease sales and longer-term sales in difficult environments, such as offshore Alaska. Long lead time is needed to acquire geological and geophysical data in Arctic OCS areas, where surveys are, at best, limited to a few months each year and where in certain years, no data can be collected due to the presence of floating pack ice and shore fast ice. The data are acquired principally by the use of ships operated by the Geological Survey. Where necessary, ships of other government agencies are utilized. Where advantageous, data are also obtained on contract with industry. Representatives from these organizations and from oceanographic research institutions routinely participate in data collection and analysis. These publicly available data are used also by the Department of State to evaluate alternate offshore international boundaries.

In this manner, high-quality digitally recorded seismic reflection and aeromagnetic data, as well as ship-borne gravity, magnetic and seismic refraction measurements, have been acquired since 1972. Analyses of these data are integrated with the results of geologic studies onshore and reports prepared in support of OCS lease sales. Investigation in FY 1981 and FY 1982 will focus on integrating the geophysical interpretations with information obtained from the industry-sponsored Continental Offshore Stratigraphic Testing (COST) program, and wells drilled on leases. These studies provide significant understanding of the oil and gas resource potential of the continental shelf, continental slope, and deeper water areas.

The results of these investigations are the principal sources of publicly available geological and geophysical data on the OCS. Before the Call for Nominations for an oil and gas lease sale in a frontier area, the information gained from regional resource assessments is summarized in a Pre-Call for Nominations Report which contains the raw data, data interpretations, and conclusions. This publicly available report (a required part of the leasing process) is a summary of the significant information in three individual reports (1) Geologic Framework Report, (2) Petroleum Geology Report, and (3) Petroleum Resource Potential Report. The geologic and resource information also is used to prepare the Environmental Impact Statement (EIS) and is available for study by State and local agencies, interested and concerned individuals, and by Federal decisionmakers.

In FY 1981, extensive geophysical surveys will be conducted in deep water Atlantic and Gulf of Mexico OCS areas, in Norton Sound, the Aleutian Shelf, off Washington-Oregon, and in Southern California. Summary resource reports will be published for the Navarin Basin, Chukchi Sea, Hope Basin, and California. Also, in early FY 1981, a complete oil and gas reappraisal of all the OCS basins will be published, including the hydrocarbon potential out to 2500m of water depth.

In FY 1982, resource work will be conducted in deep water areas of the Gulf of Mexico, and the North Atlantic, and summary reports according to the then current lease-schedule will be made available.

74-939 O—80——94

Recent accomplishments include:

- Detailed delineation of the Jurassic reef trend off the Atlantic Margin.
- Recent investigations suggest that the Navarin Basin has considerably more petroleum potential than previously thought.
- Identified gas hydrates in the Carolina Trough and Navarin Basin that could act as a seal to trap hydrocarbons.
- The Sigsbee Escarpment in the North Central Gulf of Mexico, where water depths exceed 2000 meters, may be significant to future petroleum exploration.
- Investigations have shown that 2/3 of the Continental Slope and Rise of the Beaufort Sea, deeper than 500m, is underlain by gas hydrates and, in many areas, free gas is trapped in pockets beneath them.
- The eastern segment of Beaufort Sea contains thick sedimentary rocks, and large geologic structures, that are similar to those in the Canadian sector where major discoveries of oil and gas have been made.
- The geologic formations and structures that exist onshore and contain potential petroleum are found to extend to the offshore beneath the Chuckchi Sea.

Program Outputs:

	FY 1980	FY 1981	FY 1982[1/]
Regional Geophysical Surveys----------	5	6	5
Seismic Data (line miles)----------	(7,300)	(7,700)	(7,600)
Gravity/magnetic data (line miles)----	(4,200)	(4,000)	(4,100)
Geologic Framework reports----------	7	7	7
Geophysical data reports----------	9	8	10
Resource reports----------	4	5	4

Unit costs related to program outputs:

	FY 1982[2/]
Resource investigations----------	16 @ $453,346
Topical (geochemistry, geophysics) studies----------	11 @ $205,366
Instrumentation support projects------	3 @ $246,432
Computer and mapping projects---------	6 @ $150,855

[1/] Outputs required to meet current leasing schedules.

[2/] These unit costs were developed on 1982 outputs using non-inflation adjusted FY 1980 cost data. Outputs will have to be adjusted downwards to remain within budget in FY 1982.

Energy-Related Environmental Investigations

Authorization: 43 U.S.C. 31(a)

Objectives: The proposed objectives of the program are (a) to conduct geologic environmental research and, (b) to characterize regional offshore geologic hazards to aid in leasing the Outer Continental Shelf (OCS), and in the safe exploration and development of oil and gas offshore Federal lands.

Base Program: These energy-related regional marine environmental research studies are focused primarily on identifying and mapping the marine geologic hazards to offshore development. The information gathered by this Program forms a basis for understanding the conditions for the safe leasing and development of the resources on the OCS. The results are made available to other Federal agencies, State and local government entities, the petroleum industry, and the concerned public. Environmental conditions commonly identified as hazardous vary substantially from area to area in the OCS and include submarine landslides, seafloor faults, earthquakes, seafloor ice scour, and gas-charged sediments. Studies conducted in the course of these investigations are tailored to the regional geology of each OCS lease area. Program priorities are initially determined by the Department of the Interior's lease-sale schedule, but within a given OCS area, program emphasis is reevaluated after each field season because newly gathered information may reduce a formerly assumed hazard to a mundane problem and elevate a relatively unknown process to the level of a substantial environmental risk.

Analyses of the environmental geology of each OCS area are prepared for inclusion in the Pre-Call for Nominations Report, which is submitted to the Bureau of Land Management for their consideration in tract selection. Regional environmental geology reports are subsequently submitted to BLM for incorporation in Environmental Impact Statements. Newly identified features and conditions that are recognized to be potential hazards to offshore development may result in tract withdrawal or stipulations prior to a lease sale.

In FY 1981-82, reconnaissance and mapping of geologic hazards of the United States Continental Shelf will be continued in new OCS regions scheduled for lease sales and in regions where second-round lease sales are planned. These regional investigations will also extend to selected upper continental slope areas, as identified in the updated lease-sale schedule, such as those in the North- and Mid-Atlantic OCS areas. An increased effort will be given to environmental investigations of the Alaskan shelf, especially for the study of geologic hazards of the Chukchi Sea, by means of high-resolution seismic and coring surveys. In the Chukchi Sea, investigations on the stability of shoals in relation to currents and moving ice, the distribution of ice gouging on the seafloor and the rates of erosion will be conducted. Other areas undergoing environmental geologic studies include the Hope, Navrin, and Eel River Basins, Norton Sound, and the Southern California Borderland.

Recent significant accomplishments include the following:

- Studies on the Atlantic OCS indicate the presence of unstable slopes in several areas of the upper Continental slope, and that the outer shelf sediments are susceptible to erosion and transport by storm-generated currents.

- Investigations offshore of the Mississippi Delta showed that large amounts of shallow biogenic gas is one of the causes of widespread mass movement of sediments.

- Borehole and seismic reflection data from the Beaufort Sea, combined with specialized computer processing, confirmed that gas-charged sediments can be identified by acoustic methods. This method is being tested in other OCS areas.

- Side-scan sonar records indicate that submarine slides, similar to those offshore of the Mississippi Delta, do exist on the Alsek River Delta in the Gulf of Alaska.

- Faults, offsetting the seafloor by at least 100 m were confirmed and mapped in Shelikof Strait north of Kodiak Island, Alaska.

- A significant find in the northern California OCS is that diapirs, i.e., intrusion of the seafloor, are undergoing significant uplift in modern times, and these are accompanied by sediment slumping and active faulting.

Program workload:

	FY 1980	FY 1981	FY 1982[1/]
Regional environmental geology surveys	9	12	15
High-resolution geophysical profiling (line miles)	(15,000)	(18,000)	(22,000)
Sonar data (square miles)	(315)	(390)	(400)
Environmental report prior to nominations	5	6	2
Geophysical data reports	9	9	10
Environmental reports for EIS use	3	5	6

Average unit costs for program outputs:

	FY 1982[2/]
Energy-related environmental surveys	14 @ $291,634
Topical (geochemistry, sediment transport) studies	18 @ $160,669
Instrumentation support projects	2 @ $ 85,060
Computer and mapping projects	6 @ $226,826

[1/] Outputs required to meet current leasing schedules.

[2/] These unit costs were developed on 1982 outputs using non-inflation adjusted FY 1980 cost data. Outputs will have to be adjusted downwards to remain within budget in FY 1982.

Marine Geology Investigations

Authorization: 43 U.S.C. 31(a)

Objectives: The program goals are (a) testing advanced geologic research concepts applicable to the marine environment and resources, and (b) data synthesis for the Survey's programs, for other Federal agencies and for government entities of coastal States. Investigations on the geologic conditions, processes and non-energy mineral resources are conducted, in coastal and estuarine areas, in lakes, on the continental shelf and slope and in deep ocean areas in support of other missions of the Geological Survey.

Base Program: Investigations are conducted to determine the source and process of mineral enrichment of deep-sea sediments, overlying the oceanic crust, that could contain economically valuable minerals such as manganese, nickel, and cobalt. Research on marine sediments, which include sand and gravel, heavy minerals, manganese nodules and other critical mineral commodities, is being conducted on the continental shelf off New England, California, and Alaska and selected deep water areas by means of geochemical, hydrochemical, geophysical and sampling techniques. In FY 1982, these studies will be continued.

Investigations in the coastal zone of Texas, Massachusetts and Puerto Rico are conducted in cooperation with State Government agencies. Seismic and magnetic measurements in lakes, including the Great Lakes, are part of the coastal zone research efforts.

Instruments for monitoring earthquake activities, transport of coastal sediments and the related ocean waves and currents are being developed, tested, and deployed in coastal and continental shelf areas.

Areas and topics under investigations in FY 1982 include:

- Study trace metals in sediments, and continued evaluation of manganese nodules and phosphorites by geochemical, geophysical and other methods.
- Process and interpret wide-swath sonar records of the Atlantic continental slope to delineate morphological provinces and determine unstable seafloor areas.
- Continue evaluations on the structure, stratigraphy and geologic hazards of lakes.
- Continue cooperative studies with coastal States to provide maps and reports to coastal States and Government agencies.

Major accomplishments of this program have been:

- Development of instrumentation for investigations on offshore seismicity and coastal erosion.

- Participation in multi-national investigations of hydrothermal vents associated with large deposits of copper, zinc, and iron sulfides.
- Identification of marine sand deposits offshore of Puerto Rico for purposes of commercial extraction, and determination of geologic conditions around pipeline corridors.
- Marine geologic maps have been completed for the shelf off Puerto Rico and Massachusetts.
- Study of manganese nodules on the Atlantic Margin has shown high concentrations of platinum.
- The seaward extent of phosphorite deposits off Florida were delineated.

Program Outputs:

	FY 1980	FY 1981	FY 1982
Research reports	7	6	8
Reports to coastal States	2	2	3
Reports to other Federal agencies	0	1	2
Coastal maps	4	4	6
Offshore maps	9	9	7

Average unit costs for program outputs:

	FY 1982
Geologic processes investigations	5 @ $ 96,424
Mineral deposit studies	6 @ $139,436
Support (instrumentation/computer)	2 @ $ 49, 630

Environmental Studies of Marine Frontier Areas

Authorization: 43 U.S.C. 31(a)

Objectives: The principal objectives of this program are (a) to improve the understanding of geologic processes of engineering significance in frontier (Continental Slope and Rise, and Arctic Outer Continental Shelf) areas, (b) to devise and use improved techniques for evaluating physical and engineering properties of earth materials in the marine environment, and for predicting the behavior of these materials under changing physical conditions, and (c) to provide marine geologic engineering information and expertise to areas where a major Federal interest exists.

Base Program: New program request.

Increase for FY 1982	FY 1982 Base	FY 1982 Estimate	Increase
$	...	1,948	+1,948
(FTP)	(...)	(...)	(...)

An increase of $1,948,000 is requested to initiate a program, principally in seafloor engineering for the deep-water (Continental Slope) and Arctic OCS areas. Unique problems in these areas require specific environmental and geotechnical engineering solutions. The Survey has conducted pilot studies in shallow waters (Continental Shelf) already, whose accomplishments are listed in the base program statement, hence has a partial capability to address issues of this proposed activity. The increase is requested to allow the Survey to formally establish this program and expand its capabilities to the new areas of concern.

Figure G-13 shows the promising deep water areas of the Gulf of Mexico where studies that will be addressed in the program are critical to the development of oil and gas resources.

The program is specifically tailored to special problems of deep-water and Arctic OCS development, principally for oil and gas. The most recent estimates indicate that a significant portion of the Nation's remaining undiscovered recoverable oil and gas resources lies in deep water areas and in Arctic basins, and the present leasing schedule reflects this. The program is, however, applicable to future leasing and development of other commodities, such as hard minerals. Information gathered in this program is for the specific purpose of quantifying environmental and geologic conditions in engineering terms to advance knowledge of hazards from unsatisfactory to acceptable, and in this manner assist in accelerating leasing and development of offshore Federal lands. The program is specifically aimed at unique problems of the deep water areas (Continental Slope and Rise) and the Arctic OCS, where the nature and behavior of earth materials and related environmental settings are incompletely understood at present. The impact anticipated is that leasing could proceed in a timely and litigation-free manner, that industry obtain guidance from results of this program for improving design parameters for offshore construction and operations, and that other Federal agencies, State agencies, and the concerned public will be able to use the information to assist advancing the development of mineral resources of the OCS and deep oceans.

The program is focused on (a) regional assessment of the engineering characteristics of materials on and below the seafloor, (b) the development of quantitative understanding and assessments of the mechanics of geotechnical, seismic and selected oceanographic processes in the marine environment, and (c) closing critical gaps in geotechnology relating to the behavior, and on disturbance, effects of marine soils by means of new engineering measurement techniques, and (d) development of experimental and analytical modeling techniques for predicting causes and effects. Among the critical issues to be addressed by this program are gas-charged unstable

Gulf of Mexico shallow and deep water diapiric structures and inshore shallow water areas currently offered for leasing.

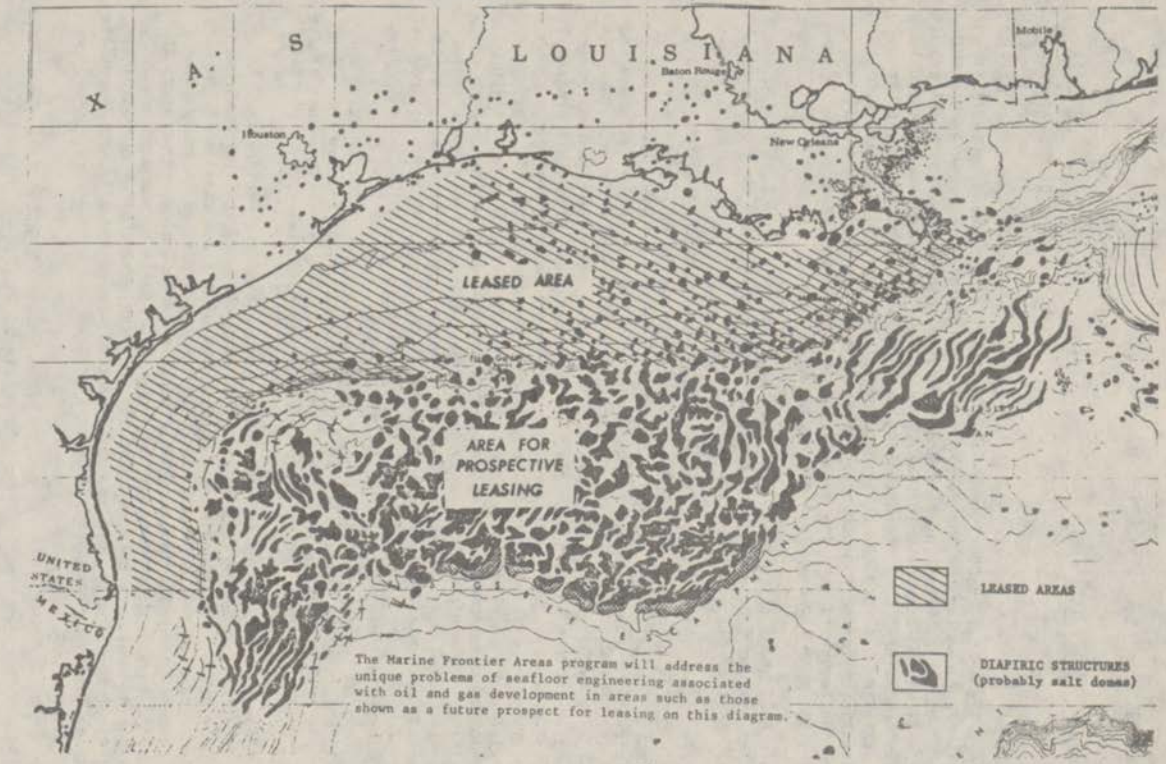


Figure C-13

seafloor soils, instabilities resulting from loading of soils by earthquakes and ocean waves, potential failures and modes of failure of submarine landslides, slumps and creeps, and effects of potentially unstable steep slopes in deep water on siting and structural design of oil and gas platforms, the relation between ice gouges and pipeline route options in the Arctic, the engineering properites of ice-bonded sediments (permafrost and gas hydrates) on drilling, casing, production technologies and on evaluating options for foundation design, and ground failure mechanisms resulting from earthquakes in the offshore environment. The concerns attached to developing these resources is that technology to produce these resources may not yet be available, especially for areas such as the Chukchi Sea and for water depths greater than 2000 meters because of the unique engineering problems that must be solved prior to development. This program, therefore, is specifically designed to accelerate knowledge of the critical problems identified for these areas, with the aim that the time lag between leasing and development could hence be reduced. Program priorities will be based largely on the Department of the Interior's lease-sale schedules and on industry's plans for development of leased areas. Program emphasis will be re-evaluated annually.

Analysis of the geologic engineering conditions in these lease areas will be provided to the pre-sale environmental impact evaluations of BLM, to the Conservation Division of the Geological Survey for its regulatory responsibilities in post-sale development, and to other Federal agencies and State agencies having interest in the development of the OCS.

In FY 1982, the program will initiate studies of regional geotechnical assessments in three OCS areas, with emphasis on the Mid-Atlantic and North Atlantic deep-water OCS areas, and in one of the Bering Sea OCS areas. Simultaneously, instruments developed in prior years will be used in a major study of the effects of pore pressure on the stability of seafloor soils. In subsequent years, other deepwater lease areas, such as in the Gulf of Mexico, and other Arctic OCS areas such as Beaufort and Chukchi Seas will be investigated.

Although this program is to begin in FY 1982, pilot engineering studies have been conducted on the Continental Shelf in FY 1980-1981, whose significant accomplishments, useful to this program, were:

- Development of instrumentation for and measurement of strong-motion earthquakes in the OCS, in cooperation with the Department of Energy and industry;

- Determining that storm (hurricane) waves increase the pore pressures in soft sediments in the Gulf of Mexico, which could initiate rapid movement of large masses of sediments;

- Development of instrumentation that allows the determination of the effect of gas on the stability of the seafloor soils;

- Application of wave-hindcast models to the Atlantic OCS, on contract with NOAA, which will be used to evaluate how wave loads affect the seafloor soils, structures and their foundations;

- o A data management capability for correlating and synthesizing engineering information for selected OCS areas has been initiated in cooperation with the Department of Energy.

Estimated Program Outputs:

	FY 1982
Geotechnical investigations in deep water areas	2
Geotechnical investigations in Arctic areas	1
Engineering analyses for marine soils	50
Engineering analyses for earthquake induced ground failure	1
Analyses on ice gouging effects	1
Data reports	6
Engineering reports	3

Estimated average unit costs for program outputs:

	FY 1982
Regional assessment projects	4 @ $187,500
Seafloor materials studies	4 @ $170,000
Mechanics of instability studies	2 @ $208,000
Modeling projects	1 @ $ 60,000
Instrumentation R&D	1 @ $ 94,000

Object Classification	Staff Years	COST
Permanent Positions	3	93,000
Other personnel compensation		1,000
Total compensation		94,000
Personnel benefits		8,000
Travel and transportation of persons		110,000
Transportation of things		60,000
Standard level user charges		10,000
Communication, utilities and other rents		40,000
Printing and reproduction		20,000
Other services		998,000
Supplies and materials		300,000
Equipment		308,000
Total	3	$1,948,000

Geologic Evolution of the Atlantic Margin

Authorization: 43 U.S.C. 31(a)

Objectives: The principal objective of this basic research program is to develop a geologic model for the United States Atlantic Margin, using stratigraphic principles, thermal history and continental drift (plate tectonics) concepts in order to gain insight into the evolution of passive continental margins, and into the physical-chemical aspects of hydrocarbon origins and formation of unconventional gas deposits.

Base Program: New program request.

Increase for FY 1982	FY 1982 Base	FY 1982 Estimate	Increase
$	...	900	+900
(FTP)	...	(...)	(...)

An increase of $900,000 is requested to initiate a program in basic research for the development of a geologic model for passive continental margins, using borehole information, heatflow measurements, and geophysical surveys as input to modeling the evolution, including thermal history, of these margins. In FY 1982 this program will concentrate on the United States Atlantic Continental Margin.

The base program is designed to address basic scientific objectives concerning the origin and evolution of passive continental margins, by means of an admixture of data collection, analyses and modeling. The data to be acquired for this purpose consists of borehole information, heat flow measurements, seismic stratigraphy and geophysical (magnetic, gravity, subsidence and thermal history) modeling. The opportunity exists to obtain the borehole data, using the research vessel GLOMAR CHALLENGER, which is operated by the National Science Foundation's Deep Sea Drilling Project (DSDP). The DSDP will be able to accommodate, in its schedule for FY 1982, the necessary drilling time for the Geological Survey. The timing of this activity for FY 1982 is critical as the DSDP activities are not anticipated to continue beyond that year. The unique capabilities of the CHALLENGER, that include obtaining undisturbed cores for stratigraphic analyses, downhole measurements (such as heat-flow), are cornerstones of the base program. The information thus gained will be supplemented with existing seismic reflection and core-hole data from COST-wells drilled on the continental shelf, and the data assemblage will be used to develop, calibrate and test the geologic geophysical models on the tectonic, thermal and stratigraphic history of passive continental margins.

The geophysical analyses and subsequent models will provide a major input to an understanding of the break up of continents, initial phases of seafloor spreading, continental margin evolution, and the transition from continental to oceanic crust, and as such will serve as a major step forward in our understanding of global tectonics. Additional benefits, that will be derived from this program, are (a) geophysical, geochemical and borehole (heat flow, conductivity) data acquired in areas where gas hydrates are

present will provide information on whether these deposits are potentially energy resources; and (b) analyses of sediment diagenesis and results of the model studies will be used to investigate oil maturation and migration.

Estimated Program outputs:

	FY 1982
Geophysical site surveys	4
CHALLENGER coring, heat flow measurements	4
Analytical models	3
Data reports	6
Synthesis reports	2

Estimated average unit costs for program outputs:

	FY 1982
Site survey project	1 @ $185,000
Drilling project	1 @ $595,000
Modeling studies	4 @ $ 55,000

Object Classification	Staff Years	Cost
Permanent positions	3	99,000
Other personnel compensation		1,000
Total compensation		100,000
Personnel benefits		10,000
Travel and transportation of persons		60,000
Standard level user charges		15,000
Communication, utilities and other rents		25,000
Printing and reproduction		30,000
Other services		550,000
Supplies and materials		60,000
Equipment		50,000
Total	3	900,000

U.S. GEOLOGICAL SURVEY
Analysis by Subactivity

Activity: Water Resources Investigations

(Dollars in thousands)

Subactivity	FY 1980 Actual (B.A.)	FY 1981 Approp. Enacted	FY 1981 Revised Estimate	FY 1982 Base	FY 1982 Estimate	Increase (+) or Decrease (-) 1982 Est. over 82 Base
National Water Data System:						
Federal Program	$48,480	$ 48,691	$ 51,024	$51,439	$ 54,189	$ +2,750
Federal-State Program	40,604	41,395	43,730	44,146	48,046	+3,900
Energy Hydrology	19,658	21,806	22,397	23,503	23,503	...
Total	108,742	111,892	117,151a/	119,088b/	125,738	+6,650

a/ Includes pay cost supplemental pending.

b/ Includes supplemental pending for Oil Shale Leasing, $1,000.

Justification of Program and Performance

Activity: Water Resources Investigations
Subactivity: National Water Data System -- Federal Program

(Dollar Amounts in Thousands)

	1981 Approp Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Data Collection and Analysis	$15,976	17,303	16,503	-800
(FTP)	(418)	(418)	(411)	(-7)
National Water Data Exchange	$ 1,265	1,313	1,313	...
(FTP)	(13)	(13)	(13)	(...)
Coordination of National Water Data Activities	$ 890	938	938	...
(FTP)	(15)	(15)	(15)	(...)
Regional Aquifer Systems Analysis	$15,613	16,025	16,025	...
(FTP)	(128)	(128)	(128)	(...)
Core Program Hydrologic Research	$ 5,819	6,259	6,259	...
(FTP)	(145)	(145)	(145)	(...)
Improved Instrumentation	$ 2,022	2,029	2,029	...
(FTP)	(3)	(3)	(3)	(...)
National Assessment of Water Supply and Demand	$ 350	353	353	...
(FTP)	(1)	(1)	(1)	(...)
Ground Water Recharge	$ 1,363	1,457	1,457	...
(FTP)	(29)	(29)	(29)	(...)
Subsurface Waste Storage	$ 1,424	1,526	1,526	...
(FTP)	(32)	(32)	(32)	(...)
Flood Hazard Analysis	$ 434	480	480	...
(FTP)	(16)	(16)	(16)	(...)
Supporting Services	$ 3,535	3,756	3,756	...
(FTP)	(69)	(69)	(69)	(...)
Cold Regions Hydrology	$ ...	...	500	+500
(FTP)	(...)	(...)	(...)	(...)
Toxic Wastes-Ground Water Contamination	$ ...	...	1,500	+1,500
(FTP)	(...)	(...)	(...)	(...)
Acid Rain	$ ...	...	1,550	+1,550
(FTP)	(...)	(...)	(...)	(...)
Common Program Services	(1,651)	(1,748)	(1,827)	(+79)
Total Requirements	$48,691	51,439	54,189	+2,750
(FTP)	(869)	(869)	(862)	(-7)

Data Collection and Analysis

Authorization: 43 U.S.C. 31(a)

Objectives: To collect, analyze, interpret and make available data and information on the quantity, quality, and location of the Nation's ground and surface waters. Specific objectives are:

- To operate surface and ground water data collection networks with emphasis on information about water short areas, urban complexes, lower river reaches, floods, droughts, and environmental concerns.
- To provide and improve information on the quality of the water of the Nation and to identify and interpret changes and trends in the quantity and quality of the Nation's major rivers using data from the National Stream Quality Accounting Network and other water-quality data networks.
- To conduct synoptic river-quality assessments directed at developing procedures for evaluating water management alternatives.

Base Program: Although the information is used by all segments of the water community, the water-data collection, resources-investigation, and research activities included in this program component support that segment of the National Water Data System in which the Federal interest is paramount, including compacts, public lands, rivers and aquifers that cross State boundaries, and other areas of interstate or international concern.

Many data have been and are being collected, yet there remain serious deficiencies in the geographical distribution and in the kinds of data available. This situation exists not only because of population growth and shifts, and depletion of some local sources of water, but also because of the need for development and management of water resources on a regional and national basis which requires supporting data. The investigations described below are modified somewhat from year to year in response to the increasing and changing stresses on the Nation's water systems.

Hydrologic Data Collection

- Streamflow will be gaged continuously at approximately 1,000 stations.
- Streamflow will be gaged intermittently at 120 or more sites, depending upon hydrologic conditions and water data requirements; and lake and reservoir contents and changes will be recorded at over 60 stations.
- Ground water levels or pumpage will be measured at about 7,000 sites.

National Water Quality Networks

1a. The National Stream Quality Accounting Network (NASQAN) of 518 stations on the Nation's major rivers provides data of stream quality in the United States to be used for national and regional water-resources assessment,

management, and planning. Information obtained through NASQAN and supplemented by other Geological Survey data form the basis of reports on national water quality prepared by the Geological Survey, CEQ, EPA, and other agencies. NASQAN stations make up about one-half of the network in EPA's Basic Water Monitoring Program.

b. Water-quality and water quantity records are collected at about 80 stations located on streams at international boundaries, interstate compact points, and other sites where the interest of the United States is served by monitoring water quality.

c. Hydrologic Benchmark Network includes the collection of water quantity and water-quality data on streams in 51 small drainage basins to provide background hydrologic information for areas that are virtually unaffected by human activities.

d. Water quality will be determined on a periodic basis at 900 surface water sites and 300 ground water sites. Sediment records will be obtained at 400 surface water sites.

2. Research on analytical methods and field techniques
The development and evaluation of new analytical methods for evaluating ambient water-quality conditions will be continued. Work will include development of more precise and rapid analytical methods for analysis of trace metals and organic substances in water and for reliable techniques for collecting sediment data. Emphasis in FY 1982 will be on improving the capability for measuring the biological, organic, and inorganic chemical characteristics of water.

Selected program outputs:

	FY 1982
Data collection at surface water sites other than water quality (streams, lakes, reservoirs)	1,200
Data collection at ground water sites other than water quality	7,000
Water quality data collection at surface water and ground water sites.	2,200

Average unit costs for selected program outputs in FY 1982 are:

1,200 sites @ $3,500
7,000 sites @ 100
2,200 sites @ 2,700

River Quality Assessments

The river-quality assessments program will continue to develop and improve approaches for evaluating the character, interrelations, and causes of river quality problems; determining better alternatives for area-wide management of river quality and demonstrating that substantial savings may be achieved when water-quality planning and management is based on sound technical information.

The synoptic assessments provide information to aid in the (1) identification of urban and rural point and nonpoint sources of pollution; (2) assessment and monitoring of impacts resulting from coal and oil shale resource development; (3) determination of levels of treatment required to produce safe drinking water, and (4) maintenance of environmentally desirable in-stream conditions.

Intensive river-quality assessments have been completed in the Willamette, Chattahoochee, and Yampa River Basins. In FY 1981, river-quality assessments will be completed in the Apalachicola, Schuylkill, and Truckee-Carson River Basins. The ongoing Potomac River Basin study will continue in FY 1982, and will address problems of dissolved oxygen, nutrients, pathogens, sediment transport, non-point pollution, and toxic substances.

Selected outputs for this program are:

	FY 1980	FY 1981	FY 1982
Reports published	8	3	9
Reports in process	16	12	3

Unit costs for selected program outputs for FY 1982 are::

Reports published----------9 reports @ $35,000

Decrease for FY 1982	FY 1982 Base	FY 1982 Estimate	Decrease
$	17,303	16,503	-800
(FTP)	(418)	(411)	(-7)

It is proposed to redirect funds and positions from the River Quality Assessments (Federal Program) to the Federal-State Cooperative Program to supplement an increase of $2,000,000 requested to provide for a significantly increased effort in environmental water-quality investigations.

Assessment methods and techniques developed through FY 1981 as part of the Federal Program, will provide the foundation for this expanded cooperative effort. The results of such studies will be a better understanding of the processes that take place in rivers and how they can be controlled to reduce quality of water problems while still obtaining maximum use and human enjoyment of the rivers. Additionally, these studies can be designed to provide management options with regard to needed treatment of wastewater, periods of needed storage release for dilution water, and assessment of compatible uses of the rivers. Moreover, such studies would consider the effects of ground water inflow, so that decisions involving river management could be based on an understanding of the complete hydrologic system.

74-939 O—80——95

Object Class Distribution

The object class distribution for the decrease is as follows:

Position Title	GS Grade	Number	Annual Salary
Permanent positions:			
Hydrologist	GS-14	1	$34,713
Hydrologist	GS-13	2	58,750
Chemist	GS-13	2	58,750
Hydrologist	GS-12	2	49,406
		-7	
Permanent positions			201,619
Personnel benefits			20,162
Travel and transportation of persons			40,000
Transportation of things			16,000
Standard level user charges			21,000
Communications, utilities, and other rent			24,000
Printing and reproduction			8,000
Other services			369,219
Supplies and materials			20,000
Equipment			80,000
Total			$-800,000

National Water Data Exchange (NAWDEX)

Authorization: 43 U.S.C. 31(a)

Objectives: To improve and expand the availability of water data to all users.

Base Program: NAWDEX is a nationwide interagency program consisting of a cooperative membership of nearly 200 Federal, State, and local governmental, academic, and private water-oriented organizations. It serves as a major focal point for information about water data. NAWDEX membership is increasing at a rate of about 10 percent each year. The program provides nationwide data services such as water-data indexing and source identification, search assistance, data dissemination, and request referrals to aid water-data users in locating and acquiring hydrologic data. Services are available through a national network of Assistance Centers in 45 States and Puerto Rico. Five additional Assistance Centers are planned by the end of FY 1982 for a total of 70.

Data exchange programs have been established with other bureaus of the Department of the Interior, the National Oceanic and Atmospheric Administration, the Environmental Protection Agency, the Canadian Department of the Environment, and several State-governmental data systems. Data holdings of more than 400 organizations have been indexed; over 700 data sources have been identified; a system for the indexing of areal water data

and a membership-wide program for the manual indexing of water data has been implemented.

The computerized data files of NAWDEX are used to produce a variety of listings, numerical summaries, and site-location plots to aid in identifying available water data. In addition, the Water Data Sources Directory is made available in both printed and microfiche form and various catalogs and indexes including special indexes of water-data activities in coal provinces and a national index of suspended-sediment activities are produced. Through these efforts, NAWDEX provides support to the cataloging requirements of OMB Circular A-67, assists in reducing the cost of data collection nationwide by making existing data more readily accessible and available, and meets the growing demand for data and information from a highly diversified user community.

Selected outputs for this program are:

	FY 1980	FY 1981	FY 1982
Member organizations	190	210	230
Data sources identified	725	775	825
Data sites indexed	370,000	390,000	410,000
Data response transactions	82,500	100,000	110,000
Assistance Centers	60	65	70

Average unit costs for selected program outputs for FY 1982 are:

Data sources identified----------825 @ $24
Data sites indexed----------410,000 @ $3
Data response transactions----------110,000 @ $12

Coordination of National Water Data Activities

Authorization: 43 U.S.C. 31(a)

Objectives: To coordinate the water data acquisition activities of all Federal agencies in accordance with OMB Circular A-67.

Base Program: This program carries out the lead-agency responsibilities of the Department of the Interior in implementing OMB Circular A-67 to (1) achieve effective coordination of water-data acquisition activities of all Federal agencies, and of non-Federal agencies to the maximum extent feasible; (2) maintain a central catalog of information on water-data activities, ongoing and planned; (3) establish standards for collection and storage, dissemination, and publication of all types of hydrologic data, including water-quality data, and publish and update National Handbooks of such standards; and (4) design and coordinate a National Network for acquiring data on the quality and quantity of streams, lakes, reservoirs, estuaries, and ground waters. More than 30 Federal agencies are involved in the program, and over 300 State and local organizations participate on a voluntary basis.

Activities in FY 1982 will focus on increasing the involvement of the non-Federal sector in the planning and coordination of data-acquisition activities, including areal investigations as well as station activities. This will be accomplished in part through State-level meetings of water-data users as well as collectors of hydrologic information. The Federal Plan of water data acquisition activities will be redesigned and its release timed to coincide with the need for current information on plans of Federal water agencies. Information products from the "Catalog of Information on Water Data," will be improved and the technical chapters of the "National Handbook of Recommended Methods for Water Data Acquisition," will be updated as needed. New chapters on methods for acquiring water-use data and on handling water data will be completed. Development of programs for quality assurance of hydrologic data will receive increasing attention in FY 1982 as part of the recommended methods activity.

Selected outputs are:

	FY 1980	FY 1981	FY 1982
Special Indexes - Coal	2 vol	2 vol	...
Federal Plans for water data collection activities and areal investigations; 1 volume	1 vol	1 vol	1 vol
Regional or State listings of hydrologic information from Federal, State and local agencies 21 or 51 volumes (limited edition)	21 vol	51 vol.	51 vol
Regional Plans, 21 volumes	21 vol.	21 vol	21 vol
Recommended methods for water data aquisition (12 chapters)			
Chapters printed	2	5	2
Chapters updated	..	4	5

Average unit costs for selected program outputs for FY 1982 are:

Federal Plans for water data collection activities and areal investigations; 1 volume----------$6,000
Regional or State listings of hydrologic information from Federal, State and local agencies 21 or 51 volumes (limited edition)----------(50 vol.)$2,300
Regional Plans, 21 volumes----------$4,300
Recommended methods for water data aquisition (12 chapters)
Chapters printed----------2 @ $12,000
Chapters updated----------5 @ $ 5,000

Regional Aquifer Systems Analyses

Authorization: 43 U.S.C. 31(a)

Objectives: To determine the availability and chemical quality of ground water stored in regional aquifers, the recharge-discharge characteristics of the aquifers, and the hydrogeologic and geochemical controls that govern the response of the aquifer systems to stress; in so doing to provide the basic information and criteria required for development and management of supplies, particularly in water short areas.

Base Program: This program will be developing information on the quantity and quality of ground water in 15 regional ground water systems, which together represent a significant part of the national water supply. Twenty-eight aquifer systems have been identified for study. Depletion of surface- and ground-water supplies in some regions has reached severe proportions. Moreover, large increases in withdrawal from the Nation's ground-water reserves are expected to occur during the coming decade as a result of increased irrigation, water needs for energy production, water demands of urbanizing areas, limited new surface reservoir capacity, and the desire to establish drought-resistant water-supply systems. The resulting impact of these increased withdrawals may be regional in scope, and an ability to predict and understand these regional impacts is essential for successful water management.

In some parts of the country, increased pumpage will have an impact on Federal lands and on Federal investments in land and water development. Cities, industries, agriculture, communities, parks, recreation, fish, and wildlife will be impacted. As an example of the economic significance of these impacts, one may look at agricultural production, which is taking on increased importance as the Nation's principal medium of foreign exchange. Phasing out of crop irrigation in areas of imminent water shortage would have profound economic effects, not only within those areas, but throughout the Nation.

Although each investigation is designed to fit the particular problems of the study area, the general approach is to develop a computer simulation for the overall aquifer system, supported by more detailed simulations of local or subregional problem areas. These simulations assist in forming an understanding of the natural (prepumped) flow regime and of the changes brought about in it by human activities; and they provide a means of predicting effects of future pumpage, artificial recharge, waste disposal or other stresses, and will thus provide much of the basic information important to water management.

Hydraulic effects are simulated in all studies. In some studies, certain associated effects, such as land subsidence, changes in water quality, or costs of pumping, are the subject of corollary simulations. The simulations are based upon a full assemblage of existing data and the collection of data as required to fill critical gaps in the available information, which in some cases is extensive. The studies consider water quality as well as

quantity, and in each case efforts are made to interpret the observed water-quality distribution in terms of the original flow regime and the changes that have occurred in response to human intervention. Products from each study will consist of a series of reports, beginning with summaries of data collected and assembled, and culminating in interpretive reports including the results of predictive simulations.

In FY 1982 studies will be started for the aquifers of the Upper Colorado Region, the glacial aquifers of the Northeastern States, the basalt aquifers of the Columbia Plateau, and the aquifers of Oahu and Puerto Rico. Studies of the High Plains, the Northern Midwest, the Southwest Alluvial Valleys, and the Southeastern Carbonate Aquifers will be completed in FY 1982. By the end of 1982, a minimum of twenty reports will have been published under the program and at least thirty more will be in preparation.

Typical of the preliminary reports already published are:

- Estimated potentiometric surface for tertiary limestone aquifer system, southeastern United States, prior to development--Johnston and others, USGS Open File Report, 80-406, 1980.
- Water table in the High Plains Aquifer in 1978 in parts of Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas and Wyoming--Gutentag and Weeks, USGS HA-642, 1980.
- Plan of Study for the Northern Atlantic Coastal Plain Regional Aquifer System Analysis--Meisler--USGS WRI 80-16, 1980.

Selected outputs are:

	FY 1980	FY 1981	FY 1982
Regional studies in progress	6	12	15
Reports	10	20	50
Data Bases	...	...	15
Mathematical models	...	...	15

Average unit costs for selected program outputs for FY 1982 are:

Reports	50 @	$210,000
Data bases	15 @	200,000
Mathematical models	15 @	150,000

Core Program Hydrologic Research

Authorization: 43 U.S.C. 31(a)

Objectives: To improve our knowledge of the fundamental processes that affect or control the movement of water and chemical constituents through hydrologic systems so that appropriate methodologies can be developed to predict how natural or man-induced stresses may alter the hydrologic system, and apply these methodologies to solve critical water problems.

Base Program: Basic and problem-oriented hydrologic research is conducted to support the mission of the Geological Survey. Research is directed not only to current issues, but also to anticipated critical hyrologic issues in an effort to provide knowledge and tools to enhance water management capabilities of the Nation. Knowledge and methods developed in this program have high transfer value to all operational aspects of mission-oriented hydrologic investigations of the Geological Survey and the investigations of other agencies. They are used to gain efficiencies and to improve the technical capabilities of the Nation to meet the rapidly increasing needs for advanced methodology for water resources management. Examples of research directed toward developing and refining methodology and gaining insight into hydrologic processes to better execute mission programs include:

- Prediction of the movement of contaminants, including heat and toxic organic and inorganic substances in ground-water and surface-water systems.
- Definition of the characteristics of ground and surface water systems.
- Development of methodologies to predict the impact of surface mining on local and general area hydrology.
- Development of network design technology to assess length of record required to define various water related statistical parameters.
- Definition of relationships between physical, chemical, and biological factors in estuarine systems.
- Development of improved methodology to measure and predict the movement and expected hydrologic impact of glaciers.
- Prediction of the response of ground-water systems to natural disturbances as well as man's activities.
- Development of the understanding of the role of hydrologic phenomena on vegetative systems, such as tree rings and their isotopic composition to extend historical data for predictive purposes.
- Prediction of the response of surface-water systems to variations in rainfall as well as changes in basin conditions.
- Prediction of ecological changes in response to changes in the hydrologic regime.

- In conjunction with health agencies, development of the water quality capability to assess the biological effects of different levels and types of mineralization of drinking water.

The program encompasses the following major research disciplines:

Water Chemistry	Sediment	Surface Water Hydrology
Geochemistry	Socioeconomic	Surface Water Physics
Solute Transport	Snow and Ice	Unsaturated Zone
Ground Water Physics	Ecology	Hydrogeology

Selected outputs for this program are:

	FY 1980	FY 1981	FY 1982
Reports	50	50	50

Average unit costs for selected program outputs for FY 1982 are:

Reports----------50 @ $100,000

Improved Instrumentation

Authorization: 43 U.S.C. 31(a)

Objectives: To improve the technology, methodology, and instrumentation to collect hydrologic data in the most timely and cost-effective manner possible.

Base Program: The program is designed to apply recently developed computer, electronic, and satellite communication technologies to hydrologic data collection at stream-gaging and other hydrologic stations to more fully automate and modernize the activity. The two key elements of the program are the development of new and improved hydrologic sensors and the operational testing of a real-time hydrologic data collection system.

The Geological Survey has conducted real-time satellite data collection research using Government and commercial satellites since 1972. During FY 1981, the Survey is testing a network of approximately 225 stations that transmit hydrologic data through the NOAA GOES satellites. This network relies on contractor assistance to a small degree. In order to evaluate a fully contracted effort, a commercially operated pilot data collection service will operate 105 stations by mid-FY 1981 as an alternative to the use of Government facilities and manpower.

In addition, an intensive sensor development program is being conducted to establish more efficient and less labor-intensive means of collecting hydrologic data. The two goals of the sensor development program are to (1) improve the reliability of existing instruments for data collection and to reduce the number of field visits necessary for operations; and (2) develop and adapt new types of sensors to further automate the collection and transmission of water data from field sites to central receiving offices, e.g., electronic digital recorders and acoustic stream flow systems sensors.

Selected outputs are as follows:

	FY 1980	FY 1981	FY 1982
Stations operated in-house	175	225	300
Stations operated by contract	...	105	105

Average unit costs for program outputs for FY 1982 are:

Stations operated by contract----------105 @ $7,200

National Assessment of Water Supply and Demand

Authorization: 43 U.S.C. 31(a)

Objective: To support the continuing review and formulation of water policy and the appraisal and assessment of the national water supply and demand situation by organizing and presenting available data in ways that facilitate analysis of current and foreseeable national water issues.

Base Program: The Water Resources Council, numerous national commissions, and other Federal agencies are required to make assessments of the Nation's water resources in formulating major policy decisions involving environmental protection, river basin development, water conservation, and water allocation. Those efforts have been seriously hampered by the lack of up-to-date, consistent, and reliable data, as well as techniques to evaluate those data.

While much information has been collected about the water resources of the United States, little has been done to integrate environmental, socioeconomic, and hydrologic data collection efforts to support analyses of the Nation's water situation. Basic information, such as the location of dams and reservoirs, the size of water bodies, the location of public water supplies, the cost of water supply development, and the quantity of water use is often incomplete and remains scattered throughout the files of many Federal and State agencies. Even when available, the information used in water appraisals and assessments is rarely organized and presented in a way that facilitates analysis of current water issues.

The program conducts the following activities:

1. Development of methodologies and procedures for assessing water supply and demand and for presenting the results in a way that facilitates analysis of national water issues.

2. Compilation and storage of statistics characterizing the current availability and quality of ground-water and surface-water supplies, level of water resources development, water imports and exports, and other hydrologic information needed to establish water balances and supply and demand analyses for river basins and water resource regions.

A preliminary assessment of water supply and demand will be completed in 1983. These activities are carried out in coordination with the U.S. Water Resources Council.

Selected program outputs:

	FY 1981	FY 1982
Research reports	1	2
Methodological reports	3	2
Data reports (national coverage)	1	2
National maps	5	5
Water accounting models	1	2

Average unit costs for program outputs for FY 1982 are:

6 reports @ $45,000
2 models @ 3,000

Ground Water Recharge

Authorization: 43 U.S.C. 31(a)

Objectives: To evaluate the hydrological, physical, chemical, and biological controls on recharge of ground water systems.

Base Program: Ground-water recharge is a vital component of the hydrologic balance and a controlling factor in determining ground-water quality. Use of ground water in excess of long-term average recharge has proven to be advantageous in many areas but involves cumulative impacts which eventually can render pumping uneconomic. These include such effects as declining water levels, with corresponding increases in the energy required for pumpage, land subsidence, and encroachment of saline water into freshwater aquifers. In terms of ground-water quality, human activities in recharge areas determine the contaminants which may enter the ground-water system, and reactions which occur in the recharge process have a strong influence on the fate of those contaminants.

Many of man's activities--for example, urbanization, agriculture, energy development, and waste disposal--influence both the quantity and quality of recharge. A better understanding of both hydraulic and chemical aspects of recharge is essential for successful management of ground water during a period of rapid change in these other areas of human endeavor.

Investigations funded under this program focus on chemical reactions in both the unsaturated and saturated zones, hydraulics of infiltration, aquifer mechanics, solute-transport processes in ground water, and simulation of hydraulic and chemical phenomena in ground water.

Selected outputs for this program are:

	FY 1980	FY 1981	FY 1982
Reports	10	13	12

Average unit costs for selected program outputs for FY 1982 are:

Reports----------12 @ $110,000

Subsurface Waste Storage

Authorization: 43 U.S.C. 31(a)

Objectives: To provide information and criteria regarding the potential for and effects of non-nuclear waste storage in subsurface environments.

Base Program: Specialized information, understanding, and predictive capability are necessary for efficient management and safe storage of and waste in the subsurface. Regulatory agencies and planners need to anticipate directions and rates of waste migration underground, the fate of the wastes, and impacts on the fresh water resources in order to design and institute effective waste management programs, to select disposal sites offering the least danger to the Nation's water resources, and to mount appropriate monitoring efforts.

The program includes theoretical, field, and laboratory investigations of the chemical and physical processes controlling the storage of liquid or solid wastes in soil or rock materials. Predictive models have been developed for simple, nonreacting waste liquids and for a few chemicals having known reactions with the rock and water. These capabilities are being improved and extended to more complex types of reactions associated with waste storage. The improvements in predictive methods are supported by parallel efforts in hydrogeology, geochemistry, and biochemistry. For example, field studies are underway to measure the impacts of recharging a shallow glacial aquifer with treated sewage effluent, and to define the characteristics that affect the suitability as waste receptacles of deep sand beds in the Appalachian Basin and Gulf Coastal Plain. More than 140 reports on various facets of waste movement in the subsurface have been prepared since the program was initiated in 1970, providing a fund of knowledge used and cited widely by Federal and State agencies, universities and other researchers, and industrial and consulting firms throughout the Nation.

Selected outputs for this program are:

	FY 1980	FY 1981	FY 1982
Reports	12	16	13

Average unit costs for selected program outputs for FY 1982 are:

Reports----------13 @ $110,000

Flood Hazard Analysis

Authorization: 43 U.S.C. 31(a)

Objectives: To prepare flood-prone area maps in areas subject to urban flood problems and in areas of potential flooding downstream from dams or reservoirs where structural failure could result in extensive loss of life and catastrophic flood damages; to develop techniques for estimating flood peaks and flood volumes at ungaged sites; and to develop techniques for estimating the geomorphologic (channel size and shape) effects of future floods.

Base Program: This program reacts to needs and objectives of the national policy on flood problems. Since the program started in 1969 as a response to recommendation 1B of House Document 465 (Task Force on Flood Control Policy), flood prone areas have been delineated on more than 13,000 quadrangle maps and shown in descriptive pamphlets for 1,000 selected communities. These maps have been used extensively to fill local planning needs, and to meet objectives of the National Flood Insurance Act of 1968, the Flood Disaster Protection Act of 1973, and Executive Order 11988. Available maps identify most flood-prone areas of the Nation, but an additional 5,000 maps may be required to cover areas downstream from dams, areas with high potential for flash-flood disasters, areas of potential future development, and areas of the public domain where planning and management decision are needed. Mapping efforts are directed toward the few urban areas not covered in the Federal Flood Insurance Program, to areas downstream from dams and reservoirs where dam failure could result in extensive loss of life, in areas subject to flash floods, and to recreational areas.

Another effort in this program is defining simple but reliable techniques for estimating future flood magnitudes and frequencies. Geological Survey flood-estimating techniques developed prior to 1965 have been used extensively for planning, designing, and land-use regulation by consulting engineers, and by local, State, and Federal agencies including particularly the Water and Power Resources Service, Corps of Engineers, Soil Conservation Service, and the Federal Insurance Administration.

New flood data obtained during the last 15 years are being used to improve flood-frequency determinations which will provide planners and designers with more reliable flood-frequency estimates applicable to a wider range of conditions.

During major floods, the geomorphologic changes (size, shape, location) of moveable-bed channels, as well as the volume and duration of prolonged flows, contribute substantially to flood damages. Studies are directed toward defining and predicting the effect and frequency of changes in moveable-bed channels to reduce the potential flood hazards (for example, loss of highways, bridges, and stream side structures).

Selected outputs are as follows:

	FY 1980	FY 1981	FY 1982
Flood-prone area maps prepared	240	180	140
Sites analyzed for flood-basin characteristics relationships	2,000	2,000	...
Development of techniques for estimating geomorphologic effects of floods	...	Analysis	Report
Analysis of volume-duration frequency characteristics of floods	...	Analysis	Report

Average unit costs for selected program outputs for FY 1982 are:

Development of techniques for estimating geomorphologic effects of floods----------1 report @ $130,000
Analysis of volume-duration frequency characteristics of floods----------1 report @ $160,000

Training, Publications, and Supporting Services

Authorization: 43 U.S.C. 31(a)

Objectives: To provide publication and operational support and specific services for water-resources program activities.

Base Program: Supportive services assist in the professional and technical development of more than 3,000 employees, provide operational support for the Division, and provide for support of chairpersons for eight interstate and/or international water compacts. Technical book and map reports will be released as follows: cooperator series, 240; water-resources investigations, 75; circulars, 35; professional papers, 100; water-supply papers, 55; journal articles, 110; data reports, 200; open-file reports, 300; and miscellaneous maps and reports, 150.

This program also provides for personnel training at the Geological Survey's National Training Center, Denver, Colorado, in regional headquarters, district offices, and on-the-job at field sites. The classroom and on-the-job field training teach special methods and techniques to aid in developing the expertise required to understand and efficiently execute the hydrologic investigations of the Geological Survey. Such training is not obtainable in academic institutions. Approximately 90 training sessions, averaging 5 days and 24 trainees each, will be conducted at the National Training Center in FY 1982.

Selected outputs are as follows:

	FY 1980	FY 1981	FY 1982
Training sessions	60	80	80
Man months of training	445	330	500
Publications	1,100	1,175	1,265

Average unit costs for program outputs for FY 1982 are:

Publications----------1,265 @ $2,000

Cold Regions Hydrology

Authorization: 43 U.S.C. 31(a)

Objective: To conduct a research program to gain a better understanding of the hydrologic processes in cold regions dominated by snow, ice, and permafrost.

Increase for 1982	1982 Base	1982 Estimate	Increase
$	...	500	+500
(FTP)	(...)	(...)	(...)

Alaska and the northern cold regions of the conterminous United States contain some of the major energy, mineral, timber, and water resources of the Nation. Recovery of these resources causes significant disruption and stress on the environment. In addition, population increases which accompany the development of the natural resources compound the environmental problems created in these northern areas which have a rather fragile ecological system--both terrestrial and aquatic. There is a clear Federal interest since much of the land is federally owned and managed. The level of Federal responsibility has dramatically increased with the passage of the Alaska National Interest Lands Bill. Major investments, such as the Alaska Oil Pipeline, have already been made and other initiatives such as development of the National Petroleum Reserve, offshore drilling, and the natural gas pipeline are underway or receiving serious consideration. The national need for these energy resources coupled with assurances that the environment and water resources will be protected for other uses underscore the obligation to conduct critical water resources research. Such research is required to provide sound technical information so important to resource managers and decisionmakers. Many aspects of hydrologic processes in cold regions are poorly understood. The physics and chemistry of water have important differences in cold climates as compared to more temperate zones--where almost all hydrologic studies have been based. For example, in cold climates aquatic organisms grow more slowly and may be more susceptible to pollution; organic wastes in streams may oxidize more slowly and be carried appreciably longer distances in their original state; permafrost may very appreciably influence ground water flow and the movement of ground water pollutants; and glaciers pose potential threats to the oil and gas pipelines, marine shipping, and highways.

The program will address research needs as follows:

1. Define the fundamental characteristics of aquifer systems under permafrost; the widespread occurrence of permafrost creates a unique and poorly understood flow system.

2. Trace the movement and fate of pollutants and wastes in cold water systems.

3. Develop methods for better predicting the availability of surface water for supply and for powering small hydroelectric plants from streams that are frozen over much of the year and whose basins consist of permafrost or periodically frozen land.

4. Better identify the factors that control glacier mass balance and motion; studies related to rapid glacial advances and retreats will be emphasized with research on the Columbia, Black Rapids, Variegated, and other Alaskan glaciers.

5. Document erosion processes and fluvial sediment transport in Arctic and sub-Arctic areas.

6. Develop techniques to describe and predict flooding hazards from glacier-fed and ice-impacted streams.

7. Evaluate the use of geothermal waters as a source of energy.

The research efforts will provide basic technical input to decisions involving resource recovery, commerce, and urban development in cold regions. Several areas of concern would primarily benefit. Information needed to protect the safety and welfare of populations located in these hostile environments would be generated specifically from research topics 3 (water availability), 6 (flood hazards), and 7 (use of geothermal waters). Information required to assess the environmental consequences of man's activities in cold areas would be provided by topics 2 (movement and fate of pollutants), 5 (erosion processes), and 1 (aquifer systems). Finally, the potential impact of glaciers on major capital investments, waterborne shipping and glacier movement and water supply in Alaska may be estimated using research findings under topic 4. Collectively, this knowledge will greatly enhance and support the conduct of water-resources data collection programs, investigations, and appraisals in Alaska.

Selected program outputs:

	FY 1982
Research reports	3

Average unit costs for selected program outputs for FY 1982 are:

Research reports----------3 @ $130,000

Object Class Distribution

The object class detail for the increase is as follows:

	Staff Years	Annual Costs
Permanent Positions	3	$ 93,463
Positions-other-than permanent	1	13,000
Total compensation	4	$106,463
Personnel benefits		10,646
Travel and transportation of persons		25,000
Transportation of things		10,000
Standard level user charges		9,000
Communications, utilities, and other rent		15,000
Printing and reproduction		5,000
Other services		125,000
Supplies and materials		88,000
Equipment		105,891
Total		$500,000

Toxic Wastes-Ground Water Contamination

Authorization: 43 U.S.C. 31(a)

Objectives: To develop techniques that will address mitigation and/or restoration of contaminated aquifers.

Increase for FY 1982	FY 1982 Base	FY 1982 Estimate	Increase
$	...	1,500	+1,500
(FTP)	(...)	(...)	(...)

There is an increasing public awareness and concern about the hazards of biological and chemical wastes contaminating ground water sources that discharge to water supply wells, springs, streams, or lakes. Preliminary estimates by EPA indicate that there are a million sites throughout the Nation such as legal and illegal waste dumps, pipeline leaks, industrial plants, and chemical spills of various types, that may be sources of ground water contamination. At such sites the contaminants will usually continue to migrate and spread through the aquifer unless some action is taken to immobilize, neutralize, or remove them. Pollution at one site may be localized or may spread over a large area depending on the nature of the pollutant and the ground water system. Of growing concern is the cumulative impact of pollution from many sites on a regional ground water body.

In response to public or governmental demands for positive action in clearly documented cases where ground water contamination threatens public health, aquifer clean-up programs are being required more and more frequently. Some programs are being financed and operated by the Federal government.

Present technology is clearly limited, and the objectives of the proposed program are to perfect existing methods and develop alternatives. The Geological Survey's role will be to develop relevant fundamental principles, general understanding, and scientifically based methodology that have transferability to a variety of hydrogeologic settings, waste materials and waste disposal practices.

The program is designed to (1) determine the general circumstances under which existing occurrences of ground water contamination would or would not be reversible; (2) develop new and innovative approaches to mitigating ground water contamination, focusing on possibilities to artificially inject fluids that would neutralize or immobilize the offending contaminants; (3) develop reliable and transferable methods to evaluate management options; (4) provide sound technical support and information to managers and regulators of public resources; and (5) help to demonstrate the long-term economic and environmental benefits of preventing contaminants from entering ground water.

Other Geological Survey programs (particularly Subsurface Waste Storage, Nuclear Energy Hydrology - Radioactive Waste Investigations, Regional Aquifer Systems Analyses projects, and the Federal-State Cooperative

74-939 O—80——96

Program) are related to the Ground Water Contamination program, and they will provide needed data bases, practical experience, and other feedback to this research program, as well as benefit from resulting new methods and approaches for analysis of ground water pollution problems.

The funding will be used for the following activities: (1) develop an inventory of existing information on waste disposal sites with hazardous potential; (2) select from the above inventory those sites for intensive field investigations; and (3) begin to provide information to water resources managers and regulatory officials.

Formal coordination of the proposed Ground Water Contamination program has been established with EPA's Hazardous Waste Environmental Task Force, under the Acting Assistant Administrator. Through this coordination, the Survey will enhance technology transfer, minimize duplication of efforts, and obtain feedback to help set and refine our own research priorities as the program develops.

Outputs and average unit costs for FY 1982 are:

10 reports ----------$150,000 each.

Object Class Distribution

The object class detail for the increase is as follows:

	Staff Years	Annual Cost
Permanent Positions	10	$300,420
Positions other than permanent	8	104,000
Total personnel compensation	18	404,420
Personnel benefits		37,842
Travel and transportation of persons		75,000
Transportation of things		30,000
Standard level user charges		48,000
Communications, utilities, and rent		45,000
Printing and reproduction		15,000
Other services		174,000
Supplies and materials		420,738
Equipment		250,000
Total		$1,500,000

Acid Rain

Authorization: 43 U.S.C. 31(a)

Objective: The Geological Survey's program, which is part of an overall interagency investigation of the "Acid Rain" problem, is designed to (1) measure the amount, character, and variability of atmospheric deposition nationwide, including that in certain urban areas; (2) determine the effects of atmospheric deposition on soils, and near-surface rocks, especially in acid-sensitive areas; (3) determine the susceptibility of lakes, small streams, and ground water to acidification with emphasis on those areas in which soils and rocks have poor buffering capacity; (4) monitor susceptible areas to ascertain long-term changes resulting from atmospheric deposition; (5) provide quality-assurance support for chemical analyses for the National Atmospheric Deposition Program and (6) predict, based upon the information gained, what effect either increased or decreased pollutants in rainfall will have on the characteristics of soils, rocks, and natural waters.

Program outputs:

	FY 1982
Reports	12

Average unit costs for program outputs are:

Reports	12 @ $125,000

Increase for 1982	FY 1982 Base	FY 1982 Estimate	Increase
$	...	$1,550	+$1,550
(FTP)	(...)	(...)	(...)

Rainfall in the eastern United States has become increasingly acid over the last few decades with recent average pH values being about 4.0 and some individual rains having a pH of 3.5 or less. These low pH values contrast sharply with the expected pH of water vapor in equilibrium with atmospheric carbon dioxide, which is approximately pH 5.6. This acidification in the past has resulted mainly from conversion of sulfur dioxide emissions in the atmosphere to sulfuric acid, but an increasing fraction of the acid is now due to conversion of emissions of nitrogen oxides to nitric acid. The continuing input of acid rain (along with other toxic pollutants) has caused many formerly productive lakes in the Adirondack Mountains and northern Midwest to become barren of fish life. This well-demonstrated damage to the environment has created a wave of concern regarding this and other adverse ecological effects that may result from "Acid Rain." That concern has been mainly directed at possible effects on terrestrial and aquatic life where damage can be documented over relatively short time periods. There is great need also, however, to investigate the possibly slower acidification of soils (crop impact), streams, some lakes (biological productivity), and ground water (use limitations). This acidification may be difficult, if not impossible, to rectify in less than decades. The problem of acid rain is

not only national but international as well, for Canada receives atmospheric pollutants from the U.S. in the East, and the U.S. receives pollutants from Canada in the Midwest.

Investigations in the chemistry of rain have been conducted by the Geological Survey for the past 15 years. Special studies, data collection, and research on acid rain were begun in 1976. More than 30 studies are currently underway, funded largely through the Federal/State Cooperative program. Areas of work include the States of New York, Pennsylvania, Ohio, Colorado, and Washington. Recent projects include those initiated in the pre-eruptive and post-eruptive stages of Mt. St. Helens.

The Geological Survey's program has been coordinated with the President's Acid Rain Coordination Committee, and the technical aspects have been reviewed with counterparts in EPA, NOAA, DOA, DOE, and DOI--specifically FWS and NPS. Programmatic coordination with these agencies at the Assistant Secretary level will follow. Coordination at each level will continue throughout the life of the program. The Geological Survey has been asked to serve on a Departmental Steering Committee which will advise the Interior Department's representative to the President's Acid Rain Coordinating Committee, and will use that body plus other mechanisms to coordinate with Federal agencies outside Interior that are involved in studying some aspect of atmospheric deposition or acid rain.

The increase will be used to:

- Establish and operate monitoring stations at 10 sites to measure wet deposition; in conjunction with selected deposition-monitoring stations, determine water quality in small streams adjacent to the station or group of stations to document the degree to which quality is being affected by atmospheric deposition.

- Conduct a research program in a variety of hydrologic settings consisting of projects designed to document variations of rain composition during individual storms, and determine the chemical interaction between soils and rocks and their interstitial water, and relate the characteristics of that interstitial water to ground and surface water chemistry.

- Begin an extensive lake classification program on a national basis (coordinated with other interested agencies already having data in this area) to identify the degree of susceptibility of each lake to damage by acidification or other adverse effects of acid rain; approximately 200 ground water sites, and 800 each, lake and stream sites will be studied during the first year.

- Develop and conduct a laboratory quality-assurance program, not only for the Survey but for other Federal and non-Federal agencies as well.

Object Class Distribution

The object class distribution for the increase is as follows:

	Staff Years	Annual Cost
Permanent positions	10	$258,200
Positions other than permanent	8	104,000
Total personnel compensation	18	362,200
Personnel benefits		33,620
Travel and transportation of persons		75,000
Transportation of things		30,000
Standard level user charges		48,000
Communications, utilities, and other rent		45,000
Printing and reproduction		15,000
Other services		424,000
Supplies and materials		200,000
Equipment		317,180
Total		$1,550,000

Justification of Program and Performance

Activity: Water Resources Investigations
Subactivity: National Water Data System--Federal/State Cooperative Program

(Dollar Amounts in Thousands)

		1981 Approp. Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Data Collection and Analysis, Areal Appraisals, and Special Studies	$	34,862	37,397	40,197	+2,800
	(FTP)	(801)	(801)	(808)	(+7)
Water Use	$	3,453	3,476	4,576	+1,100
	(FTP)	(7)	(7)	(7)	(...)
Coal Hydrology	$	3,080	3,273	3,273	...
	(FTP)	(60)	(60)	(60)	(...)
(Common Program Services)	$	(1,403)	(1,501)	(1,614)	(+113)
Total Requirements		$41,395	44,146	48,046	+3,900
	(FTP)	(868)	(868)	(875)	(+7)

Data Collection and Analysis, Areal Appraisals, and Special Studies

Authorization: 43 U.S.C. 31(a)

Objectives: To maintain cooperatively, through Joint Funding Agreements (50-50 matching), a continuing record of the quantity and quality of the Nation's surface and ground water resources; to improve the hydrologic information available for use by Federal, State, and local agencies in developing, utilizing, conserving, and managing water and land resources to fulfill the mandated requirements for clean water, pollution abatement, and environmental protection; and to provide continuing analytical, interpretive and predictive studies and appraisals of the quantity, quality, and use of the Nation's water resources.

Base Program: Development, utilization, and conservation of the Nation's water resources require an adequate data base. The continuing cooperative program provides more than half of the Nation's water data and information base, and responds in a timely manner to the varying and increasing requirements of agencies at all levels of government that have responsibilities for water resources. The program is developed in response to mutual local, State, and Federal needs and involves more than 800 agencies. Projects are jointly planned by Federal and State representatives at the grass-roots level assuring optimum consideration for the priorities

of each, but are reviewed at the regional and national levels for funding priorities. Selection of projects to match with Federal funds will be based on overall Federal priorities. Estimated State offerings to be matched in FY 1981 and offered for matching in FY 1982 are shown in Figure W-1.

The operation of data collection network stations is a continuing activity. Although some data collection stations are operated for many years, a number are discontinued each year when their purpose has been served. New stations are installed each year as demanded by changing needs and priorities.

Areal water-resources appraisals (which range from small basin or county to statewide or regional in size) define, characterize, and evaluate the extent and availability of the water resource. These investigations usually are accomplished in 1 to 3 years and result in one or more published reports.

Special analytical and interpretive studies address existing and foreseeable hydrologic conditions and problems, are somewhat more specific in nature and smaller in size than areal appraisals, and sometimes involve applied research. They may require from a few months to 2 or 3 years and result in analytical, interpretive, and predictive reports, data, and information leading to the solution of problems or more complete utilization of the Nation's water resources.

Existing hydrologic data commonly are used in appraisals and studies. However, in many cases it is necessary to collect additional data and information which complement the total effort. All data and analytical studies are made available to users through project reports, the National Water Data Storage and Retrieval System (WATSTORE), the National Water Data Exchange (NAWDEX), and various publications.

Data will be collected and analyzed, and appraisals and special studies will be conducted as follows:

	FY 1982
Surface Water	
Streamflow stations-continuous record	5,300
Streamflow stations-intermittent record	7,100
Lake and reservoir contents records	700
Water Quality	
Surface water stations or sites	6,800
Ground-water sites	8,000
Ground Water	
Systematic collection of site records for ground water levels and pumpage	23,000

WATER RESOURCES INVESTIGATIONS: FEDERAL-STATE PROGRAM
ESTIMATES OF STATE AND PRINCIPAL OFFERINGS FOR FY 1982
(Thousands of Dollars)

State	Estimated State Funds to be Matched in 1981	Estimated Offerings for Matching 1982	Increase (+) Decrease (-)	State	Estimated State Funds to be Matched in 1981	Estimated Offerings for Matching 1982	Increase (+) Decrease (-)
Alabama	524	785	+261	New York	1,720	3,400	+1,680
Alaska	777	902	+125	North Carolina	618	725	+107
Arizona	980	1,004	+24	North Dakota	539	590	+51
Arkansas	543	670	+127	Ohio	803	1,007	+204
California	2,896	3,500	+604	Oklahoma	495	585	+90
Colorado	1,462	1,873	+411	Oregon	693	1,071	+378
Connecticut	455	1,100	+645	Pennsylvania	1,311	1,640	+329
Delaware	37	141	+104	Rhode Island	127	164	+37
Florida	3,773	3,940	+167	South Carolina	470	575	+105
Georgia	943	1,200	+257	South Dakota	506	541	+35
Hawaii	617	790	+173	Tennessee	839	1,050	+211
Idaho	617	761	+144	Texas	2,193	2,350	+157
Illinois	602	760	+158	Utah	874	1,093	+219
Indiana	837	1,050	+213	Vermont	83	112	+29
Iowa	459	527	+68	Virginia	317	475	+158
Kansas	1,088	1,700	+612	Washington	1,362	1,438	+76
Kentucky	589	625	+36	West Virginia	324	385	+61
Louisiana	1,018	1,654	+636	Wisconsin	847	1,020	+173
Maine	333	443	+110	Wyoming	434	550	+116
Maryland	795	882	+87	American Samoa	27	50	+23
Massachusetts	490	753	+263	D.C.	2	27	+25
Michigan	605	675	+70	Guam	46	62	+16
Minnesota	696	1,107	+411	Northern Marianas	23	40	+17
Mississippi	390	573	+183	Puerto Rico	519	585	+66
Missouri	303	495	+192	Trust Terr. Pac.	104	85	-19
Montana	344	521	+177	Virgin Islands	41	41	...
Nebraska	604	849	+245	Subtotal	40,232	51,457	+11,225
Nevada	483	511	+28	Program Admin.- GAE	1,163		
New Hampshire	83	89	+6	Total Appropriation	41,395		
New Jersey	679	850	+171				
New Mexico	893	1,066	+173				

Figure W-1

	FY 1982
Areal Appraisals	
Regional	19
Basin	75
County	61
Statewide	34
Miscellaneous	120
Special Hydrologic Studies	
River Quality Assessments	6
Bridge-sites	8
Extreme hydrologic events	23
Rivers and streams	29
Ground-water recharge	15
Estuarine and coastal waters	5
Urban area hydrology	29
Lakes and reservoirs	18
Inland saline water	12
Waste disposal and pollution	23
Land subsidence	4
Energy resources (development)	12
Subsurface waste emplacement	14
Other appraisals and studies including research	177

Unit costs for appropriated funds for selected program outputs for FY 1982 are:

Surface Water	
Streamflow stations-continuous record	5,300 @ $2,000
Streamflow stations-intermittent record	7,100 @ $250
Lake and reservoir contents records	700 @ $500
Water Quality	
Surface water stations or sites	6,800 @ $500
Ground-water sites	8,000 @ $100
Ground Water	
Systematic collection of site records for ground water levels and pumpage	23,000 @ $50
Areal Appraisals	309 @ $31,000
Special Hydrologic Studies	375 @ $10,000

Increase for 1982	1982 Base	1982 Estimate	Increase[a/]
$	37,397	40,197	+2,800
(FTP)	(801)	(808)	(+7)

[a/] Includes $800 thousand and positions redirected from River Quality Assessments (Federal Program) and increased appropriation requested for $2 million for a total of $2.8 million.

Environmental Water Quality

Demand for environmental water-quality information is rapidly increasing because of requirements promulgated by Federal legislation, the need for comprehensive water information in planning, and the broader recognition of environmental issues and the role that Earth science information plays in resolving these issues. The emphasis currently being placed on water resources is exemplified in the 1979 report of the Office of Technology and Assessment, which identified the "Impact of technology on National water supplies and demand" as the Nation's number one technological problem. Water quality is a major factor in determining the usefulness of water resources and must be investigated thoroughly.

The Nation's water resources received special attention during the 1970's with the passage of significant Federal legislation including, but not limited to:

Public Law 92-500: Federal Water Pollution Control Act Amendments of 1972.

Public Law 94-969: Toxic Substances Control Act of 1976.

Public Law 94-550: Resources Conservation and Recovery Act of 1976.

Public Law 95-219: Clean Water Act of 1977.

In addition, the States passed significant legislation relative to the protection and use of water. There have been successes in recent years resulting from Federal and State participation in solving complex water problems. Much of the impetus was due to the previously listed legislation, plus a public awareness of the needs for prudent use of our water resources. President Carter, in his June 1978 message to Congress stated his concern when he emphasized that we must have a better understanding of the effects of natural disasters and environmental changes induced by man.

There will be additional demands for, stresses on, and problems associated with the Nation's water resources in the 1980's. Increased demands for non-mining industrial, irrigation, and municipal supplies, as well as additional water requirements for mining and processing of coal, metals, and oil shale, and synthetic fuel development will affect both the quantity and quality of ground and surface water. Urban development will continue as the Nation's population increases, and will greatly alter the quality of water as

rainfall and snowmelt from urban areas enter streams or percolate to aquifers. Changes in atmospheric composition resulting from the burning of coal will affect water quality from the standpoint of particulate fallout. Already there is evidence of this effect in the form of acid rain in the northeastern United States. Areas around lakes and wetlands will continue to be developed resulting in increases of nutrients followed by excessive algal production. This increased use of water resources will require careful management conservation, and decisionmaking based on comprehensive scientific data. No longer can management decisions affecting water use and development be based only on partial knowledge. Local needs and local problems must be coordinated with regional and national needs and problems.

Responding to these needs the Geological Survey is requesting an increase in funding of $2.0 million and proposes to redirect $0.8 million from its River Quality Assessments (Federal Program) for a total of $2.8 million increased effort in Environmental Water-Quality Investigations, Federal-State Cooperative Program.

The increased funding will enable the Geological Survey to initiate about 90 water-quality studies of highest priority involving ground water quality, energy resources, urban runoff, river quality, and lakes and wetlands. River Quality Assessments will be initiated in six or more States where river quality problems are of great concern.

Object Class Distribution

The object class detail for the increase is as follows:

Position Title	GS Grade	Number	Annual Salary
Hydrologist	GS-14	1	$ 34,713
Chemist	GS-13	2	58,750
Hydrologist	GS-13	2	58,750
Hydrologist	GS-12	2	49,406
Permanent positions		7	$ 201,619

	Staff Years	Cost
Permanent positions	7	$ 201,619
Positions other than permanent	3	39,000
Total personnel compensation	10	240,619
Personnel benefits		24,000
Travel and transportation of persons		150,000
Transportation of things		60,000
Standard level user charges		21,000
Communications, rent and other utilities		90,000
Printing and reproduction		30,000
Other Services		1,444,381
Supplies and Materials		340,000
Equipment		400,000
Total		$2,800,000

Water Use

Authorization: 43 U.S.C. 31 (a)

Objectives: To implement a national water-use information system in 50 States and the Commonwealth of Puerto Rico (1) to determine how much water is withdrawn for use, how much water is consumed during use, in-stream water use requirements, the purpose for which water is used, where and how much water is returned, the effect of use on water quality, and the factors which influence water use; and (2) to make the water-use information available to planners, managers, and all other potential users.

Base Program: The program was started in FY 1978 to provide for the comprehensive and systematic collection, storage, analysis, and dissemination of water-use data and information throughout the United States. Statistics on domestic, industrial, and agricultural water use are required for the planning, management, and development of the Nation's water resources and to provide information necessary to identify and resolve critical water problems relating to water quality, residuals, environmental impacts, energy development, and resource allocations. The program is designed and managed by the Geological Survey and the system is being developed in stages in cooperation with State and Federal agencies. The manpower-intensive collection of data at the field level is done by State or local agency personnel. In FY 1981, cooperative programs were established in 2 additional States making a total of 49 States participating in the program. States usually begin with a modest cooperative funded program the first year or two and then increase the level of activity significantly as the worth of the information is fully realized and the capability to collect and analyze the data is improved. In FY 1982, a research component directed toward an understanding of the factors which influence water use and the allocation of water between alternative uses will be incorporated in the program. Initial phases of this research will be devoted to developing water-use coefficients which give estimates of the quantity of water withdrawn and consumed per unit of output in various production processes.

Recent accomplishments include:

Training: One national and five regional workshops were held to acquaint State and Federal personnel with the scope and objectives of the program and to initiate training in procedures for developing and maintaining the National Water Use Data System.

National Water-Use Data System : The computer-based portion of the National Water Use Information Program was designed and data entry into the system has started. WATSTORE Volume 7 has been released and describes the system and provides guidelines to the States for data entry.

Equipment Research: Research and design of methods and equipment to obtain accurate water-use data was initiated. Several techniques for indirect measurement were tested and, together with appropriate equipment, are now being used.

Program status: Funding varies with the degree of implementation of the program in each State, ranging from $10,000 to $420,000 in FY 1980. States participate as follows:

	Number of States		
	FY 1980	FY 1981	FY 1982
Program Planning Stage	15	7	3
Program Partially Implemented	28	30	22
Program Fully Implemented	4	12	25

Increase for FY 1982	1982 Base	1982 Estimate	Increase
$	3,476	4,576	+1,100
(FTP)	(7)	(7)	(...)

The increase will provide for growth of the National Water Use Information Program toward full implementation. It will be used to expand coverage of the joint Federal/State system, both through the addition of water-use data information categories not previously covered, and through the broadening of ongoing data acquisition efforts.

The amount of increase in the 50-50 cooperative agreements with individual States will be consistent with the orderly development of the National program and based on the urgency of certain categories of water-use information needed by both the Federal and State interests, and the ability of the State agency to acquire and analyze the information in an effective and efficient manner.

Object Class Distribution

	Staff Years	Annual Salary
Permanent Positions	2	49,406
Positions other than permanent	5	100,000
Total Compensation	7	149,406
Personnel benefits		14,994
Travel and transportation of persons		32,000
Transportation of things		11,000
Standard level user charges		14,000
Communications, utilities, and other rent		32,000
Printing and reproduction		11,000
Other services		774,600
Supplies and materials		11,000
Equipment		50,000
Total		$1,100,000

Coal Hydrology

Authorization: 43 U.S.C. 31 (a)

Objectives: To assess hydrologic conditions and water supply problems related to coal mining, and land reclamation as these needs are identified jointly by the Geological Survey and by State and local governments. These studies will provide valuable information to the regulatory authorities in meeting the requirements of Public Law 95-87, the "Surface Mining Control and Reclamation Act of 1977".

Base Program: This program is financed largely through cooperative funding arrangements with State and local governments. Such a funding arrangement has the advantage of allowing State and local governments to express their priorities through their willingness to provide at least 50 percent of the cost of the activities. At the same time it allows for a National perspective overview because the Geological Survey has the option of selecting only those projects which support the National interest.

Programs specifically identified as Federal-State cooperative coal hydrology began in 1976, and in FY 1981 there were 79 studies in 29 States. These studies include areal hydrologic studies of surface- and ground-water, small watershed investigations, water quality studies in mined areas, effects of deep mining on ground water, underground effects of mine collapse on water resources, hydrology of last-cut coal mine lakes, and effects of subsurface mining on salt-water migration.

It is anticipated that as the States assume the regulatory authority as provided in P.L. 95-87, their need will increase for water resources studies. These studies will involve the assessment of the hydrology of the general area of mining, methods and analyses for predicting cumulative effects of mining on water resources, and special studies of specific problems. Because of the expected expansion of coal mining and the long history of the Federal-State cooperative studies of water resources, requests by the States for program expansion to meet the new State needs are expected.

Typical reports prepared in FY 1980 include:

- Map showing general chemical quality of ground water in the Alton-Kolob coal fields area, Utah.
- Ground water conditions in the coal fields of east-central Utah.
- Ground water hydrology of strip mine areas in Eastern Ohio.
- Water availability and quality in abandoned coal mines in Roslyn, Kittitas Co., Washington.
- Hydrology of a coal mining area in southeastern Ohio.

- Physical environment and hydrologic characteristics of coal mining areas in Missouri.
- Quality of surface water in the coal-mining region, southwestern Indiana.
- Appraisal of hydrologic information needed in anticipation of Lignite mining in Tennessee.

Program outputs:

	FY 1980	FY 1981	FY 1982
Reports:			
Basin studies	8	7	6
Water availability studies	7	6	7
Specific mining impact studies	11	14	12
Monitoring studies	6	6	5

Average unit costs for selected program outputs for FY 1982:

Basin studies----------6 @ $34,000
Water availability studies----------7 @ $27,000
Specific mining impact studies----------12 @ $43,000
Monitoring studies----------5 @ $40,000

Justification of Program and Performance

Activity: Water Resources Investigations
Subactivity: Energy Hydrology

(Dollar Amounts in Thousands)

		1981 Approp. Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Coal Hydrology	$	12,250	12,622	12,622	...
	(FTP)	(111)	(111)	(111)	(...)
Nuclear Energy Hydrology	$	6,807	7,001	7,001	...
	(FTP)	(60)	(60)	(60)	(...)
Oil Shale Hydrology	$	2,749	3,880	3,880	...
	(FTP)	(41)	(46)	(46)	(...)
(Common Program Services)	$	(739)	(799)	(799)	(...)
Total Requirements	$	21,806	23,503	23,503	...
	(FTP)	(212)	(217)	(217)	(...)

Coal Hydrology

Authorization: 43 U.S.C. 31 (a)

Objectives: To acquire and disseminate hydrologic information in areas of existing or anticipated coal mining activity, develop techniques to improve hydrologic interpretation in coal mining areas, develop modeling techniques for predicting site-specific and cumulative impacts, and support Federal coal leasing objectives.

Base Program: Prior to FY 1979 the coal hydrology program was directed toward hydrologic data collection and assessment in seven key EIS subregions in the Rocky Mountain and Northern Great Plains States where major coal leasing on Federal lands was anticipated. Passage of P.L. 95-87, the "Surface Mining Control and Reclamation Act of 1977", introduced the need for a high level of hydrologic investigations in all coal producing areas so that the "appropriate Federal or State agency" could provide the "information on the hydrology of the general area" as required by the Act. Although the Geological Survey had carried out some water resource studies and collected considerable hydrologic information in coal mining areas from existing water data networks the data were not adequate to meet these additional requirements. Hydrologic studies have been implemented in all coal areas to better understand and define the hydrology of the diverse areas where coal is mined and the hydrologic data network upgraded. Research is underway into the means of better interpretative techniques

based on relatively limited data coverage and to the development of modeling techniques for predicting cumulative impacts of present or anticipated mining, reclamation, and other land use activities.

The hydrologic information is being synthesized into a series of Coal Basin Hydrologic Assessment Reports, which are designed to provide an analysis of the hydrology of the general areas of current coal mining activity. This analysis is essential if the permitting of coal mining is to proceed expeditiously. The initial series of reports will have been completed in 1982, and updating will begin in 1983, using the additional information collected by the Geological Survey's program and with data and information provided by mine operators as part of their permit and site monitoring requirements.

Typical reports published in 1980 are:

- A conceptional model of the hydrogeochemistry of the coal bearing Fort Union Formation in Southeastern Montana.
- Horizontal anisotropy determined by pumping in two Powder River Basin coal aquifers.
- Effects of strip mining the abandoned deep Anna S. Mine on the hydrology of Babb Creek, Pennsylvania.
- Quality of surface water in the coal mining area of southwest Virginia.
- A procedure for predicting concentrations of dissolved solids and sulfate ions in streams draining areas strip mined for coal.
- Ground water of coal deposits, Bay County, Michigan.
- Hydrologic evaluation of the North Horn Mountain coal-resource area, Utah.
- Hydrogeologic data for selected coal areas, east central Montana.

Selected outputs for this program are:

	FY 1980	FY 1981	FY 1982
Technical reports on:			
Areal studies	5	15	14
Research	8	17	16
Basic Data	6	9	10

Average unit costs for selected program outputs for FY 1982 are:

Technical reports on:
Areal studies----------14 @ $82,000
Research----------16 @ $140,000
Basic Data----------10 @ $115,000

74-939 O—80——97

Nuclear Energy Hydrology

Authorization: 43 U.S.C. 31(a)

Objectives: To determine the hydrologic and geologic conditions required for the shallow burial and containment of low-level radioactive wastes, and to support the national effort to select sites where high-level radioactive wastes can be effectively isolated in deep geologic environments. Specific objectives are to provide techniques and methodology for: (a) evaluating the chemical interaction of nuclear waste with natural fluids and the skeletal framework of the aquifer; (b) evaluating transport of waste nuclides by ground water; and (c) verifying geologic and hydrologic conditions at the site after selection by DOE (NRC evaluation will be made to see if the proposed site conforms to selection criteria).

Base Program:

Low-level Nuclear Waste Investigations - It has become clear, especially during the past year, that low-level nuclear waste management in the United States has some serious deficiencies. Three of six commercial sites have been closed in recent years because of questions raised regarding their geohydrologic characteristics as well as other concerns. It is clear that more and better sites are needed now and in the future. EPA, NRC, DOE, and State agencies are actively developing technical criteria, standards, regulations, and national plans for low-level waste management. Those agencies are dependent on the USGS for appropriate geohydrologic information upon which to base their rules, critiera, etc. The current USGS program will develop in 1981 preliminary geohydrologic guidelines that can be used to establish criteria for selection, development, and management of future waste disposal sites, as well as for making improvements in current sites.

The emphasis of the program is on field investigation of the five existing commercial sites and one DOE site. The first 4-year phase of these investigations was completed in FY 1980. The results will be compiled, interpreted, and published in FY 1981. These have been difficult pioneering studies involving new and innovative technology to assess processes and parameters controlling nuclide migration in ground water. These initial investigations have identified several technical areas needing more intensive study in order to acquire the necessary quantitative understanding of site geohydrology. These deficiencies will be addressed in field research at three sites in FY 1981, 82 and 83. They primarily involve studies in the unsaturated zone near burial trenches, using a special research tunnel already constructed under some waste-filled trenches and some specially constructed and instrumented non-waste trenches designed to simulate actual trenches. A significant portion of the program involves more fundamental research into chemical and physics mechanisms which control subsurface leaching and migration of radionuclides; methods of modeling these mechanisms in large comprehensive system models; better techniques of sampling, and measurement of physical and chemical parameters in the field. Geohydrologic guidelines for disposal site selection and operation will be refined as better information is developed from these advanced field and laboratory studies. Many of the results from this research will have important and broad applications to another critical national problem--the disposal of other hazardous wastes.

Selected outputs are as follows:

	FY 1980	FY 1981	FY 1982
Published Technical and Scientific Reports	15	18	18

Average unit costs for selected program outputs for FY 1982 are:

Published Technical and Scientific Reports----------18 @ $125,000

All major elements of this program are closely related to and coordinated with activities of other energy agencies developing standards, criteria, regulations and management policy for low-level nuclear wastes.

High-Level Nuclear Waste Investigations - After more than 30 years of nuclear power development, no method has been developed for the safe disposal of high-level radioactive waste. The most viable high-level nuclear waste disposal concept consists of emplacing a chemically and thermally unstable waste form in a complex hydrogeologic environment with the intention that the waste will be isolated from the biosphere for tens of thousands of years. The earth science problems associated with this endeavor are not simple nor are they completely understood. The "National Terminal Waste Disposal Program" stresses the concept of isolating nuclear wastes by means of relatively independent multiple barriers to waste nuclide migration in order to overcome deficiencies in man's ability to adequately characterize the rocks and the hydrologic environment comprising the repository, and to accurately predict waste-rock reactions, natural geologic events such as regional tectonics, volcanism and glaciation, and the extent of nuclide transport. A major requirement is the identification of environments where such multiple natural barriers are thought to exist. A second major requirement is the identification and understanding of the critical hydrogeological properties and processes which are involved in radionuclide migration from a repository to the biosphere.

The five major elements or tasks in the Geological Survey's high-level waste program are: (1) identification of environments with effective multiple barriers to radionuclide transport; (2) characterization of media comprising specific environments; (3) development of techniques and methods for characterizing environments; (4) investigation and modeling of processes related to radionuclide migration; and (5) synthesis and testing of predictive radionuclide transport models for site evaluation. All the major elements of this program are related to the ongoing activities of other agencies (DOE, NRC, EPA) to identify an acceptable geologic repository in the near future. The tasks outlined above will have direct application to the site-selection and licensing process.

This program began in FY 1979 and addresses the above mentioned five major elements or tasks, including coordination of program needs and efforts with other governmental agencies' programs. A cooperative planning effort with DOE resulted in a jointly authored report on an Earth science technical plan for disposal of radioactive waste in a mined repository. It describes a research program to resolve Earth science problems associated with developing such a repository.

The Geological Survey's program will complement that of DOE by providing research that is not today being emphasized for identifying additional locales and media for disposing of waste, and is being fully coordinated with DOE and other Federal agencies by appropriate interagency committees. In comparison with these other programs, the Survey program also focuses on longer term geologic and hydrologic problems associated with the development of waste repositories over the next few decades.

Selected outputs are as follows:

	FY 1980	FY 1981	FY 1982
Published Technical and Scientific Reports	20	30	30

Unit costs for selected program outputs for FY 1982 are:

Published Technical and Scientific Reports----------30 @ $145,000

Oil Shale Hydrology

Authorization: 43 U.S.C. 31 (a)

Objectives: To help assure the most efficient and environmentally sound development of the Nation's oil shale resources by determining the quality and the quantity of water available and by developing the capability to predict the potential impacts of both surface mining and in-situ mining on the water resources.

Base Program: Baseline data on the quantity and quality of surface and ground waters in oil shale areas of Colorado and Utah, are being collected. Studies of the hydrology of oil shale areas are being conducted in the Piceance, Parachute-Roan Creek, Green River, and Uinta Basins. These activities include aquifer tests; the development of a digital model of the ground water system in proximity to the in-situ retorting test site near Rock Springs, Wyoming; modeling of the aquifer systems in the Piceance Basin; and studies of the behavior of waste originating from piles of retorted oil shale and their impact on water quality.

Major emphasis on energy independence has focused attention on the extensive oil shale deposits in the structural basins of Colorado and Utah. Administration plans are to produce at least 400,000 barrels per day of crude oil from these deposits by 1990. Proposed extraction methods involve a combination of surface and subsurface mining and include both surface and in situ retorting of the oil shale. The specific techniques will depend on the location, depth, thickness and oil content of the deposits, and on water availability for extraction, processing and waste disposal in an environmentally safe manner. Each process will potentially impact the environment and the degree and seriousness of the impact can be mitigated via appropriate remedial measures based on a thorough scientfic understanding of the interaction between the various phases of the environment.

Activities in the proposed FY 1981 Supplemental, in order to expand leasing in the required timeframe, are as follows:

1. Expanded assessment of possible ground water supplies available for oil shale development:

   - o Planning studies to assess deep well drilling sites in the Green River Formation.
   - o Drilling, testing, and modeling of the Douglas Creek aquifer in Utah.

2. Increased baseline monitoring of hydrologic conditions in potential new lease tract areas in Colorado and Utah.

   - o Surface water quantity, quality, biology and sediment.
   - o Ground water quality and quantity.

3. Supportive research for development of techniques and methods to detect and quantify environmental impacts resulting from oil shale development.

   - o Laboratory techniques for analyzing oil shale waste products.
   - o Reactions of waste products in surface and ground water system.
   - o Ground water models for depicting fate of oil shale residuals.

Reports published in FY 1980 are as follows:

- o Effects of directional permeability on mine drainage for oil shale development, Piceance Basin, Colorado.
- o Interactions of ammonium in oil shale process rates.
- o Results of test drilling for ground water in the Southeastern Uinta Basin, Utah and Colorado.

Selected outputs for this program are:

	FY 1980	FY 1981	FY 1982
Technical reports on:			
Areal studies	1	3	6
Research	2	4	5
Basic Data	...	...	3

Average unit costs for selected program outputs for FY 1982:

Technical reports on:
- Areal studies----------6 @ $104,000
- Research----------5 @ 180,000
- Basic Data----------3 @ 140,000

U.S. GEOLOGICAL SURVEY
Analysis by Subactivity

Activity: Conservation of Lands and Minerals

(Dollars in thousands)

Subactivity	FY 1980 Actual (B.A.)	FY 1981 Approp. Enacted	FY 1981 Revised Estimate	FY 1982 Base	FY 1982 Estimate	Increase (+) or Decrease (-) 1982 Est. over 82 Base
Outer Continental Shelf Lands	$64,527	$ 68,285	$ 70,040	$70,632	$ 75,982	$ +5,350
Federal and Indian Lands	35,255	39,658	41,525	44,321	46,913	+2,592
Royalty Management	6,460	6,513	6,870	14,320	16,170	+1,850
Total	106,242	114,456	118,435a/	129,273b/	139,065	+9,792

a/ Includes pay cost supplemental pending and reduction of $145 for funds to be transferred to the Office of the Solicitor in FY 1981.

b/ Includes supplementals pending for Royalty Management, $7,400; Oil Shale Leasing, $1,400; and Alaska Lands, $725, and return of $145 in funds transferred to the Office of the Solicitor in FY 1981.

Conservation of Lands and Minerals
Subactivity/Element Change Crosswalk
(Dollars in thousands)

Format of FY 1981 Congressional Budget	FY 1982 Request	Format of FY 1982 Congressional Budget	FY 1982 Request
Outer Continental Shelf Lands ...	$ 79,969	Outer Continental Shelf Lands	$ 75,982
Regulatory Program	38,761[a/]	Regulatory Program	34,774
Resource Evaluation Program ...	41,208	Resource Evaluation Program	41,208
Federal and Indian Lands	59,096	Federal and Indian Lands	46,913
Oil and Gas Program	37,596[a/]	Oil and Gas Program	25,413
Coal Program	13,481	Coal Program	13,481
Other Energy Program	5,048	Other Energy Program	5,048
Non-Energy Program	2,371	Non-Energy Program	2,371
Water-Power Program	600	Water-Power Program	600
		Royalty Management Program	16,170[a/]
TOTAL	139,065	TOTAL	139,065

a/ In the FY 1981 Congressional Budget the Royalty Management program was included in the OCS regulatory and onshore oil and gas programs. Of the $16,170 thousand shown for Royalty Management $3,987 thousand would have been included in the OCS Regulatory Program in the old format, and $12,183 would have been included in Federal and Indian Lands Oil and Gas Program.

Justification of Program and Performance

Activity: Conservation of Lands and Minerals
Subactivity: Outer Continental Shelf Lands

(Dollar Amounts in Thousands)

		1981 Approp Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Regulatory Program	$	31,366	32,674	34,774	+2,100
	(FTP)	(423)	(423)	(423)	(...)
Resource Evaluation Program	$	36,919	37,958	41,208	+3,250
	(FTP)	(476)	(476)	(476)	(...)
Common Program Services	$	(2,303)	(2,377)	(2,532)	(-155)
Total Requirements	$	68,285	70,632	75,982	+5,350
	(FTP)	(899)	(899)	(899)	(...)

Regulatory Program

Authorization: 43 U.S.C. 31(a)

Objectives: To regulate and supervise OCS oil and gas exploration, development, and production operations in a manner to ensure protection of the environment, safety of operations, and prompt and efficient development.

Base Program: The Regulatory Program consists of Regulation of OCS Oil and Gas Operations; Reservoir Shut-in/Efficient Operations; Platform Verification; and Research and Development for OCS Oil and Gas Operations. The Regulation of OCS Oil and Gas Operations provides for the comprehensive and systematic review, approval, and supervision of oil and gas drilling, development, and production operations that are conducted on the OCS. Specifically, the objectives are to inspect offshore oil and gas drilling, production, and pipeline operations; to assure prompt and efficient exploration and development of OCS resources; to ensure that adequate emphasis and attention are given to environmental considerations during decisionmaking processes; to ensure that the best available and safest technologies are utilized; and to ensure that industry personnel engaged in activities on the OCS are properly trained. The program is designed to provide assurance that oil and gas operations on the OCS will be conducted in a manner as safe and pollution-free as possible and will result in the maintenance of the highest levels of production consistent with resource conservation.

The enactment of the OCS Lands Act Amendments (Public Law 95-372) of 1978 resulted in significant additional regulatory responsibilities which require coordination of all approvals of OCS exploration plans and development and production plans with the affected States for a thorough consideration of

the environmental consequences of the proposed actions; implementation of studies of the adequacy of safety regulations; and design of a safety training program. The Act also requires that scheduled inspections be conducted of each facility at least once a year.

The Natural Gas Policy Act of 1978 (NGPA) provides for the agency with jurisdiction over production, either the State or the Geological Survey, to determine the producer's eligibility to obtain the maximum lawful price for natural gas produced in the United States. Under the provisions of the Natural Gas Policy Act and the Federal Energy Regulatory Commission regulations, the Geological Survey must make Federal land natural gas pricing category determinations for new leases, new reservoirs on existing leases, high cost natural gas, and natural gas production from stripper wells. The category determinations are made on the basis of applications submitted by operators who feel that natural gas being produced, or about to be produced from a well, meets one of the categories prescribed in the Act and, therefore, qualifies for a certain price.

Reservoir Shut-In/Efficient Operations

Monitoring of prompt and efficient operations under the OCS Lands Act began in FY 1978 at the direction of the Secretary of the Interior. This aspect of the Regulatory Program provides for the examination and verification of the status of shut-in wells on the OCS; examination of certain producing leases and leases not yet in production to determine whether additional development might result in an increase in production; and identification of potential reservoirs under lease where exploratory wells should be drilled to determine the feasibility of development. Lessees may be required to produce shut-in wells or drill additional production wells because of the findings of these examinations and verifications.

Lessees will be required, where reasonable, to take action to increase production from those reservoirs having a significant undeveloped potential when the Geological Survey determines that:

1. The production rate is reasonable for the present and the near future based on the Geological Survey's estimate of the reserves when projected by anticipated production decline rates;

2. Shut-in wells should be stimulated, repaired, recompleted, or left standing.

3. Well tests and pressure surveys as submitted by the operator are valid and representative of expected conditions;

4. Additional drilling is necessary to achieve optimum production rates;

5. It is reasonable to require further exploration to determine the potential for additional recovery; and

6. Enhanced recovery operations should be initiated or improved upon to increase the recovery.

Part of the workload for Reservoir Shut-In/Efficient Operations is:

Outputs	FY 1980	FY 1981	FY 1982
Examination and verification of Shut-In Wells	2,500	2,500	2,500
Field Studies--Initiated	10	...	2
Completed	11	6	4
Working	6	...	2
Review Plans of Exploration, Development, and Production	1,000	1,000	1,100
Suspensions of Production	100	100	100
Enhanced Recovery Operations Analyses	150	150	150
MER/MPR Review	12,000	12,000	12,000
Gas Flaring Approvals	300	300	300

Estimated average unit costs for the above outputs are:

	FY 1980	FY 1981	FY 1982
Examination and verification of Shut-In Wells	$ 100	$ 100	$ 100
Field Studies--Initiated	9,300	...	22,900
Completed	8,500	15,300	11,500
Working	31,100	...	45,900
Review Plans of Exploration, Development, and Production	600	300	300
Suspensions of Production	3,800	1,800	1,800
Enhanced Recovery Operations Analyses	1,300	600	600
MER/MPR Review	100	100	100
Gas Flaring Approvals	600	300	300

Platform Verification

The objectives of Platform Verification are to provide maximum assurance of structural integrity of fixed and/or bottom-founded oil and gas platforms with unique designs, those subject to unusual loading conditions, and those located in frontier areas. Platform Verification will also provide maximum assurance of structural integrity of major structural modifications to these platforms. In addition, platform verification will encourage and accommodate new technology and engineering innovations in platform design, fabrication, and installation.

The major thrust of Platform Verification is intended for platforms in frontier areas of the OCS, new platforms subject to unusual or extreme environmental conditions, and new platforms incorporating unusual or innovative features. The verification process encompasses the design, fabrication, and installation phases.

The elements of Platform Verification are: 1) Platform Verification Section (in-house) and 2) Certified Verification Agents (third-party).

Platform Verification requires expertise in such diverse disciplines as engineering, geophysics, geology, meteorology, oceanography, hydrodynamics, and computer science. The responsibility for this effort is maintained by a small core of in-house staff which performs the following functions:

- o Certification of third-party verification agencies and audits of their processes.
- o Resolution of disagreements between third-party verification personnel and industry representatives.
- o Approval or disapproval of operator submitted verification plans.
- o Performance of separate in-house audits of design, fabrication, installation, and structural inspections.
- o Investigations of structural failures and development of failure reporting procedures and analysis techniques.

Other workload for Platform Verification is:

Outputs	FY 1980	FY 1981	FY 1982
Verification of new platform design	6	14	15
Verification of new platform fabrication	3	9	14
Verification of new platform installation	...	6	11
Verify bottom-founded, relocatable, exploration platforms on frontier leases	...	15	20
Platform major structural modification or repair	4	...	...

Estimated average unit costs for the above outputs are:

	FY 1980	FY 1981	FY 1982
Verification of new platform design	$32,200	$16,500	$17,600
Verification of new platform fabrication	32,200	11,000	5,600
Verification of new platform installation	...	11,000	4,800
Verify bottom-founded, relocatable, exploration platforms on frontier leases	...	2,200	1,300
Platform major structural modification or repair	24,200	...	...

Research and Development in OCS Oil and Gas Operations

Research and Development in OCS Oil and Gas Operations is a functional element of the Survey's OCS operations. In conjunction with operational personnel, activities are monitored which affect safety and pollution prevention; and technologies and operational practices are identified where research and development might reduce the likelihood of accidents and

pollution. This independent assessment of the state-of-the-art or practice may lead to further studies in areas which require stimulation or where a difference of opinion exists between Government and industry. This Government leadership is necessary to provide assurances to the public and continuing technology support to Geological Survey regulatory personnel.

The Survey is conducting technological assessments and research in three operational categories--blowout prevention, structural inspection, and the environmental effects of operations.

1. Blowout Prevention - The emphasis of this category is to understand the formation of overpressures which cause blowouts and to advance the technology for preventing blowouts or for regaining control of blown-out wells. Overpressured sediment theory is being studied and experiments run to define the measurements needed to detect, while drilling, impending blowout conditions. Technology for transmitting the information to the drilling operator at the surface is under investigation. This technology makes use of fluidics (a fluid mechanical analogue of electronic or mechanical control systems) to pulse the digital data signals to the surface rapidly and reliably. In a research oil well, the behavior of drilling fluids for deep ocean drilling is being studied to provide improved knowledge about the operational procedures for controlling potential blowout situations. Advanced fire suppression technology is being applied to wellhead (blowout) fires. Experiments will be run by injecting flame suppressants into simulated blowing wells to prevent or extinguish fires which may eminate from them. With the benefit of data obtained from the blownout IXTOC 1 well at Campeche Bay, Mexico, in 1979, research is progressing on the subsea recapture of oil before it spreads into the ocean.

2. Inspection of Offshore Structures and Pipelines - This category directly supports the Survey's operational program of structural verification. This program prescribes procedures for the design, fabrication, and post-implant inspection of fixed platforms. It appears that periodic underwater structural inspection will be required soon, and research is addressing advanced technologies for predicting structural performance and for detecting structural degradation. Projects include several non-destructive examination (NDE) technologies as well as a program to quantify and compare each application for OCS use. Other projects are directed at the replacement of divers by preprogrammed, remotely controlled devices--robotics technology. This emphasis results from North Sea experiences where concern continues to increase for divers' safety and for diving costs. Studies are being made of brittle fracture characteristics of offshore structural materials subjected to cold Arctic weather conditions. In addition, because of the impending structural and soil mechanics problems which are certain to accompany the industry as it moves into deeper waters and harsher environments, foundation engineering studies are planned. As a means of assessing system performance and for determining the adequacy of technology, risk analyses (failure probabilities and consequences) are being conducted.

3. Environmental Effects - Studies are being made on the toxic effects of actual drilling mud discharges on reef building corals to determine safe distances at which drilling operations can take place. Experiments are being run on actual drilling wells to determine the consistency and scope of effluents. Government regulations require the removal of abandoned wellheads so that fishing nets cannot snag them. Experiments are being conducted to quantify blast effects on native fish, using various state-of-the-art methods and explosive compounds. Permissible overpressures from underwater blasting will be made available for regulatory usage.

The above projects are conducted at Federal laboratories, universities, and private companies. Some of these projects are jointly sponsored by other agencies such as the Office of Naval Research and the Naval Ocean Systems Center.

The R&D program has obtained, through its engineer-to-engineer contacts, the increasing cooperation of the offshore industry. The program is building a cooperative linkage with British and Norwegian technology on the same basis and is also initiating cooperative ventures between the UK Department of Energy and the Survey. Rough water operating experience in the North Sea is very valuable to the Survey's program. For example, the OCS Lands Act Amendments of 1978, which specify the use of the Best Available and Safest Technology (Section 21B, BAST), will require the R&D program to study the management of operational risks. To accomplish this, the data being collected in the North Sea (for example, structural fatigue, fires, and drilling accidents) will be applicable to U.S. open ocean operations.

Increase for FY 1982	FY 1982 Base	FY 1982 Estimate	Increase
$	32,674	34,774	+2,100
(FTP)	(423)	(423)	(...)

The problems associated with the exploration and development of new OCS areas place additional regulatory responsibilities upon the Geological Survey in the regulation of operations on OCS oil and gas leases. In all areas where oil and gas leases are being issued, current policy dictates increased environmental protection, prompt and efficient exploration and development of the resources, and planning for onshore impacts associated with OCS oil and gas exploration and development activities. Efforts to find new offshore reserves are now taking place on the Pacific, Alaskan, and Atlantic Continental Shelves. The regulation of oil and gas operations on OCS leases in these frontier areas will involve increased coordination with the affected States, increased documentation of environmental problems and mitigating measures, and increased pressure upon lessees to promptly and efficiently develop these vital reserves once discovered.

An increase of $2,000,000 is required to address the growth of the traditional workloads that are associated with accelerated OCS leasing. Selected workload for Regulation of OCS Oil and Gas Operations is as follows:

Outputs	FY 1980	FY 1981	FY 1982
Applications for permit to drill processed	1,500	1,800	2,000
Fixed Structures added	120	120	120
Environmental analyses	595	723	893
Inspections	13,650	14,872	15,744
Review of other operator proposals	12,392	12,976	13,590
Exploration, development, and production plans approved	700	850	1,050

Estimated average unit cost for the above outputs are:

	FY 1980	FY 1981	FY 1982
Applications for permit to drill processed	$ 1,700	$1,600	$1,500
Fixed Structures added	10,500	12,000	12,700
Environmental analyses	4,300	4,000	3,400
Inspections	400	400	400
Review of other operator proposals	200	200	200
Exploration, development, and production plans approved	5,400	5,000	4,400

Workload is dictated by oil and gas industry submissions. Continued industry efforts to locate and develop additional OCS reserves will cause an increase in regulatory workload over current levels.

Of the $2,000,000 requirement for Regulation of Operations, $500,000 will be redirected from current levels in Platform Verification by discontinuing development of the Environmental Data and Information Management System.

An increase of $600,000 in R&D is necessary to accelerate technology studies relating to BAST and to OCS operations in the Arctic and deep oceans. Technologies must be examined to determine how industry is to comply with Government requirements to use the best available and safest technology (BAST). The OCS Lands Act Amendments of 1978 (BAST - Section 21B) requires all new drilling and production operations, and where practicable on existing operations, the use of the best and safest technologies which the Secretary determines to be economically feasible. The research effort will provide for development of a statistical analysis of the probabilities of failure of structures and equipment and the consequent risks to people and the environment of various operational alternatives.

OCS Operations in the Arctic and the North Atlantic will require improved technology to cope with the more hostile ocean environment, sea ice, and ocean bottom permafrost, and technical support for the structural verification program which will demand new or enhanced technology for inspection and monitoring. Hazards, such as mud slides, ocean bottom permafrost, and moving ice, must be considered in regulating the design and placement of structures and pipelines. Experience in other hostile

environments, the North Sea for example, is revealing that underwater structural inspection is extremely costly and hazardous and that designers and regulatory agencies will have to gain a better understanding of the risks, consequences, and probabilities of failure to reach new economies in design and inspection.

Investigations of the natural environmental hazards to operations are beginning to take precedence over the generic studies with which the R&D program was formulated a few years ago. They must be conducted in a timely manner to keep pace with the Government's leasing program. For example, the Chukchi Sea sale, which is scheduled for early 1985, is predicated on the assurance of the availability of acceptable technology.

The workload for the Research and Development for OCS Oil and Gas Operations is:

Outputs	FY 1980	FY 1981	FY 1982
Technological investigations	17	21	25
Technology assessments	10	10	10
Technology Management & Review	50	75	100
Technology Seminars held	1	1	1
Program technical reports published	1	1	1

Estimated average unit costs for the above outputs are:

	FY 1980	FY 1981	FY 1982
Technological investigations	$22,100	$38,100	$48,900
Technology assessments	5,400	11,400	17,500
Technology Management & Review	2,000	2,900	3,400
Technology Seminars held	2,000	3,000	3,000
Program technical reports published	5,000	5,000	5,000

Object Classification Distribution

The object class detail for the $2,100,000 increase for the Regulatory Program is as follows:

Object Classification	Staff Years	Cost
Permanent Positions	21	$ 569,500
Positions other than permanent	10	160,000
Total Compensation	31	$ 729,500
Personnel Benefits		73,000
Transportation of Things		5,300
Standard level user charges		42,000
Communication, utilities, and other rent		19,300
Printing and reproduction		2,500
Other services		1,190,200
Supplies and materials		11,600
Equipment		26,600
Total		$2,100,000

Resource Evaluation Program

Authorization: 43 U.S.C. 31(a)

Objectives: To evaluate the resource potential and geologic hazards of offshore lands; to acquire, analyze, and interpret geological and geophysical data in order to recommend OCS tracts with oil and gas potential for possible leasing; to analyze tracts considered for leasing for the presence of possible geologic hazards to exploration and development and to recommend the withdrawal of tracts from proposed lease sales if the geologic hazards preclude oil and gas activities; to determine the resource economic value of tracts offered for lease; to recommend the acceptance or rejection of bids for OCS leases to ensure the Government receives a resource economic value for lands leased; to conduct and maintain a current inventory of oil and gas reserves on OCS leases; and to provide relevant information concerning OCS oil and gas activities to affected State and local governments.

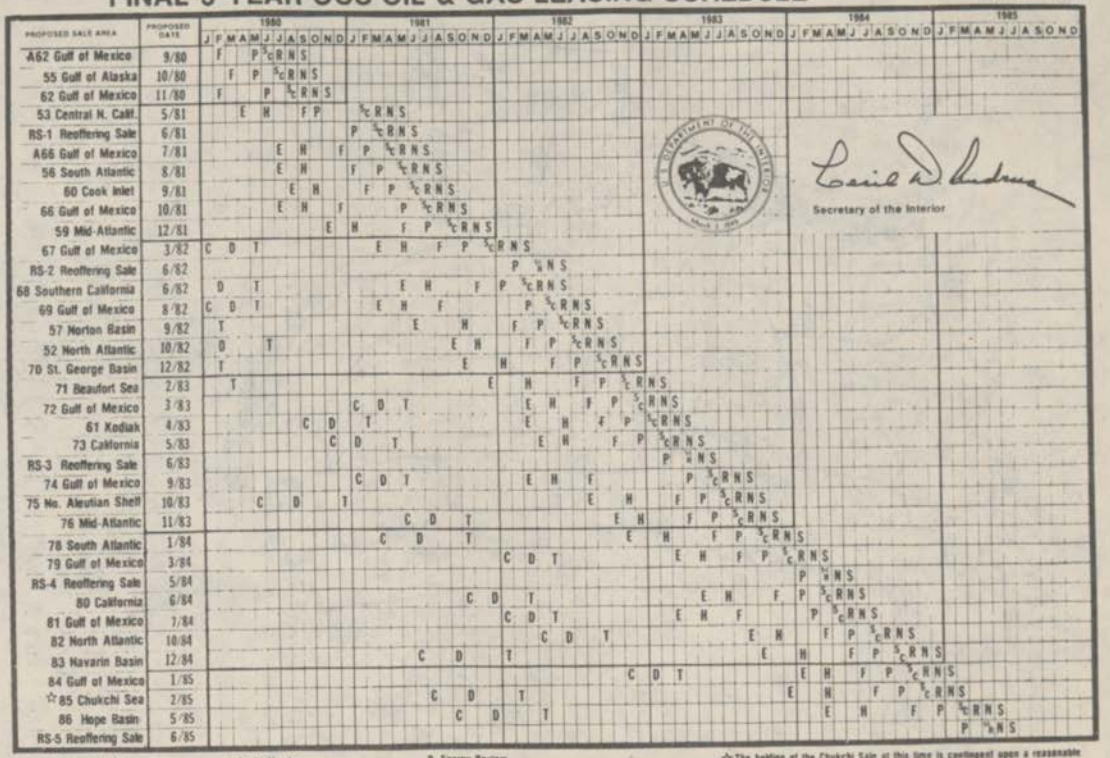
Base Program: The Resource Evaluation Program consists of Tract Selection and Evaluation, OCS Oil and Gas Information, and Reserve Inventory of Oil and Gas reserves on OCS leases. Tract Selection and Evaluation is conducted in order to select tracts which should be offered for lease, and to ensure receipt of resource economic value for Federal oil and gas lands leased. This is accomplished by acquiring, analyzing, and interpreting geologic, geophysical, economic, and engineering data to select and evaluate tracts in lease sale areas identified in the Department of the Interior's proposed schedule of OCS oil and gas leasing. In pursuit of this objective, the Geological Survey recommends to the Bureau of Land Management those tracts which should be offered for lease sale, determines the resource economic value of tracts offered for lease which is used in establishing a minimum acceptable bid for each tract, and recommends the acceptance or rejection of bids received. Tract selection and evaluation are major steps essential for the orderly and timely leasing and development of the Nation's offshore mineral resources.

Tract Selection and Evaluation

The current leasing schedule is shown in Figure C-1, and the location of proposed lease areas currently scheduled through 1985 are shown on Figure C-2. The OCS Lands Act of 1953 provides for mineral leasing and development of offshore areas under Federal jurisdiction. Individual sales may range in size, but generally vary from a half million to three million acres (100 to 600 tracts). Substantially more acreage is required to be analyzed in the tract selection phase prior to tract announcement than in the subsequent tract specific evaluation prior to the sale. Geophysical information in line miles of data planned for acquisition and interpretation in FY 1981 includes: 48,700 miles of Common Depth Point (CDP) seismic data (acquired primarily from permittees) and 29,000 miles of exclusive high resolution seismic data. Gravity, magnetic, and geochemical data, etc., will be acquired as necessary. High resolution seismic data which are used to determine the possible presence of shallow geologic hazards to OCS exploration and development operations are usually contracted for at the time of tentative tract selection. Final geohazards evaluation, with

FINAL 5-YEAR OCS OIL & GAS LEASING SCHEDULE

JUNE 1980



C - Call For Nominations
D - Nominations Due
T - Tentative Tract Selection
E - Draft Environmental Statement
H - Public Hearing
F - Final Environmental Statement
P - Proposed Notice of Sale
$\frac{1}{2}$C - State Comments Due
R - Energy Review
N - Notice of Sale
S - Sale

☆ The holding of the Chukchi Sale at this time is contingent upon a reasonable assumption that technology will be available for exploration and development of the tracts included in the sale.

Figure C-1

GS-188

74-939 O—80——98

1551

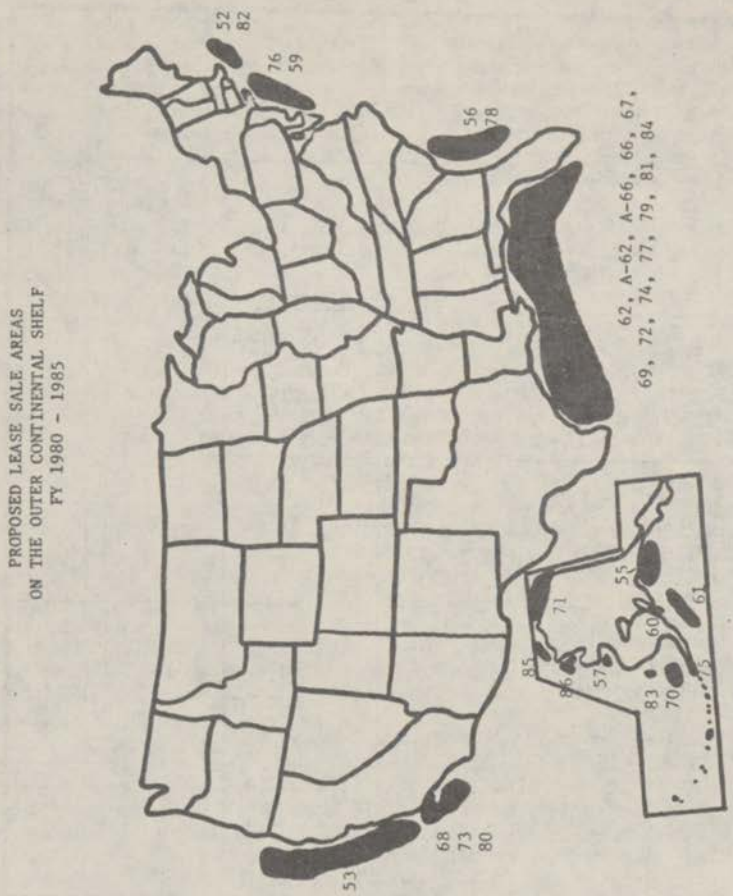

PROPOSED LEASE SALE AREAS
ON THE OUTER CONTINENTAL SHELF
FY 1980 - 1985
52
82
76
59
56
78
62, A-62, A-66, 66, 67,
69, 72, 74, 77, 79, 81, 84
55
71
61
60
85
86
57
83
70
68
73
80
53

Figure C-2

recommendations for deletions or possible lease stipulations, has to be completed 60 days prior to publication of the Final Environmental Statement (FES) for inclusion in the FES and Secretarial Issue Document (SID). COP seismic data that are used to select and evaluate tracts for resource potential are obtained primarily through permit regulations. Figure C-3 shows the major milestones that will be accomplished in FY 1982 in Tract Selection and Evaluation. The milestones of the program are determined by the current lease sale schedule as approved by the Department of the Interior. Data collection must be initiated well in advance of a sale to ensure sufficient data are available to evaluate tracts for the purpose of determining a minimum acceptable industry bid. The level of workload associated with tract selection and evaluation is dependent upon the acreage involved in the targeted leasing area. Upcoming lease sales involve acreage greatly in excess of that encountered thus far in the OCS leasing program. The Secretary announced a new proposed OCS oil and gas lease sale schedule in June 1980.

OCS Oil and Gas Information

The OCS Oil and Gas Information portion of the Resource Evaluation Program is mandated by the OCS Lands Act Amendments of 1978 and 30 CFR 252. The Amendments and regulations require that the Geological Survey provide to the governors of the affected States and upon request to executives of affected local governments, data and information in the form of indices and summary reports relating to lease sales on the OCS. The summary reports and indices will aid States and local governments in planning for onshore impacts of OCS development and production. As significant events occur, summary reports will be revised.

Accomplishments planned under the OCS Oil and Gas Information Program in FY 1981 will include:

1. Update and refine regional indices and include in each regional index a revised directory.

2. Continue initial summary report production in the North Atlantic and Beaufort Sea Lease Sale areas.

3. Provide affected States with update to initial summary reports in the Mid-Atlantic, South Atlantic, and Pacific areas.

4. Provide affected States with revised summary reports in the Gulf of Mexico and Gulf of Alaska Lease Sale areas.

5. Provide limited technical assistance on a case-by-case basis to States requesting such assistance.

6. Assume increasing responsibilities for Conservation Division cooperation with affected States in order to avoid litigation.

Tract Selection and Evaluation
Milestones
FY 1982

Sales	Call for Nominations	Tentative Tract Selection	Input to EIS	Geohazards Analysis	Evaluation Process*	Sale
66					X	Oct 81
59					X	Dec 81
67					X	March 82
RS-2						June 82
68					X	June 82
57				Dec 81	X	Sept 82
69					X	Aug 82
52				Jan 82	X	
70				March 82	X	
71				May 82	X	
72				June 82	X	
61				July 82	X	
73				Aug 82	X	
RS-3						
74				June 82	X	
75					X	
76		Oct 81	Dec 81		X	
78		Oct 81	Dec 81		X	
79	Jan 82	May 82	July 82		X	
RS-4						
80	Oct 81	March 82	May 82		X	
81	Jan 82	May 82	July 82		X	
82	April 82	Sept 82				
83		Jan 82	March 82		X	
85 #		Feb 82	April 82		X	
86		April 82	June 82		X	

*Evaluation process ongoing after tentative tract selection and input to EIS.

#Holding of sale contingent upon a "reasonable assumption that technology will be available for exploration and development of the tracts included in the sale."

Figure C-3

The workload for OCS Oil and Gas Information is:

Outputs	FY 1980	FY 1981	FY 1982
Annual update of indexes------	4	4	4
Summary reports:*			
Initial summary reports----	5	2	...
Memorandum updates summary reports----------	1	5	3
Revision summary reports------	...	2	5

Estimated average unit costs for the above outputs are:

	FY 1980	FY 1981	FY 1982
Annual update of indexes------	258,000	308,200	302,000
Summary reports:*			
Initial summary reports----	650,000	405,000	...
Memorandum updates summary reports----------	46,000	127,000	69,000
Revision summary reports------	--	100,000	575,000
Technical assistance----------	46,000	59,800	54,000

*This schedule assumes that the only significant events occurring are proposed lease sales. All publications scheduled for a given fiscal year are subject to change due to the occurrence of other significant events or unanticipated changes in the final 5-year OCS Oil and Gas Leasing Schedule (June 1980).

Programs are also being carried out to provide G&G data resumes for summary inclusion and to provide data, when appropriate, to the public. To facilitate the release of data, a task force has studied the applicable regulations and prepared guidelines and direction for data release. A study of the volume and complexity of the data held in regional offices has been accomplished, and hardware is now available to implement this program. Materials have been microfilmed for eventual release. Accomplishments expected in FY 1982 include (1) publication of policy guidelines on regulations related to public availability of data, (2) development of software for producing inventory indices for use on computers located in each regional office, (3) providing training programs necessary for development and maintenance of such a computerized operation, and (4) beginning implementation of data entry at the regional level. As inventories are completed, a summary will be provided to States and interested persons and for inclusion in OCS Information Program publications.

OCS Reserve Inventory

The current energy situation has brought about an unprecedented interest in obtaining consistent, accurate, and current reserve data. The Congress and the Administration support the general concept of federally financed inventories of energy and mineral resources. Therefore, the major objective of Reserve Inventory of OCS Oil and Gas, which was initiated in FY 1977, is to

develop and maintain accurate, dependable estimates of Federal OCS oil and Gas reserves in developed and developing fields by field, reservoir, and lease. This information is used by the Administration and Congress to help in planning of future energy leasing policy and by the Department of the Interior to help in regulation of OCS operations. The reserve inventory will be used by DOE to validate reserve estimates of lessees. The information from reservoir analyses and mapping also directly supports Geological Survey functions, such as production rate control, monitoring of prompt and efficient development, approval of applications to drill, unitization considerations, and providing accurate geological and engineering data for lease sale evaluation.

The major emphasis in FY 1981 will be the continuing maintenance of current reserve estimates as they are reduced by production and increased by the addition of reserves through reservoir extensions, discovery of new field reservoirs, and new fields.

The basic program will be maintained to determine the reserves of new field discoveries and to update reserves in those fields previously inventoried as additional geologic, engineering, economic, and production data are obtained. However, in FY 1982, the program will be reduced and continuing work to collect data and perform reserve estimates on older fields will be deferred in the interest of supporting the Secretary's revised leasing schedule. Work will continue in the collection of geologic, engineering, economic, and production data and the estimation of reserves on new fields.

The following table summarizes the workload for Reserve Inventory of OCS Oil and Gas:

Outputs	FY 1980	FY 1981	FY 1982
Number of fields including new additions	475	510	550
Field reserve estimates completed	53	30	17
Total number of field reserve estimates completed	351	381	398
Total number of fields not completed	124	129	152

Increase for FY 1982	FY 1982 Base	FY 1982 Estimate	Increase
$	$37,958	$41,208	+3,250
(FTP)	(476)	(476)	(...)

Additional marine geological and geophysical data will be acquired because of an increase in the sale activity required under the June 1980 lease sale schedule. The data are selected to determine the minimum acceptable industry bid and the possible presence of shallow geologic hazards to OCS exploration and development operations.

Acquisition of exclusive high resolution seismic data will begin for Sale Nos. 76 (Mid-Atlantic), 78 (South Atlantic), 79 and 81 (Gulf of Mexico), 80 (California), 83 (Navarin), 85 (Chukchi), and 86 (Hope Basin). These eight OCS lease sales will occur in FY 1983, FY 1984, and FY 1985. There will also be a need to acquire a large amount of CDP seismic data, most of which is expected to be obtained under regulations. Other costs as required will include special data processing and geochemical, gravity, and magnetic data. These acquisition efforts are being made in support of the Department's expanded lease sale schedule and the significant increased number of tracts to be offered for lease.

The total required increase to conduct these activities is $3.85 million; however, the deferral of activities in the OCS Reserve Inventory Program provides $600,000 to be used during FY 1982 to support the Secretary's OCS leasing initiatives. Additionally, the Survey will curtail efforts in support of the analysis of alternative bidding systems as required under the OCS Lands Act Amendments on the premise that sufficient work will have been accomplished during FY 1981 to satisfy the majority of DOE requirements to design new systems.

The workload for Tract Selection and Evaluation is:

Outputs	FY 1980	FY 1981	FY 1982
Number of sales completed	4	7	7
Total number of other sales which work is scheduled	17	17	17
Acquisition of CDP seismic data (line miles)	19,400 1/	48,703 2/	59,300 3/
Acquisition of high resolution seismic data (line miles)	38,773 4/	29,000 5/	37,000 6/

Estimated average unit costs for selected outputs:

	FY 1980	FY 1981	FY 1982
Acquisition of CDP seismic data (per line mile)	$ 91 1/	$ 92 2/	$ 90 3/
Acquisition of high resolution seismic data (per line mile)	$ 389 4/	$ 388 5/	$ 411 5/

1/ Includes permit CDP, State land CDP, additional cost as a late participant in the group shoot, and no reprocessed data.

2/ Includes permit data and no reprocessed data.

3/ Includes CDP, reprocessed data, gravity, magnetics, geochem, and paleo estimates.

4/ Includes 211 miles of HR permit data obtained at a fraction of the regular cost.

5/ Includes 1,500 miles HR permit data obtained at a fraction of the regular cost.

6/ Estimate of exclusive HR data only.

Object Classification Distribution

The object class detail for the $3,250,000 increase for the Resource Evaluation Program is:

Object Classification	Staff Years	Cost
Permanent Positions	20	$ 549,500
Positions other than permanent	1	16,000
Total Compensation		$ 565,500
Personnel benefits		54,300
Transportation of things		6,800
SLUC		44,000
Communications, utilities, and other rent		20,800
Printing and reproduction		2,700
Other services		2,515,000
Supplies and materials		13,000
Equipment		27,900
Total		$3,250,000

Justification of Program and Performance

Activity: Conservation of Lands and Minerals
Subactivity: Federal and Indian Lands

(Dollars Amounts in Thousands)

		1981 Approp Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Oil & Gas Program	$	20,845	23,321	25,413	+2,092
	(FTP)	(415)	(423)	(423)	(...)
Coal Program	$	12,809[1/]	13,481	13,481	(...)
	(FTP)	(252)	(252)	(252)	(...)
Other Energy Program	$	3,049	4,548[2/]	5,048	+500
	(FTP)	(87)	(103)	(103)	(...)
Non-Energy Program	$	2,250	2,371	2,371	(...)
	(FTP)	(59)	(59)	(59)	(...)
Water Power Program	$	560	600	600	(...)
	(FTP)	(24)	(24)	(24)	(...)
Common Program Services	$	(1,338)	(1,491)	(1,563)	(+72)
Total Requirements	$	39,513	44,321	46,913	+2,592
	(FTP)	(837)	(861)	(861)	(...)

[1/] Amount has been reduced by $145,000 for funds to be transferred to the Office of the Solicitor in FY 1981.

[2/] Includes proposed FY 1981 Oil Shale Supplemental.

Oil and Gas Program

Authorization: 43 U.S.C. 31(a)

Objectives: To classify Federal lands with potential oil and gas values for retention of title to such resources to the Government in cases of proposed land sales or exchange; to evaluate Federal land oil and gas lease tracts offered for sale by competitive bidding; and to supervise operations on Federal and Indian oil and gas leases.

Base Program: The resource evaluation and classification program stems primarily from responsibilities as cited in the Survey's Organic Act of 1879, the Mineral Leasing Act of 1920, as amended, the Acquired Lands

Leasing Act of 1947, and the Federal Lands Policy and Management Act of 1976. These responsibilities are accomplished by the collection and analysis of geologic, geophysical, engineering and economic data through Geological Survey initiative or acquired from Federal lessees; by the evaluation of Federal lands subject to competitive lease; and by the classification for surface management agencies of oil and gas potential of Federal lands for retention of mineral rights and for proper land use planning.

The objective of the private leasing of NPRA is to facilitate the discovery of energy resources in conformance with the mandates of existing and proposed legislation and to protect the natural resources and the unique environment. Specific objectives are to (1) collect and interpret geologic, geophysical, engineering, and economic data, (2) complete tract selections and evaluations in accordance with scheduled leasing, (3) process and review plans, permits, and requests for lease operations in a timely and acceptable manner, (4) inspect lease operations for compliance with the land use management plans for providing protection to the area, and (5) provide an opportunity for effective participation by the State of Alaska, affected local governments, native tribes, special interest organizations, and individuals in the planning and implementation of the lease program. Acquisition of prelease data for tract selection and evaluation will be accomplished in FY 1981. FY 1982 program efforts will be directed toward final preparation and completion of the first lease sale. Immediately following the first lease sale, the processing and reviewing of plans, permits, and requests for lease operations will begin. Additionally, data collection and interpretation, and tract selection and evaluation, will be performed in preparation for the next scheduled lease sale.

Responsibilities under the regulatory program include the review and approval, or disapproval, of proposed industry operations relative to exploration and development. These include drilling, production, storage, and measurement and marketing of oil and gas from Federal and Indian leases. Special emphasis is placed: (1) on environmental protection; and (2) conservation of reserves through maximum ultimate recovery of the resources leased.

Selected workload factors designed to measure the onshore oil and gas program are as follows:

	FY 1980	FY 1981	FY 1982
Applications for permit to drill processed	4,080	4,285	4,455
Review of other operator proposals	16,525	14,630	14,995
Environmental assessment	4,105	4,310	4,480
Inspections	8,260	6,560	7,950
Tract evaluation	400	750	870
Known Geologic Structure determinations	380	380	390

Estimated unit costs for selected program outputs:

	FY 1980	FY 1981	FY 1982
Applications for permit to drill processed	$ 195	$ 204	$ 220
Environmental assessment	287	302	305
Inspections	190	210	225

Increase for FY 1982	FY 1982 Base	FY 1982 Estimate	Increase
$	22,596*	23,763*	+1,167*
(FTP)	(415)	(415)	(...)

*Excludes funding for activities related to the Alaska National Interest Lands Conservation Act (see following page).

As workload has grown in recent years, adjustments, economies, and reprioritizing of manpower resources in this program area have been made. However, the cumulative effect of an expanding workload and the imposition of new statutory or regulatory requirements has resulted in a rapidly degrading program accomplishment each year. It is no longer possible to respond simultaneously to continually increasing industry proposals while carrying out the inspections which are necessary to maintain an appropriate level of regulatory control.

This continued growth in the absence of increased capability has created a domino effect on the priorities of the regulatory tasks. An examination of the workload activities demonstrates the decline of the ability to carry out inspections in favor of devoting available manpower to increases in mandatory responsibilities such as the processing of applications for permits to drill (APD's), other operator proposals, and certain inspection activities and assessment of environmental factors that are a part of processing APD's.

This decline in the ability to conduct inspections has limited our ability to regulate industry's operation properly. The qualitative complexities that were added to the APD approval process are a representative example of the pressures that have recently been placed on the Onshore Oil and Gas program. The Antiquities Act, Endangered Species Act, National Historic Preservation Act, and Wilderness Act have all increased the tasks involved in approving APD's. The National Environmental Policy Act and other related environmental legislation has also had a significant impact on the Onshore Oil and Gas workload. The Geological Survey must consider the requirements of these acts in approving applications to drill. Moreover, the new statutory requirements combined with the increase of new industry activity in the onshore areas has had a cascading impact on the workload.

The main thrust of the new staffing will attempt to address the surge of industry activity. New positions will be utilized in the approval of APD's, and other operator proposals. The remaining funding is earmarked for activities, such as aircraft support that will enhance the inspection

capability. Much of the available inspection effort is consumed via transport time to well sites. Accordingly, a combination of aircraft support by way of helicopter, fixed wing inspections, or point-to-point transportation will lessen the amount of transport time for staff and increase productive time for inspections.

Object Classification Distribution

The object classification detail for the $1,167,000 increase for the Oil and Gas Program is as follows:

Object Classification	Staff Years	Cost
Permanent Positions	10	282,900
Positions other than permanent	5	80,000
Total compensation	15	362,900
Personnel Benefits		28,000
Travel and transportation of persons		17,900
Transportation of things		3,300
Communication, utilities, and other rent		28,800
Printing and reproduction		800
Other services		720,200
Supplies and materials		5,100
Total		$1,167,000

Alaska Lands Oil and Gas Evaluation

The Alaska National Interest Lands Conservation Act necessitates a complete overall assessment of the resource potential and the establishment of exploration and development guidelines for oil and gas activity on the lands north of the 68 degree north latitude.

Objectives: The objectives of the Alaska Lands resource evaluation is to (1) complete an overall study making recommendation concerning future use and management of oil and gas resources including the development of leasing systems, (2) develop guidelines for the conduct of exploratory activities in the Coastal Plain on the Arctic Wildlife Refuge, (3) to support the development of an EIS covering exploration and development in the Coastal area, and (4) promulgate regulations for exploration and development activities that must be tailored for specific environmental concerns.

Increase for FY 1982	FY 1982[1/] Base	FY 1982 Estimate	Increase
$	725	1,650	+925
(FTP)	(8)	(8)	(...)

[1/] Includes $725,000 in proposed FY 1981 supplemental request.

The increase is required for the expanded workload related to (1) the general resource assessment to be completed within eight years or when a leasing system is promulgated, (2) the studies of potential impacts of oil and gas development on fish and wildlife resources in the Coastal Plains on the Arctic National Wildlife Refuge and promulgation of guidelines governing the conduct of exploratory activities in these areas, and (3) the establishment of an Oil and Gas Leasing Program by the Secretary of the Interior following an initial year of studies in which the Secretary will designate areas favorable for competitive leasing.

Object Classification Distribution

The object classification detail for the $925,000 increase for the Alaska Lands portion of the Oil and Gas Program is as follows:

Object Classification	Staff Years	Cost
Permanent Positions	7	212,700
Positions other than permanent	6	120,000
Total compensation	13	$332,700
Personnel benefits		116,500
Travel and transportation of persons		67,000
Transportation of things		48,000
Communication, utilities, and other rents		42,000
Printing and reproduction		6,000
Other services		298,000
Supplies and materials		3,800
Equipment		11,000
Total		$925,000

Coal Program

Authorization: 43 U.S.C. 31(a)

Objectives: To respond to the Survey Organic Act and to the requirements of the Mineral Leasing Act of 1920, as amended, Acquired Lands Leasing Act of 1947, by the Federal Coal Leasing Amendments Act of 1976, the Federal Lands Policy and Management Act of 1976, and to further the Administration's energy goals. These objectives are specifically to (1) classify Federal coal lands for competitive leasing and mineral retention; (2) determine the extent, location, and potential for development of Federal coal; (3) furnish geologic, engineering, and economic information to the Bureau of Land Management and Forest Service for land use planning and lease sale scheduling; (4) evaluate tracts for coal resource value for short-term criteria lease sales, general lease sales, process preference right lease applications, and land or lease exchange; (5) process coal trespass cases that arise, (6) review, approve, and inspect industry operations related to coal exploration, development, and production on Federal and Indian lands; (7) monitor diligent development and continued operations with specific emphasis on conservation and maximum economic recovery; and (8) conduct production checks.

Base Program: The classification and mineral evaluation objectives are accomplished by the acquisition, analysis, and interpretation of geologic data through geologic mapping, core drilling, borehole analyses, and subsurface studies on unleased Federal land supplemented by data collected from Federal mineral lessees. In addition, engineering studies are made along with the gathering and statistical modeling of economic data used in the evaluation of tracts for competitive leasing or exchange. The regulatory program is accomplished through: (1) lease and mine inspections which include (a) active properites, (b) inactive properties, (c) producing properties, and (d) abandonments; (2) mine and exploration short and long range plan approval which include (a) new mine plans, (b) modified mine plans, (c) new exploration plans, and (d) modified exploration plans; (3) approval of Logical Mining Units (LMU); (4) diligent development/continued operations; (5) writing Environmental Analyses on coal exploration plans; and (6) ensuring orderly and timely development and maximum economic recovery of the coal deposits, and that new regulations relating to the formulation and approval of logical mining units, lessee requirements for diligent development, continuous operation of leases are implemented.

The Geological Survey is responsible for supervising coal mining operations on Federal lands according to the requirements of the Mineral Leasing Act as amended. Because of the implementation of the Surface Mining Control and Reclamation Act of 1977, some of the Geological Survey's former responsibilities are now shared with OSM. The Geological Survey retains the responsibilities for all exploration activities (environmental, reclamation, and operations) outside of an OSM permit area and the authority to review and approve all mining plans for requirements of the Mineral Leasing Acts, as amended.

The Geological Survey provides information depicting the location, quantity, and characteristics of coal in the potential leasing areas to the Bureau of Land Management as input into the preparation of Resource Management Plans

(RMP). This program is accomplished by a balanced program of field examination, drilling, and coal bed analyses leading to the assessment of coal development potential. Subsequent to the identification of leasing areas and delineation of tracts to be offered for sale the Survey conducts further drilling and economic analyses of recoverable coal to determine fair market value as a basis for assessing the minimum acceptable industry bid. The drilling activity is limited to land use planning support and competitive lease sales; economic evaluations of proposed exchanges will utilize industry supplied drilling data.

The Geological Survey's workload for supervision of coal mining operations has increased due to new responsibilities under the Federal Coal Leasing Amendments Act, increased number of coal mines, increasing exploration activities, and increases in required coordination with other Federal agencies.

	1980	1981	1982
Tracts evaluated for proposed lease sale (short term leasing)	31	33	30
KRCRA defined (millions of acres)	3	2.5	2
Test holes	1,375	1,100	900
CRO/CDP quadrangle maps contracted	22	30	...
Original reserve estimate on leases	185	...	...
Lease reserves update	192	...	...
Tracts evaluated for general lease sales (renewed competitive leasing)	30	40	50
Mine and exploration plan approval	228	240	250
Diligent development/continued operations	97	122	130
Environmental analyses	113	156	156
Inspections	2,436	2,450	2,460
Other Lease Management Actions (Lease modifications, readjustments)	145	159	176

Estimated unit costs for selected program outputs:

	1980	1981	1982
Tracts evaluated for proposed lease sale (short term leasing)	$21,412	$23,340	$24,740
Mine and exploration plan approval	3,920	4,280	4,530
Diligent development/continued operations	1,690	1,840	1,950
Environmental analyses	2,180	2,375	2,450
Inspections	328	358	370

Other Energy Program

Authorization: 43 U.S.C. 31(a)

Objectives: To evaluate energy resources of geothermal tracts offered for competitive leasing and to determine oil shale and geothermal values to be provided to other agencies in cases involving disposal or exchange of lands; and to supervise industry operations on oil shale, geothermal, and Indian uranium leases.

Base Program: The classification and resource evaluation program for these commodities is accomplished by developing geologic, engineering, and economic information from data submitted by the lessees, acquired through field examination, or obtained from other Federal agencies. Such information assists the Bureau of Land Management in selecting tracts of Federal land for lease and are needed by the Geological Survey for determining the fair market value of tracts offered for lease by competitive bidding.

The Geological Survey has the responsibility to supervise operations on the oil shale leases, on geothermal leases, and on Indian and acquired land uranium leases. These responsibilities include engineering, environmental, and economic studies of operations on the prototype oil shale leases as required by the lease terms; review and approval of all proposed geothermal and Indian uranium exploratory, development, and production plans proposed to ensure that operational safety and environmental protection standards are incorporated in the plans; and inspection of all operations to ensure that safety and environmental standards are met. Selected outputs for this program are:

	1980	1981	1982
Oil Shale			
Review of lessees' submission	30	55	150
Inspections	128	150	250
Environmental audit checks for program adequacy & completeness	15	20	45
Evaluation studies	5	5	10
Associated Lease Management Operations (Lease modifications readjustments, interaction with State and local agencies, bonus offset verification)	75	100	150

Estimated unit costs for selected program outputs:

	1980	1981	1982
Oil Shale			
Inspections	$ 400	$ 440	$ 485
Environmental audit checks for program adequacy & completeness	1,050	1,130	1,190

	1980	1981	1982
Geothermal			
New well applications processed	125	125	125
Other applications processed	500	550	575
Prepare EA's	150	150	150
Inspections	850	900	950
Number of sales	12	12	12
Tracts evaluated	100	100	100

Estimated unit cost for selected program outputs:

	1980	1981	1982
Geothermal			
New well applications processed	$ 356	$ 380	$ 410
Prepare EA's	1,100	1,200	1,275
Inspections	210	235	245

	1980	1981	1982
Uranium			
Approve mining & exploration plans	43	50	85
Prepare EA's	43	50	85
Inspections	255	270	285
Other Lease Management	15	18	26
(Lease modifications, meeting with environmental and Tribal Council Groups concerning reclamation issues)			

Estimated unit cost for selected program outputs:

	1980	1981	1982
Uranium			
Prepare EA's	$1,900	$2,075	$2,200
Inspections	235	260	275

Other Energy Increase for FY 1982	FY 1982 1/ Base	FY 1982 Estimate	Increase
$	4,548	5,048	+500
(FTP)	(103)	(103)	(...)

1/ Includes proposed FY 1981 Oil Shale Supplemental.

The FY 1982 increase for the Other Energy program consists of an additional $500,000 requested for uranium regulation. A FY 1981 Supplemental of $1.4 million related to oil shale has been submitted for consideration which is included in the FY 1982 base program.

Uranium Increase

The rapid development of uranium resources, especially in the southwest, has created an intense public and tribal awareness of the emerging problems of advanced development on local and regional water supplies, the nature of reclamation and revegetation practices, spoil and mining waste methods, resource recovery percentages and royalty return to the mineral owners, and overall environmental control procedures. An expanded program is necessary to address these emerging concerns, evaluate their effect and apply controls to mitigate any potential adverse effects. Current workloads have and will exceed available staffing levels required to regulate industry exploration and development. Increases are anticipated in the review and approval of

74-939 O—80——99

mine and exploration plans, environmental analyses for NEPA compliance, operational inspections, engineering input into leasing actions, and implementation of control procedures for emerging hydrologic, reclamation, and recovery problems.

Object Classification Distribution

The object class detail for the increase is:

Object Classification	Staff Years	Cost
Permanent positions	5	$152,100
Personnel benefits		15,200
Travel and transportation of persons		7,500
Transportation of things		1,200
Standard level user charges		10,000
Communication, utililties and other rents		13,500
Other services		293,600
Supplies and materials		1,500
Equipment		5,400
Total		$500,000

Non-Energy Program

Authorization: 43 U.S.C. 31(a)

Objectives: To respond to requirements of the Survey's Organic Act of 1879, Mineral Lands Leasing Act of 1920, and the Federal Land Policy and Management Act of 1976 by: 1) classifying land for the retention of mineral rights to the government in land disposal actions and for competitive lease; 2) by providing surface management agencies with data concerning non-energy leasable minerals for land use planning, reviewing prospecting permit applications, and for preference right lease issuance; 3) to review, approve and inspect industry operations related to exploration, development and production; and 4) conduct production checks.

Base Program: This program provides for the collection and analysis of classification and evaluation data on leasable non-energy minerals adequate to ensure that mineral rights are reserved to the Government in actions involving land disposal by land management agencies and provides the basis for determining the lowest acceptable industry bids for leases offered for sale by competitive bidding. The classification and evaluation of unleased minerals on Federal lands such as phosphate, potash, and sodium provides the basis for development of a leasing schedule that is consistent with resource demands.

The regulatory program consists of actions taken and decisions made for the regulation of exploratory and extraction operations for non-energy minerals undertaken by industry after leases or permits are issued. Regulatory functions are performed in accordance with the Department's objectives of orderly and timely development, protection of the environment, and receipt of a fair market royalty return for all leased minerals produced.

Production from Federal and Indian leases account for about 14, 84, 54, and 50 percent of the total U.S. production of phosphate, potash, sodium, and lead, respectively. Production from leased lands has generally increased in previous years and the trend is likely to continue. Increased production results in a greater workload associated with new applications for leases and permits; environmental analyses on proposed work plans submitted for approval; approval of mining and exploration plans in accordance with operating regulations (30 CFR 231); and additional inspections of active operations that will be required to ensure lessee's compliance with laws, regulations, and terms of their leases.

Selected workload factors:

	FY 1980	FY 1981	FY 1982
Inspections of active non-energy mines--------	649	1,050	2,010
Exploration and mine plan approvals processed-	235	360	450
Environmental assessments ----------	205	300	300

Estimated unit cost for selected program outputs:

	FY 1980	FY 1981	FY 1982
Inspections of active non-energy mines--------	$ 215	$ 235	$ 249
Environmental assessments ----------	650	710	750

Waterpower Classification Program

Authorization: 43 U.S.C 31(a)

Objectives: The primary objective of this program is to identify, evaluate, and classify Federal lands which have potential for waterpower and reservoir site development. These classifications are made to protect a scarce resource from encumbrances or uses which would destroy site values and to provide land management agencies with information to ensure that potential waterpower sites on Federal lands are included in land use plans developed by such agencies. The right to authorize or license water resource development at potential sites affecting Federal lands is reserved to the Government.

Base Program: An on-going review program is being conducted to review waterpower and reservoir site classifications which have encumbered certain Federal lands since the early 1900's. The purpose is to assess current water power and reservoir site values of such lands using present day standards and data unavailable at the time of original classification. If the potential is determined to be inadequate to warrant retention in a classified status, action is initiated to revoke the classification.

	1980	1981	1982
Detail site studies----------	--	285	340
Classification actions----------	17	20	25
Field investigations----------	2	3	3
Reports to other agencies----------	365	350	260

Estimated unit cost for selected program outputs:

	1980	1981	1982
Classification actions	$1,600	$1,740	$1,830
Field investigations	7,500	8,150	8,600

Justification of Program and Performance

Activity: Conservation of Lands and Minerals
Subactivity: Royalty Management

(Dollar Amounts in Thousands)

		1981 Approp Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Royalty Management	$	6,513	14,320	16,170	+1,850
	(FTP)	(227)	(267)	(267)	(...)
Common Program Services	$	(220)	(482)	(539)	(+57)
Total Requirements	$	6,513	14,320	16,170	+1,850
	(FTP)	(227)	(267)	(267)	(...)

Royalty Management

Authorization: 43 U.S.C. 31 (a)

Objectives: To operate an accounting system that will be effective and efficient in carrying out the responsibilities for the collection of monies due the Federal Government and various Indian tribes for rentals, advance rentals, compensatory royalty, advance royalty, royalty oil and gas, and royalty on production from all leasable minerals, both onshore and offshore. These responsibilities are carried out in response to lease terms and various regulations under: 1) the Mineral Leasing Act of 1920, as amended; 2) the Acquired Lands Leasing Act of 1947; and 3) the OCS Lands Act Amendments of 1978.

Base Program: The Royalty Management Program is responsible for the collection of rentals and royalties due the Federal government and Indians from energy and minerals production on Federal and Indian lands. The program provides direction in the management of the accounting system and auditing standards, procedures, instructions, and in the use of automatic data processing (ADP) for Outer Continental Shelf, Federal and Indian oil and gas, geothermal, coal, potash, sodium, and other mineral leases.

The lessees, operators, and purchasers of lease production submit about 300,000 reports each year resulting in approximately 2 million annual entries which are processed through the royalty accounting system. The existing system is under increasing stress caused by various factors such as: 1) multiple lease interests which occur primarily due to creation or transfer of lease interests, and assignment or sale of all or a portion of a lease; 2) various operators, lease owners and payors on the same lease having reporting and/or paying responsibilities; 3) the number of producing leases increasing at an annual rate of about 7 to 9 percent; 4) determination of oil prices by well (old and new oil prices on the same lease); and 5) determination of gas prices by well on BTU value in accordance with the Natural Gas Policy Act.

The U.S. Geological Survey is in the process of redesigning and implementing a new, more ADP intensive, less paper intensive, and geographically relocated accounting and auditing system.

In pursuit of this objective, the implementation strategy calls for a new centralized royalty collection and recordkeeping program to be installed over an 20-month period commencing mid-May 1981. The old and new Royalty Collection Programs will operate in parallel during this period. The old program will be slowly phased out while the new program is gradually brought to full operation.

As soon as the new Royalty Collection System has been thoroughly "debugged" and is operating smoothly, ADP files for comparative analysis (Lease History and Product Value) will be installed in Fiscal Year 1982. The production accounting system and management excellence programs (quality review, training, manager development, cost accounting, job rotation, and the accompanying manuals, instructions, regulations, and forms) will be designed, developed, and implemented during Fiscal Years 1982 and 1983. By Fiscal Year 1984, it is planned that the Improved Royalty Management Program will be fully operative though still under constant review and subject to continuing revision to assure excellence at all times.

Some of the specific implementation actions planned for FY 1982 are:

1. Reorganizing Accounting Offices--the reorganization of the Oil and Gas Accounting Offices will be completed, permitting improvements in the ability to: 1) enforce compliance with lease terms; 2) determine delinquent accounts; 3) review payments; 4) determine product values; and 5) review and reconcile royalty data.

2. Better computer utilization to reduce workload--currently several companies are reporting production sales and collection data by direct tape amounting to about 40,000 monthly input entries. This has eliminated the manual preparation of about 24 percent of the production sales and collection input. Magnetic tape data will be encouraged from other major oil and gas companies. The number of companies reporting by direct tape is not important. However, the number of input entries is relevant to the reduction of our input entry workload.

3. Professional Accountants--the percentage of professional accountants and analysts will be increased in order to manage the complex elements of the Royalty Accounting System and to perform the review and analysis of lease accounts.

4. Centralization of General Accounting functions--all collections, receipt of reports, product valuations, etc., will be centralized. The review and analysis functions will be directed from a central source in order to provide control and prevent duplication of effort. These offices will be located at Denver, Colorado; Tulsa, Oklahoma; Metairie, Louisiana; and Albuquerque, New Mexico--near the headquarters of the lessees that report significant production and sales and pay royalties.

Selected workload factors for Improved Royalty Management Program:

	FY 1981 Est. Output Units	FY 1982 Est. Output Units
Number of documents processed (document control)	28,000	56,000
Number of Class II exceptions processed (lessee contact)	173,000	338,000
Number of bookkeeping accounts reconciled (general ledger)	3,600	8,400
Number of checks deposited and refunds processed (revenue)	6,600	22,000
Number of contractor entered line items (data processing)	780,000	2,250,000
Number of leases abstracted and lease masters prepared (lease abstract)	18,200	15,500
Number of royalty in-kind contracts maintained (royalty in-kind)	...	340
Number of product value determinations (product value)	...	20,000
Number of Class I exception reviews conducted (review and analysis)	4,300	3,000

Increase for FY 1982	FY 1982 Base	FY 1982 Estimate	Increase
$	14,320	16,170	+1,850
(FTP)	(267)	(267)	(...)

In FY 1982 the U.S. Geological Survey is proposing an increase of $1,850,000 to provide for the continued implementation of the Improved Royalty Management System.

The pending decision on the FY 1981 proposed supplemental has substantial implications on the timing and scope of the FY 1982 program. Specifically, the supplemental is designed to allow for the completion of a 20-month transition period, during which the audit and financial system portion of the improved royalty management system will be implemented, while the old system is maintained in parallel to allow uninterrupted collection of royalty payments. The current schedule calls for initial hiring and training to be completed by April 1981, in preparation for initiation of the audit and financial system in May 1981. In addition, initiation of the Improved Royalty Management system will require completion of the programming of the ADP-based fiscal accounting module. Also required is assignment of account numbers to identify the lease holders as a part of the initial group of accounts to be transferred from the old to the new system. The FY 1982 program can accordingly best be characterized as the completion of reorganizational and royalty collection conversion efforts and the preparation for the full implementation of the program; including the Production Accounting System in FY 1983. The preparations include the hiring of new personnel and transfer of current

staff to new duty stations; and the development of software to automate various production accounting functions which are now performed through mostly manual approaches.

Provided that the FY 1981 program proceeds as planned (that the FY 1981 supplemental is approved), the FY 1982 program will consist of continued hiring of staff necessary to implement and maintain the improved program while phasing out of the old system and the continued assignment of account numbers and transfer of records from the old to the new system. The requested increase will provide funds necessary for the additional required staff, for increased contractor support in the transfer of lease records from the old to the new system, and for initiating the design and implementation of the Production Accounting System, scheduled for completion in FY 1983.

Object Classification

	Staff Years	Cost
Permanent positions	30	758,700
Personnel benefits		69,000
Benefits for former personnel		360,000
Travel and transportation of persons		41,130
Transportation of things		7,800
SLUC		7,250
Communications, utilities, and other rent		80,040
Printing and Reproduction		3,600
Other Services		468,240
Supplies and Materials		16,230
Equipment		38,010
Total		$1,850,000

U.S. GEOLOGICAL SURVEY
Analysis by Subactivity

Activity: Earth Sciences Applications

(Dollars in thousands)

Subactivity	FY 1980 Actual (B.A.)	FY 1981 Approp. Enacted	FY 1981 Revised Estimate	FY 1982 Base	FY 1982 Estimate	Increase (+) or Decrease (-) 1982 Est. over 82 Base
Earth Resources Observation Systems	$11,775	$ 12,065	$ 12,445	$12,554	$ 12,554	$ ...
Environmental Affairs	4,706	3,939	4,054	4,102	4,102	...
Land Resources Data Applic.	2,460	2,435	2,625	2,678	2,678	...
Total	18,941	18,439	19,124a/	19,334	19,334	...

a/ Includes pay cost supplemental pending.

Earth Sciences Applications*
Subactivity/Element Change Crosswalk
(Dollars in thousands)

Format of FY 1981 Congressional Budget	FY 1982 Request	Format of FY 1982 Congressional Budget	FY 1982 Request
Earth Resources Observation Systems	$ 12,554	Earth Resources Observation Systems	$ 12,554
Environmental Impact Analysis ...	4,102	Environmental Affairs	4,102
Land Resources Data Applications	2,678	Land Resources Data Applications	2,678
TOTAL	19,334	TOTAL	19,334

* In the FY 1981 Congressional Budget the Activity was entitled, Land Information and Analysis.

Justification of Program and Performance

Activity: Earth Sciences Applications
Subactivity: Earth Resources Observation Systems (EROS)

(Dollar Amounts in Thousands)

		1981 Approp Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec (-)
Earth Resources Observations Systems	$	12,065	12,554	12,554	(...)
	(FTP)	(71)	(71)	(71)	(...)
(Common Program Services)	$	(418)	(449)	(449)	(...)
Total Requirements	$	12,065	12,554	12,554	(...)
	(FTP)	(71)	(71)	(71)	(...)

Earth Resources Observation Systems (EROS)

Authorization: 43 U.S.C. 31(a)

Objectives: To contribute to the solution of natural resources and environmental problems that are the concern of the Department of the Interior by:

- Providing leadership and coordination of Department of the Interior activities in using and developing space-related technology.
- Performing (in-house) and sponsoring (extramural) research projects leading to new and improved cost effective data applications.
- Training and assisting users in the use of remotely sensed data acquired from aircraft and spacecraft.
- Providing highest quality data from spacecraft and aircraft in a timely manner for analysis of resource and environmental issues.

Base Program: The Earth Resources Observation Systems (EROS) Office, which conducts a Departmental program administered by the Geological Survey, was founded in 1966 to apply remote-sensing techniques to the inventory, monitoring, and management of natural resources and to the study of environmental problems. To meet its primary objective, the EROS office conducts research and training in the interpretation and application of remotely sensed data and provides certain types of remotely sensed data for purchase by scientists, resource planners, and the public. During FY 1980 a regional remote sensing facility in Anchorage was established to provide efficient low-cost Landsat data analysis for all Interior Bureaus in Alaska. Applications of Landsat and other data to land management problems of the Interior Department will be undertaken, and additional involvement of

universities in remote sensing training will continue to be pursued. During FY 1981, in preparation for transfer of the Landsat image processing, archiving and public distribution function to the Department of Commerce's National Oceanic and Atmospheric Administration (NOAA) by FY 1984, the EROS Data Center will begin a transition into an Interior Remote Sensing Science Center.

Activities for FY 1982 include applications research, technology transfer, and data production and distribution.

1. Applications research--Conduct a limited applications research and technique development program in USDI to prepare for operational uses of data from Landsat D and from other selected satellites. The primary function of the EROS Office is to develop, demonstrate, and encourage new Earth science applications of remote sensing data acquired by aircraft and spacecraft to assist in the resource inventory and environmental management responsibilities of the Department of the Interior. The program will conduct a portion of the research needed to achieve successful operational application of Landsat and other forms of remote sensing data for USDI agencies and to support the technology transfer activities described below.

2. Technology transfer--Conduct remote sensing training primarily for USDI Bureaus. EROS remote sensing assistance facility in Anchorage will become fully operational in FY 1981. Continue at near FY 1980 levels the involvement by universities in remote sensing training, allowing qualified academic institutions to extend their current training capabilities. Costs of the above technology transfer activities are partially offset by reimbursable receipts for providing these services.

3. Data production and distribution--Continue archival generation and reproduction of 360 scenes/day of Landsat 2 and 3 Multispectral Scanner and Return Beam Vidicon data--costs of reproducing and distributing these data for users are partly offset by reimbursable receipts. An upgrade of the MSS digital image processing system, expected to be on line by January 1981, will permit handling of archival high density digital tapes, and avoid time-consuming reordering of special Landsat products from NASA/Goddard.

   Presidential Directive PD-54 designates NOAA as manager of civilian remote sensing activities from space. Consequently, the EROS office's satellite data production and distribution activities are currrently under joint review by the Department of the Interior, NOAA/Department of Commerce, and the Office of Management and Budget.

The following workload factors are indicated:

	1980	1981	1982
Data receipts	3,750,000	3,700,000	4,000,000
Price per item	$ 11.02	11.05	11.11
Training receipts	250,000	300,000	350,000
Price per unit	$ 63.00	75.00	82.00
Technology Transfer courses presented (EDC)	32	34	34
Research reports and abstracts	45	45	45

Justification of Program and Performance

Activity: Earth Sciences Applications
Subactivity: Environmental Affairs

(Dollar Amounts in Thousands)

		1981 Approp Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Environmental Affairs	$	3,939	4,102	4,102	...
	(FTP)	(92)	(92)	(92)	(...)
(Common Program Services)	$	(191)	(202)	(202)	(...)
Total Requirements	$	3,939	4,102	4,102	...
	(FTP)	(92)	(92)	(92)	(...)

Environmental Affairs

Authorization: 43 U.S.C. 31(a)

Objectives: To serve as the primary focal point for environmental matters within the Geological Survey. Specific objectives or goals include monitoring Bureau-wide activities to assure National Environmental Policy Act (NEPA) compliance, managing the preparation of contributions to environmental statements for which other agencies have primary responsibility, review of statements prepared by other agencies, and special environmental studies. In addition, the Office is responsible for specialized and multidisciplinary research and data collection to improve USGS scientific and technical capability to analyze issues related to the environment. Also, the Office is responsible for formulating and coordinating the development of environmental policy under NEPA for the USGS.

These functions are performed in full response to the requirements of NEPA and regulations of the Council on Environmental Quality (CEQ). Further, they are within the role and responsibility of the Geological Survey to provide expertise to other Federal agencies and the public in Earth sciences technological applications in the achievement of a balance between development and public demands for environmental quality.

Base Program: Preparation of environmental impact statements under NEPA mandate are directed and coordinated on a Survey-wide basis in connection with the Geological Survey's role in supervising and regulating energy and mineral exploration and development, and in connection with related leasing and management actions by other bureaus and agencies. Workload is externally generated by applicant-initiated action and by need for Environmental Impact Statement (EIS) assistance within the Survey, or by Departmental initiative. EIS's are normally prepared and developed in

cooperation with other bureaus and agencies, including Bureau of Land Management, Office of Surface Mining, National Park Service, Fish and Wildlife Service, U.S. Forest Service, U.S. Environmental Protection Agency, U.S. Department of Energy, U.S. Nuclear Regulatory Commission, and in some cases in cooperation with States. EIS preparation provides essential input to energy and mineral leasing, exploration, and development decisions by the Secretary, Department of the Interior and the Director, Geological Survey. The EIS preparation process also serves as a vehicle whereby other agencies (Federal, State, and local) and the public may provide input to decisionmaking and may anticipate and plan for projected impacts. EIS reviews are designed to assure full consideration of factors within the Geological Survey's areas of jurisdiction and expertise, and thereby, contribute to the completeness and quality of EIS's by other agencies, where they similarly serve as input to high-level decisionmaking.

In direct support of EIS preparation and review, and other aspects of NEPA compliance throughout the Geological Survey, the base program provides training and guidance; conducts efforts towards efficiency improvement in the NEPA process; and stimulates, promotes, and conducts environmental research related to the work and anticipated needs of the subactivity.

Examples of current projects include:

- Bureau implementation of new CEQ regulations including preparation of bureau handbooks; tracking and analysis of the compliance requirements of other environmental laws and regulations pertinent to the NEPA process; and training programs for Geological Survey staff members having NEPA responsibilities.

- Research for improvement of in-house oilspill trajectory model for prediction of oilspill occurrences, biological spill-related damage, and data processing management.

- State of art study of western post-mining reclamation practices and measures.

- State of art study on the analysis of subsidence impacts related to underground mining.

Other activities include the conduct of oilspill trajectory analyses--a probabilistic predictive model of the results and consequences of projected oilspills. Present capability to perform such analyses is estimated at about eight per year. This work is performed in support of BLM and USGS program activities, and provides direct input to OCS lease sale and development EIS's.

A total of 1,807 environmental documents prepared by other Federal agencies were reviewed by the program in FY 1980.

The base program workload expected for FY 1982 is as follows:

1. Preparation of estimated 21 EIS's either in a lead or non-lead agency capacity consisting of 11 GS-lead EIS's in energy resource development

related actions, four EIS's for non-energy mineral deposit development, and six EIS's related to synfuel development and electric power development.

2. Preparation of estimated 23 EIS's as a cooperating agency with BLM related to coal-leasing, consisting of 7 regional and 16 site-specific EIS's.

   Prior to FY 1980, Survey workload related to BLM coal-leasing EIS's was accommodated by pass-through funding. As presently structured, the preparation of these EIS's is part of the continuum of the BLM land-use planning process. As a result, the Geological Survey participates in the tract selection and tract evaluation process, which are both preliminary to and contribute to the preparation of the EIS, as well as working on the preparation of the EIS itself. In FY 1981, the Geological Survey's role in the preparation of coal-leasing EIS's will significantly increase with the initiation of an estimated 14 site-specific EIS's in the 4th quarter.

3. Performance of a estimated eight oilspill trajectory analyses (risk analyses) are planned for inclusion in both OCS development EIS's by the Geological Survey, and OCS lease sale EIS's by the Bureau of Land Management. The analyses are also used in the Secretarial issue documents prepared for the Secretary of the Interior prior to departmental decision on the proposed Federal leasing or development action.

   Research projects considered of value to environmental impacts analysis of OCS development will also be supported. These range from impacts onshore to linking the oilspill trajectory analysis model to models of marine population dynamics.

4. An estimated 1,800 EIS's and related documents prepared by other Federal agencies will be analyzed, reviewed, and commented upon within the scope of the Geological Survey's jurisdiction and expertise, as required by NEPA.

5. Supportive guidance, training, and research activities will continue. These will be directed toward implementing new and changing environmental laws, regulations, and policies; achieving and maintaining an adequate level of NEPA-related expertise among the staff of the Geological Survey; developing data resources and capabilities to analyze impacts of new and emerging technologies for energy and mineral resource development; to employ advanced analytical techniques including mathematical modeling; and to improve the efficiency of the NEPA process and the usefulness of its products in planning and decisionmaking.

Workload Factors:

	FY 1980	FY 1981	FY 1982
EIS preparation (general)	20	21	21
EIS preparation (BLM coal-related)	...	21	23
Oilspill trajectory analysis	6	8	8
EIS review	1,807	1,800	1,800
Applications research projects (in progress)	8	9	9

Unit costs for program outputs: (in thousands)

	FY 1980	FY 1981	FY 1982
EIS preparation (general)	$ 87	$ 67	$ 75
EIS preparation (BLM coal-related)	...	...	43
Oilspill trajectory analysis	81	63	63
EIS review	0.32	0.33	0.33
Applications research projects (in progress)	56	48	48

Justification of Program and Performance

Activity: Earth Sciences Applications
Subactivity: Land Resource Data Applications

(Dollar Amounts in Thousands)

		1981 Approp Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Land Resource Data Applications	$	2,435	2,678	2,678	...
	(FTP)	(51)	(51)	(51)	(...)
(Common Program Services)	$	(125)	(132)	(132)	(...)
Total requirements	$	2,435	2,678	2,678	...
	(FTP)	(51)	(51)	(51)	(...)

Land Resource Data Applications

Authorization: 43 U.S.C. 31 (a)

Objectives: The principal objectives of the Land Resource Data Applications subactivity are: (1) to assess and improve the manner and extent to which USGS's basic science programs produce information supportive of Federal resource policies, planning processes, and decisions through natural resource planning research; (2) to transform the knowledge base produced by USGS's basic science programs into interpreted information products of direct and immediate use by resource planners and decisionmakers through Earth sciences applications research; and (3) to develop and apply experimental approaches and products to actual resource management problems, and (4) to transfer Earth science information to the user community through preparation of manuals, fact books, and technical reports oriented toward the planning/management community; and through workshops, seminars, conferences, and symposia.

Base Program: The subactivity consists of a small multidisciplinary staff comprised of planners, engineers, social scientists, and Earth scientists. It relies heavily on contracting, intergovernmental cooperative agreements, and staff from other USGS programs to accomplish needed work.

The program involves studies designed to: (1) evaluate the effectiveness of ongoing USGS programs in meeting national resource needs; (2) assess the effects of emerging technologies on USGS programs; (3) develop resource planning methods designed to enhance the use of Earth science information in the planning/decisionmaking process; (4) develop and initiate experimental planning assistance programs, utilizing state-of-the-art methods, supportive of USGS missions; (5) examine the decisionmaking process, including studies of environmental mediation and data validation; (6) utilize existing basic Earth science information from USGS and other sources to better support national needs (these problem-oriented field studies, usually 6 to 24 months

74-939 O—80——100

in duration, are conducted in coordination or cooperation with other Departmental Bureaus, and other Federal, State, and local agencies); (7) transfer technical information needed by land-use planners, natural resource decisionmakers, and emergency-preparedness officials; (8) develop new methods of combining and displaying Earth science and related information in support of resource planning and management; and (9) coordinate the geologic-related Hazards Warning activities (documentation of potential hazards, scientific evaluation, dissemination of information) for which USGS has responsibility.

Recent significant activities include:

- Geologic-Related Hazards Information: Coordinated the preparation and dissemination of the initial hazard watch and periodic updates of information on potential hazards related to the Mt. St. Helens volcanic eruption; served as liaison to Federal Emergency Management Agency and State and local emergency preparedness agencies during the volcanic emergency; coordinated the preparation and publication of a USGS Professional Paper on Mt. St. Helens Eruption, 1980: The First 100 Days.

- Western Coal Planning Assistance: The four-volume Planning Reference System developed during Phase I of this project served as the basis for four workshops (Montana, Wyoming, North Dakota and Nebraska) for State and local planners and managers. The workshops utilized case studies and simulation exercises to demonstrate use of Earth-science information in conjunction with other environmental, social, economic, and fiscal information to assess, plan for, and mitigate impacts of coal development. The workshops, held in conjunction with the Missouri River Basin Commission, Environmental Protection Agency, Old West Regional Commission, and Denver Federal Regional Council, drew local, State, and Federal participants from the 10-State Missouri River Basin area as well as adjacent States.

- Circuit-Rider Geologist: In cooperation with the Washington Department of Natural Resources, undertook an experimental project to provide advisory services of a State-employed senior geologist to planners and elected officials of three counties in the Puget Sound region. This project increased the understanding of the local decisionmakers of the value and uses of Earth science information, expedited the dissemination of such information needed for urgent regional decisions, and helped ensure the correct and appropriate application of the information. The State currently is considering the continuation and expansion of this activity under its own programs.

- Workshops on Earth Science Data Applications to Land-Use Planning: Initiated a series of workshops for land-use planners and decisionmakers in cooperation with State chapters of the American Planning Association. Each workshop includes lectures on geologic systems as constraints or opportunities; field reviews of examples of geologic factors as they have affected land-use development; and classroom planning exercises using available local information and dealing with recognized local Earth science problems. Emphasis in the workshops is on identifying local Earth science problems and

opportunities; identifying local sources of scientific information and expertise available to address the problems; and demonstrating selected applications of Earth science data to the resolution of local land-use conflicts.

Current and future activities will stress (1) research on applications of Earth science information in support of Federal natural resource policies and programs; (2) development of better methods to combine Earth science information with other types of planning information for utilization in the planning/management process; (3) evaluation of effects of emerging problems and technologies on USGS programs; (4) development of more effective natural hazard warning systems; and (5) the delivery of technical information to a widely dispersed and diverse natural resource planning clientele.

Principal Program outputs:

	FY 1980	FY 1981	FY 1982
Interpretive Earth Sciences applications reports	40	30	30
Manuals, guidebooks, and methodologies	35	40	30
Workshops, seminars, and conferences	14	19	19
Notifications of potential hazards to affected areas	9	10	10

Unit costs for program outputs:*

	FY 1980	FY 1981	FY 1982
Interpretive Earth sciences applications reports	17	20	20
Manuals guidebooks, and methodologies	15	15	15
Workshops, seminars, and conferences	40	32	32
Notifications of potential hazards to affected areas	12**	20	20

*Unit costs include costs funded by other organizations.

**Includes liaison work at Mt. St. Helens; excludes all hazards activities not directly related to Hazards Warning.

U.S. GEOLOGICAL SURVEY
Analysis by Subactivity

Activity: General Administration

(Dollars in thousands)

Subactivity	FY 1980 Actual (B.A.)	FY 1981 Approp. Enacted	FY 1981 Revised Estimate	FY 1982 Base	FY 1982 Estimate	Increase (+) or Decrease (-) 1982 Est. over 82 Base
General Administration	$ 3,048	$ 2,921	3,070	3,101	3,101	$ ...
Employee Compensation	728	890	890	882	882	...
Total	3,776	3,811	3,960a/	3,983	3,983	...

a/ Includes pay cost supplemental pending.

GS-223

Justification of Program and Performance

Activity: General Administration

(Dollar Amounts in Thousands)

		Approp. Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
General Administration	$	2,921	3,101	3,101	...
	(FTP)	(73)	(73)	(73)	(...)
Employee Compensation	$	890	882	882	...
(Common program services)	$	(25)	(27)	(27)	(...)
Total Requirements	$	3,811	3,983	3,983	...
	(FTP)	(73)	(73)	(73)	(...)

Authorization: 43 U.S.C. 31(a)

Objectives: The General Administration activity provides continuing executive direction, administration, management, and coordination to the programs of Geological Survey. This includes such essential functions as: program coordination, planning, budget, finance, personnel, procurement, office services, program and management analysis, data base administration, program evaluations, EEO affirmative action, and funding of employee compensation payments. These functions are carried out at Headquarters and field offices through regional management offices. Liaison activities with the Department of the Interior and other agency representatives at other Federal and Interior headquarters cities are also included in the General Administration functions.

Base Program: General Administration expenses of the Geological Survey are financed in part by the line item shown above and in part by assessments on direct program funds and on funds from other Federal Agencies and sundry non-Federal sources (no assessment is levied on cooperative funds from State and local governments). These resources are allocated to all areas of administrative support--both at headquarters and in the field in support of Geological Survey programs.

Discussions of functions involving major manpower and resource commitments follow with descriptions of workload indicators having an impact on FY 1982 administrative services.

Equal Employment Opportunity

The EEO Office has overall responsibility for implementing the Survey's policy to assure that all personnel actions are free from discrimination on the basis of race, color, religion, sex, national origin, age, or physical and mental handicap.

During FY 1981, the Survey will continue to work with universities, professional societies, minority and women's organizations to make career opportunities in Survey known to minorities and women. In support of this activity, the Survey will continue to provide assistance, exhibits, and personnel in support of minority and women's organizational conferences, conventions, and career awareness fairs. In addition, Survey will continue its past efforts to enhance science programs at such minority oriented institutions as Howard University, Washington, D.C.; New Mexico Highlands University; Southern University, Baton Rouge, Louisiana; Michigan State University; State University of New York and numerous high schools, junior high schools, and elementary schools.

In FY 1982 the EEO staff will continue to identify career opportunities and work closely with the Bureau's Personnel Office to develop detailed EEO Affirmative Action Program Plans and Federal Equal Opportunity Recruitment Program Plans as required by the Civil Service Reform Act of 1978 and Equal Employment Opportunity Commission regulations and guidelines. These plans, with more detailed organizational EEO goals and managerial responsibility, are certain to enhance the equal employment opportunities of women and minorities in applying for Survey's scientific, technical, administrative, and management positions.

Financial Management

The Geological Survey's accrual accounting and financial management system is designed to support the needs of management in achieving overall program objectives. The accounting and financial program includes central coordination and control of an integrated expenditure and obligation reports system; control and implementation of cost, allotment and general ledger accounting; payroll systems and processing; voucher and claims examination and processing; and, technical guidance to fiscal activities performed by other Survey offices.

The Geological Survey's program and resource expansions in the past seven years have generated heavy workload demands on the financial management system. A number of innovative automated processing methods have been introduced to handle these obligation and voucher payment increases. Financial reports are now being transmitted to the field via remote computer terminals. A system for processing the time and attendance data for payroll operations at major field locations has been implemented. Terminals have also been installed to facilitate processing of travel and commercial payment vouchers, to update employee payroll records, to enter obligations into the accounting system, and to generate reports on accounts receivable for travel and commercial payments.

Priorities for FY 1982 will focus on three principal areas: (1) continuing improvement in the software system capability for generating commitment accounting reports for use by Bureau management as a tool to analyze obligation trends and pinpoint potential funding problems in a more timely fashion; (2) continuing the refinement of the automated financial system to produce a financial management mechanism which reflects actual

obligations for scientific and research activities in greater detail; and, (3) the development of a training program for managers and technicians to bring Bureau managers and other key personnel having financial management responsibilities up to date relative to the fiscal and accounting innovations impacting Survey's operations as well as the utility of new funds control reports for better analyzing and distributing limited budgetary resources. This latter item represents a deferred FY 1981 improvement project which is being delayed to meet resource demands for improving the system capabilities of the Bureau's automated Financial Management System.

The total number of accounting documents processed in FY 1982 is estimated to total 598,900, an 18% increase over FY 1980 workload and 9% over the FY 1981 projected volume.

Personnel Management

The Bureau's personnel management program features staff and operating elements at both the Headquarters and field levels to insure the proper utilization of personnel resources and advancement in personnel management practices. Advice and assistance to all levels of management in developing and administering a modern personnel program involves day-to-day as well as long range planning, evaluation, and operational activities in: examining, recruitment and selection, placement, retentions, pay administration, employee development, employee relations and services, motivation, discipline, performance evaluation, monetary awards, insurance and annuities, attendance and leave, and a variety of personnel reports, records, and statistics.

A wide range of high priority personnel management projects and programs related to the Civil Service Reform Act (CSRA) will receive special emphasis in FY 1982.

1. Performance Appraisal and Merit Pay - the new performance appraisal system will become operational October 1, 1980, and the first appraisals for merit pay determinations will be made as of June 30, 1981. These programs will continue to require formulation and dissemination of innovative policies and procedures. In addition, a significant amount of staff resources will be devoted to orienting employees and training supervisors to use these systems.

2. Employee Relations Casework - increased employee awareness and sensitivities coupled with the growing concern on the part of supervisors in resolving performance problems continue to be reflected in the volume of employee relations casework. FY 1980 casework was approximately 30 percent more than estimated. As the Bureau's new performance appraisal system is implemented in FY 1981, an increase of approximately 500 cases is projected. FY 1982 employee relations workload is estimated to total 1,600 cases a 60 percent increase over the FY 1980 level. Survey will continue its efforts to resolve in a fair manner employee grievances at an early stage. Special emphasis will be given to strengthening and expanding employee counseling programs to assist those employees whose personal problems interfere with productivity on the job.

3, Labor-Management Relations - sixteen labor relations contracts and supplemental negotiations are anticipated for FY 1982. Eleven such negotiations were conducted in FY 1980 and fifteen will be undertaken in FY 1981. The rapidly expanding number of labor negotiations reflects a growing, time-consuming workload. The workload will also increase as negotiations are becoming increasingly complicated due to the provisions of Title VII of the CSRA which broadens the scope of contract negotiations and the requirements for mid-term bargaining including the impact and implementation of provisions of the CSRA such as performance appraisal. As a result, the quality of management's negotiating techniques is of primary importance and will require a great deal of preparatory work if success is to be insured.

4. Special emphasis programs in recruitment for FY 1982 will include:

- An expanded recruitment effort to locate qualified women and minorities for occupations in which they are underrepresented in the work force consistent with Affirmative Action and Federal Equal Opportunity Recruitment Plans (FEORP).

- An expanded activity in Upward Mobility and Cooperative Education programs to increase career development and placement opportunities for women and minorities.

- The introduction and implementation of agency-based examining programs for selected occupations under authority delegated by the Office of Personnel Management consistent with their Model Competitive Staffing System. Under this system, agencies may do their own examining and certification for designated positions. Advantages of this approach include faster certification and filling of vacancies, improved quality of candidates, specifically targeted recruitment, use of agency experts to develop rating criteria, and better person-to-job matching.

- Continuing implementation, monitoring, and refinement of the selection methodology developed to meet requirements of the Uniform Guidelines on Employee Selection Procedures - (guidelines which establish the principles which must be followed to insure that all employment decisions are predicated solely upon valid and job-related criteria which do not discriminate on the basis of race, color, religion, sex, or national origin). A selection methodology, developed by personnel psychologists, for the validated rating and ranking of candidates for positions filled under the Bureau's revised Merit Promotion Plan will be implemented throughout the Bureau during Fiscal Year 1981. During FY 1982, additional validated crediting plans will be developed consisting of job-related knowledges, abilities, skills and other characteristics for Bureauwide use in selected occupational series.

- Civil Service Reform Act of 1978 - continuing action to implement new/revised procedures applicable to the Senior Executive System, probationary period for supervisors/managers,

delegation of authority, Grade and Pay Retention, Veterans Preference and Benefits, Acceptance of Volunteer Service (5 U.S.C. 3111).

5. Personnel Management Evaluations - the Geological Survey will expand the coverage of its personnel management evaluation program in FY 1982 by including several major areas of emphasis relating to Civil Service Reform in the 26 planned reviews. Special attention will be directed to the implementation and use of delegations of personnel management authorities, performance appraisal, merit pay, FEORP, and employee discipline. In addition, continuing emphasis will be given all other areas of personnel management such as position management, position classification, employee development, and merit promotion.

6. Career Development - in accordance with the guidelines provided by the Office of Personnel Management and the Department of the Interior, candidates for the Senior Executive Service (Feeder Group I) and for the Executive and Managerial Development Program (Feeder Group II) will be systematically identified and developed. In addition, ongoing efforts will be devoted to the continued development of executives already in the SES and of incumbent supervisors and managers covered by merit pay. Emphasis will also be given to the identification of employee training needs, development of annual training plans and objectives, and evaluation of training programs.

7. Personnel Management Information Systems - the development of a personnel management information system is essential to meeting the information needs of management in a responsive manner. With the many new personnel programs required by the Civil Service Reform Act there is an increased requirement to provide data on employment trends, EEO statistics, etc. A feasibility study is underway to determine the data base requirements necessary to develop needed, meaningful data for management to effectively carry out their personnel management responsibilities.

General Services

The general services staff provides advice, direction and guidance, and formulates policies and procedures to be implemented on a Bureau-wide basis in the areas of space management, safety measures, security, energy conservation, supply and property management, and other administrative services. Specialized operating areas include: administration of a comprehensive and fully developed service and supply program for the acquisition, utilization, and disposition of personal and real property; maintenance of property accountability records; control of supplies and equipment; warehousing; maintenance of equipment, duplicating, and other program support services; development of policy guidance, coordination, and review of information for space management and acquisition at the field level; transportation; mail and messenger service; and telephone equipment and communication systems.

The following areas are scheduled for continued emphasis in FY 1982.

Safety - efforts will focus on continuing the decline in accident rates by emphasizing the hazards of field operations, toxic material safety in laboratories, and fire protection for facilities. Inspections of all high hazard areas will be made to identify and eliminate all conditions which do not comply with the OSHA standards. Training in the USGS safety program will continue in FY 1982 with the goal of 100 percent compliance with training requirements.

Property Management - efforts to improve and streamline the Bureau's property management system, particularly in the area of controlling scientific equipment, will be a high priority activity begun in FY 1981. This effort will culminate in FY 1982 with the Bureau-wide implementation of new policies and procedures on inventorying property, reconciling inventory lists relative to useable and disposable property, improved training for property custodians concerning their duties and responsibilities regarding the use and control of property, and controlling the acquisition of scientific and other monitored property to insure purchase occurs only after a review of available excess property has been completed and documented.

The automated property management system which tracks the custody and location of controlled property is expected to continue its expansion in FY 1982. The total number of items included in the data base is estimated to be 158,000, in FY 1982, a 10 percent increase (+ 14,000 items) above the FY 1980 level. The number of adjustment entries required to keep the management information system data base current will increase by 21 percent in FY 1982 when compared to FY 1980's transaction workload.

Other High Priority Efforts - special attention will continue to be directed to improving the Geological Survey's telecommunications, duplicating services, and mail operations, as well as space utilization. The management, utilization, and control of the vehicle fleet and watercraft will continue to receive special emphasis.

(NOTE: The Energy Conservation Program element previously discussed under the General Administration Activity justification is included in Facilities Activity justification text.)

Procurement Contracts, Grants, and Cooperative Agreements

The Geological Survey's versatile procurement, contracts, and grants support activities were augmented by the additional responsibility for cooperative agreements during FY 1980. These procurement functions are

crucial to the effective accomplishment of an ever-increasing number of scientific and technical projects and programs vital to fulfilling the mission of the Survey. This administrative function includes operations at the Headquarters and field levels which are devoted to the management of a totally coordinated and integrated Bureau-wide procurement program. This involves the procurement of complex, often unique research, services and associated equipment with little or no precedent. These responsibilities encompass the entire spectrum of procurement policy and operations functions and are designed to ensure the formulation and implementation of contract, grant, cooperative agreement, and purchasing practices and procedures that will produce effective, economical project results in compliance with applicable laws, regulations, and sound business decisions.

In FY 1982, the Survey's procurement program for Surveys, Investigations, and Research is expected to exceed $195 million. In FY 1982, the Advance Procurement Planning (APP) System will enter its third year of operation. The system, which was introduced in FY 1980 to establish milestones to improve leadtime for procurement actions in excess of $10,000, will be automated in FY 1981. Automation of the System greatly enhances the overall goal to streamline the entire procurement activity and create a balanced workload over the entire fiscal year. Special priority will continue to be given to training administrative and technical personnel in contractual requirements and techniques. Increased emphasis will be placed upon sustaining the Survey's highly successful minority business enterprise program.

In FY 1980, the Survey actively supported and achieved an ambitious minority business enterprise goal of $10 million. This was a substantial increase over the FY 1979 goal of $3.8 million. The FY 1982 effort will seek to continue an already fine minority business record and will place considerable emphasis on the Labor Surplus Area Set-Aside Program. The Departmental Warrant System is being implemented during FY 1981 on an interim basis with those personnel exercising signatory procurement authority being granted a 2-year period to obtain the prerequisite training and experience. The overall goal of the Warrant System is the certification of a highly skilled, fully qualified, professional procurement workforce.

The cornerstone for monitoring the Survey's procurement activities is the automated Procurement Management Information System (PMIS). Several requirements continue to impose significant systems development activity as well as data entry growth. These include: (1) workload increases associated with program expansions requiring contractual support; (2) refinement of the PMIS to provide input to the Department and Federal Procurement Data Systems; (3) the development of special and recurring reporting capabilities to assist managers in analyzing procurement workload priorities and areas of special interest; and (4) alterations to allow the full integration of the Advance Procurement Planning data elements into the Procurement Management Information System. Total procurement data base transactions in FY 1982 are estimated to total 108,000, a 14% (+13,100 entries) increase over the FY 1980 levels. The procurement workload (number of contracts, grants, cooperative agreements, etc., processed) in FY 1982 is expected to total 30,600 awards. This volume represents an 18 percent increase over the FY 1980 workload level.

Management Analysis and Improvement

This is a continuing program aimed at promoting more effective and efficient administrative management thoughout the Survey. Specific responsibilities include: analyzing organizational and operational problems and developing solutions to them; studying and reviewing administrative operations in which the use of word processing techniques could result in improved effectiveness; continuing the development and implementation of operational improvements through the use of ADP-supported administrative systems in the areas of procurement, personnel, property, and space management; continuing the comprehensive Bureau-wide program of review, analysis, and implementation of improvements in paperwork management; and ensuring Survey compliance with pertinent legislation and regulations which affect and regulate administrative operations (e.g., Bureau activities impacted by the Freedom of Information Act and the Privacy Act, and clearance of Survey documents submitted for publication in the Federal Register).

FY 1982 special emphasis areas will include: (1) continuing the Bureau's management evaluation program to identify changes in organization structures and methods of operation to streamline and improve the delivery of administrative and other services to program operations; (2) conducting a review and assessment of the implementation of the provisions of OMB Circular A-76 and the Federal Grant and Cooperative Agreement Act; (3) evaluating the impact of Executive Order Number 12174 "Paperwork" on USGS programs which require information from the public; (4) analyzing the effectiveness of automated office systems relative to Survey operations; (5) continuing to provide leadership and guidance in matters pertaining to the Freedom of Information Act and Privacy Act; (6) continuing the improvement of Bureau-wide ADP administrative systems with the goal of merging like systems; and (7) continuing the review and preparation of approval packages for internal reorganization proposals which are aimed at establishing the most modern and efficient organization and management structure suitable for a major scientific agency.

Data Base Administration

In FY 1979, an Office of the Data Base Administrator was established to coordinate and increase the compatibility of Survey scientific and technical data bases and systems. This function is highly important as the Bureau is changing from an organization that stores its data in document form such as tables, text, maps, analog charts, or photography; to one that collects, processes, transmits, stores and analyzes massive amounts of electronic digital data.

With the long term trend toward a more complete and unified representation of all Earth science data components, the Data Base Administrator is establishing a program with a focus on several basic areas: development of management and technical tools for scientific and technical information; administrative procedures for control, quality, and standards; policy and coordination for improved compatibility, liaison, interagency work, internal divisional support, dissemination, and training; and technical improvement of current methods as well as research and development projects.

Initial efforts of the Office of the Data Base Administrator involved the development of a Survey-wide data base inventory, an inventory of systems which utilizes these data bases, and a dictionary/directory of data elements and their uses. The Office of the Data Base Administrator will use these projects as building blocks toward the future implementation of a more consistent and unified approach to all Survey earth science data generation and dissemination.

Regional Administration and Management

Personnel, procurement, contracts, and grants, as well as general services support, is provided to field offices through three regional management offices. The regional offices also are the coordination points for liaison with Departmental and other agency representatives at Federal and Interior Department regional headquarters cities.

Employee Compensation Payments

This activity will fund the reimbursement to the Bureau of Employee Compensation, Department of Labor, for payments made in FY 1980 for Geological Survey employees injured since December 1, 1970, as provided by P.L. 86-767, Section 209.

Assessment Policy

General administrative expenses (GAE) of the Geological Survey are financed in part by assessments on direct program funds, and on funds from other Federal Agencies and sundry non-Federal sources. No assessment is levied on cooperative funds from State and local governments.

For many years GAE of the Survey had been financed by direct appropriation (line item) and assessment against reimbursable programs. The intent had been that (1) the direct appropriation fund the administrative expenses of the direct program including the Federal-State cooperative program, and (2) that the administrative expenses allocable to programs financed by other agencies (except State and local governments) be funded by assessment on those programs.

Since 1970, it was the Survey's policy to assess base funds (FY 1970 level) at 0.882% and cumulative program increases since that date at 3.5%. Assessment on reimbursable funding during this period was 4.5%.

In FY 1980, this policy was changed to (1) apply a single composite rate of 2.90% on direct funds in lieu of the existing two tier rate system, and (2) increase the rate on reimbursable funding from the 4.5% rate to 5.5%. These changes were made in order to make the assessment system more easily administered and to provide for increased costs of the programs funded by these assessments.

Selected Workload Summary	FY 1980	FY 1981	FY 1982
Accounting Documents Processed	507,600	548,000	598,900
Financial Mgmt. System Inputs	2,100,000	2,200,000	2,350,000
Personnel Management Evaluations	15	25	26
Vacancy Announcements Processed	1,600	1,750	1,800
Total Positions Reviewed	2,000	2,800	3,100
Employee Relations Casework	1,000	1,500	1,600
Labor Relations Negotiations	11	15	16
Procurements Processed	25,900	28,100	30,600
Procurement Mgmt. System Inputs	94,900	103,000	108,000
Property Mgmt. System Items	143,900	150,000	158,000
Property Mgmt. System Inputs	85,900	90,000	104,000
Space Mgmt. Data File Items	22,000	25,000	28,000
Space Mgmt. Data File Inputs	12,700	15,000	17,000

General Administration Expenses

Justification for Increases

The $2.1 million increase programmed, from both directly appropriated and reimbursable funding, for FY 1982 General Administration activities will be applied to those areas experiencing major workload additions versus FY 1981 levels. Heaviest workload increases are projected for the following areas:

- Continuing improvement of the financial management system which will process a total of 598,900 vouchers, claims and accounting documents to insure the timely payment of invoices and reimbursement requests for travel, services, supplies, and equipment. This workload volume represents a 9 percent increase over FY 1981 levels and an 18 percent increase over FY 1980 experience.

- Carrying out a responsive personnel management program highlighted by: expanding and devoting special emphasis to performance appraisal, merit pay and Federal Equal Opportunity Recruitment Program elements as required by the Civil Service Reform Act; continuing efforts to handle an expanding and increasingly complex employee relations casework in a fair and responsive manner; and, pursuing a progressive employee career development program featuring special emphasis on the identification of employee training needs, development of annual training plans and objectives, and evaluation of training efforts.

- Continuing to focus on providing necessary resources to support the Survey's versatile contracts, grants and cooperative agreements program. These procurement functions are essential to the effective accomplishment of an ever-increasing number of scientific and technical projects vital to fulfilling the earth sciences and land conservation programs of the Survey. Procurement workload is expected to reach all-time levels in FY 1982, totalling 30,600 individual actions and committing over $195 million in support of surveys, investigations and research.

- Completing the Bureau-wide effort to implement new policies and procedures for improving and streamlining the Survey's property management system, particularly in the area of controlling scientific equipment.

- Increasing workload associated with the automated Financial Management, Procurement Management Information, and Property Management Systems.

Funding of General Administrative Expenses (GAE)
(Dollars in thousands)

Source of Funds for GAE:	FY 1980	FY 1981	FY 1982
Surveys, Investigations, and Research:			
1. National mapping, geography and surveys	$ 1,563	$ 2,186	$ 2,236
2. Geologic and mineral resource surveys and mapping	4,106	4,505	5,337
3. Water resources investigations	2,846	3,295	3,544
4. Conservation of lands and minerals	3,186	3,401	4,000
5. Earth sciences applications	721	553	559
6. General administration	3,776	3,960	3,983
7. Facilities	...	...	...
Total	16,198	17,900	19,659
National Petroleum Reserve in Alaska	98	29	...
Other Federal/non-Federal sources	4,628	6,011	6,335
Total, GAE	20,924	23,940	25,994
Relationship to total bureau program:			
SIR:			
General administrative expense	16,198	17,900	19,659
Bureau total	469,297	507,301	567,191
Ratio, GAE to total obligations	3.5%	3.5%	3.5%
State and local governments	.0%	.0%	.0%
Other funds	4.8%	5.4%	5.4%
All funds:			
General administrative expense	20,924	23,940	25,994
Total bureau program	615,291*	669,150*	738,878
Ratio, GAE to total	3.4%	3.5%	3.5%

* This amount only includes the assessable portion of NPRA.

74-939 O—80——101

U.S. GEOLOGICAL SURVEY
Analysis by Subactivity

Activity: Facilities

(Dollars in thousands)

Subactivity	FY 1980 Actual (B.A.)	FY 1981 Approp. Enacted	FY 1981 Revised Estimate	FY 1982 Base	FY 1982 Estimate	Increase (+) or Decrease (-) 1982 Est. over 82 Base
National Center-SLUC	$ 8,467	$ 8,467	$ 8,467	$ 8,467	$ 8,467	$ ...
National Center-Facilities Management	3,360	3,374	3,442	3,458	3,458	...
Menlo Park Map Storage Facility	500	...	...	...	...	...
TOTAL	12,327	11,841	11,909[a/]	11,925	11,925	...

a/ Includes Pay Cost Supplemental pending.

Facilities
Subactivity/Element Change Crosswalk
(Dollars in thousands)

Format of FY 1981 Congressional Budget	FY 1982 Request	Format of FY 1982 Congressional Budget	FY 1982 Request
Standard Level Users Charge -----	$ 8,467	National Center - Standard Level User Charges	$ 8,467
Facilities Management ----------	3,458	National Center - Facilities Management -----	3,458
Menlo Park Map Storage Facility -	...		
Total ----------	11,925	Total ----------	11,925

Justification of Program and Performance

Activity: Facilities

(Dollar Amounts in Thousands)

		1981 Approp-Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Standard Level User Charge	$	8,467	8,467	8,467	...
Facilities Management and Special Building Services	$	3,374	3,458	3,458	...
	(FTP)	(35)	(35)	(35)	(...)
(Common Program Services)	$	(39)	(52)	(52)	(...)
Total Requirements	$	11,841	11,925	11,925	...
	(FTP)	(35)	(35)	(35)	(...)

Authorization: 43 U.S.C. 31(a)

Objectives: To finance operation and maintenance costs, facilities management needs, payments for space use, Standard Level User Charge (SLUC), and related special support services necessary for the operation of the National Center complex at Reston, Virginia, and to provide maintenance and alteration projects and for special purposes not covered in GSA SLUC for major field centers.

Base Program: Approximately $8,467,000 will be required in FY 1982 to cover GSA's Standard Level User Charge for the full year for the National Center complex for the normal 40 hours, 5 day work week. The Survey will continue to reimburse GSA for operating costs for the National Center not included in the SLUC. GSA has contracted for standard level operation and maintenance services such as cleaning, operation and maintenance of electrical, heating, airconditioning and ventilating, and plumbing and sewage systems; maintenance of escalators and elevators; and protection of the building and grounds. Operation and maintenance costs also include the cost of metered utilities, electricity and water.

Facilities Management performs services for approximately 2,500 Survey employees located in the Headquarters complex such as mail and telephone operations, space control, parking, operation of self-service store, duplicating and printing services, self-protection, safety and selected supply and warehousing operations.

Special Building Services are provided by GSA on a reimbursable basis and are not included in the Standard Level User Charge. Special services include:

- Overtime services for periods beyond the normal 40 hour, 5-day work week;
- space acquisitions, alterations, installation and repair of special ventilating, temperature and humidity control equipment, and related items;
- and additional maintenance and repair of exterior grounds.

Major Field Center Support

The funding involved in the Facilities budget that relates to the major field centers provides for maintenance and alteration projects for agency owned facilities as well as for special purpose items not covered in the GSA SLUC for these centers.

Continuing surveys and studies are underway at the various Survey centers to determine the adequacy of facilities in meeting the current and future goals and objectives of the Survey's mission; to abate unsafe or unhealthy working conditions as required by E.O. 12196 of February 26, 1980; to develop short and long range programs to correct deterioration, malfunction and obsolescence; to eliminate fire hazards and unsafe and unhealthy working conditions; to provide special aids for the handicapped; to provide environmental controls to eliminate pollution hazards; and to retrofit existing facilities to reduce the use and loss of energy.

Due to the substantial increase in the SLUC rate for the FY 1980-1982 period, virtually no funds will be available for major field center projects.

Energy Conservation

The Geological Survey's current Energy Conservation Program includes monitoring and improvement activities of 149 agency-owned buildings and 3,059 vehicles in the motor fleet. In FY 1980, the Survey continued its efforts to meet Administration and Congressional energy reduction targets. Shown below are the results of Bureau efforts to meet the Presidential New Initiative Year (second half of calendar year 1979, first half of calendar year 1980) Energy Reduction Goals.

Presidential New Initiative Year Energy Reductions

Energy Reduction Category	Reduction Goal	Actual Performance
Buildings and general operations	-5%	-12.2%
Automotive fuels	-10%	-18.8%
Mileage	-10%	-12.0%

Highlighting FY 1980 conservation activities were the solar energy and waste water recycling projects which were placed in operation in the Sioux Falls, South Dakota, Earth Resources Observation Systems (EROS) Data Center, the largest of the agency-owned facilities. This special purpose facility uses more than one million gallons of water per month in photo reproduction and development processes. The original oil fired system for heating water required 8,000 gallons of fuel oil per month. A solar water heating system, using 9,200 square feet of solar energy collectors, one of the largest of its type in the United States, was placed in operation in January 1980. The gross savings in the first year resulting from the conversion from an oil fired water heating to a solar energy system is currently estimated at $100,000. These savings will produce a 6-year payback to the EROS Data Center for its solar heating system. This project represents the U.S. Department of the Interior's principal solar energy model for demonstrating the practical application of solar energy for heating domestic water.

A second natural resource conservation project completed at the EROS Data Center is for recycling waste water for reuse in film processing and for use in connection with the air-conditioning system. Because of periodic near drought conditions in the Sioux Falls area, the need to conserve water is at times extremely important. Waste water, photo processing water and sanitary waste is now being collected in a series of biologically treated ponds with a capacity of 40 million gallons. The recycling system installed provides water with a quality that approximates the city water supply now utilized. The recycled water also meets the guidelines established by the photo processing industry for film development. The waste water recycling system will annually produce as much as 12 million gallons of water for reuse purposes. Such a guaranteed water supply is essential for the specialized scientific programs of the EROS Data Center.

The Geological Survey continues to show good overall progress in the energy conservation area. By the end of FY 1980, the Bureau expects to exceed the Presidentially mandated FY 1985 goal of a 20 percent reduction (measured in BTU's per gross square feet) for buildings' operations when compared with FY 1975 base levels.

In FY 1981, the Survey plans to expend $70,000 in completing 20 technical reviews at selected installations. Where identified needs can be financed, retrofit projects will be undertaken.

In FY 1982, $187,000 is earmarked for such energy conservation activities. Thirty energy reduction surveys are planned for FY 1982, and a variety of retrofit projects are likely to result. These will include insulation of building structures and systems with buildings, caulking and weather stripping, replacement or modification of lighting systems and replacement of outdated boilers.

U.S. GEOLOGICAL SURVEY
Analysis by Activity
Exploration of National Petroleum Reserve in Alaska

(Dollars in thousands)

Activity/Subactivity	FY 1980 Actual (B.A.)	FY 1981 Approp. Enacted	FY 1981 Revised Estimate	FY 1982 Base	FY 1982 Estimate	Increase (+) or Decrease (-) 1982 Est. over 82 Base
Evaluation & Assessment of NPRA	$	$	$	$	$	$
Exploratory Drilling	129,500	94,000	94,000	94,000	...	-94,000
Geophysical Exploration	9,000	10,500	10,500	10,500	...	-10,500
Geol. Invest. & Eval.	3,000	1,000	1,000	1,000	...	-1,000
Subtotal	141,500	105,500	105,500	105,500	...	-105,500
Barrow Area Gas Operations, Exploration & Development						
Operation & Maintenance	1,427	1,501	1,501	1,501	2,600	+1,099
Exploration & Devel.	29,700	...	...	...	...	...
Subtotal	31,127	1,501	1,501	1,501	2,600	+1,099
Environmental Restoration	3,000	...	...	...	...	...
TOTAL	175,627	107,001	107,001	107,001	2,600	-104,401

ENERGY AND MINERALS

GEOLOGICAL SURVEY

FEDERAL FUNDS

GENERAL AND SPECIAL FUNDS

EXPLORATION OF NATIONAL PETROLEUM RESERVE IN ALASKA

For necessary expenses in carrying out the provisions of section 104 of Public Law 94-258, $2,600,000, to remain available until expended.

Program and Financing (in thousands of dollars)

	FY 1980 Actual	FY 1981 Estimate	FY 1982 Estimate
Program by activities:			
1. Evaluation and assessment of National Petroleum Reserve in Alaska	$ 138,059	$ 232,688	$ ...
2. Barrow area gas operation, exploration and development	31,127	6,200	2,600
3. Environmental restoration	3,000	...	...
Total program costs, funded	172,186	238,888	2,600
Change in selected resources (Stores, undelivered orders)	-2,341	-105,000	...
10.00 Total obligations	169,845	133,888	2,600
Financing:			
21.40 Unobligated balance available, start of year	-21,105	-26,887	...
24.40 Unobligated balance available, end of year	26,887	...	...
40.00 Budget authority (appropriation)	175,627	107,001	2,600

Program and Financing (in thousands of dollars) Continued

		FY 1980 Actual	FY 1981 Estimate	FY 1982 Estimate
Relation of obligations to outlays:				
71.00	Obligations incurred, net	169,845	133,888	2,600
72.40	Obligated balance, start of year	87,738	103,295	15,000
74.40	Obligated balance, end of year	-103,295	-15,000	-1,000
90.00	Outlays	154,288	222,183	16,600

Personnel Summary

Total number of permanent positions ...	30	12	7
Total compensable workyears:			
Full-time equivalent employment	38	39	4
Full-time equivalent of overtime and holiday hours	2	2	...
Average GS grade	10.10	10.10	10.11
Average GS salary	$ 25,043	$ 27,622	$ 27,816

Summary of Requirements by Object Class
(Dollar amounts in thousands)

Appropriation: Exploration of National Petroleum Reserve in Alaska

Object Class		FY 1982 Base			FY 1982 Estimate			Inc. (+) or Dec. (-)		
		Pos.	Avg.No.	Amount	Pos.	Avg.No.	Amount	Pos.	Avg.No.	Amount
11.0	Personnel Compensation:									
11.1	Permanent positions -------	12	35	$ 943	7	3	$ 113	-5	-32	$ -830
11.3	Positions other than perm.	2	4	207	2	1	14	...	-3	-193
11.5	Other personnel comp. -----	...	...	45	...	...	5	...	...	-40
	Total pers. comp. -------	14	39	1,195	9	4	132	-5	-35	-1,063
12.1	Personnel benefits --------			201			32			-169
21.0	Travel & trans. of persons			300			50			-250
22.0	Transportation of things --			25			4			-21
23.1	SLUC ----------			45			45			...
23.2	Comm., Util. & other rents			48			6			-42
24.0	Printing and Reproduction -			45			2			-43
25.0	Other services ----------			105,077			2,321			-102,756
26.0	Supplies & materials ------			25			3			-22
31.0	Equipment ----------			40			5			-35
	Total requirements ------			107,001			2,600			-104,401

The decrease in the object class for other services is due to the completion of the exploration program on the Reserve at the end of the FY 1981 program and the accomplishment of closeout in FY 1981. These activities are accomplished through contract.

Appropriation Summary Statement

Appropriation: Exploration of the National Petroleum Reserve in Alaska

The requested funding is for carrying out the provisions of Section 104 of Public Law 94-258. This Act transferred jurisdiction of the National Petroleum Reserve in Alaska from the Department of the Navy to the Department of the Interior on June 1, 1977. The Secretary of the Interior has charged the Geological Survey with carrying out the responsibilities of Section 104 of the Act.

The requested appropriation for FY 1982 is $2,600,000, a reduction of $104,401,000 from the $107,001,000 appropriated in FY 1981. Of the $105.5 million appropriated for Evaluation and Assessment of the Reserve for FY 1981, $10.7 million was provided to prepare for a FY 1982 drilling program. It is proposed that $8.0 million of this amount be deferred to the third and fourth quarters of FY 1981, and the remaining $2.7 million be deferred to FY 1982 to cover the cost of terminating the exploration program after the two wells begun in FY 1980, and the four wells to be drilled in FY 1981 are completed. A summary of the proposed program changes for FY 1982 is shown below:

Barrow Area Program--In FY 1982, $2,600,000 is being requested for operation and maintenance of the Barrow Gas field. Natural gas will continue to be supplied to the native village of Barrow and other native communities and Federal installations at or near Point Barrow, Alaska. There has been some interest expressed in transferring ownership and operating responsibility of the Barrow gas fields to an entity of State or local government. However, authorization for such a transfer does not exist at this time.

Change in Budget Structure

No change in budget structure is being proposed in the FY 1982 Budget for this appropriation.

Justification for Change in Object Class

The decrease of $102,756,000 in object class for other services is due to the phase in of a private leasing program and completion of the exploration program that Congress directed the Federal Government to accomplish.

Summary of Requirements
(Dollar amounts in thousands)

Appropriation: Exploration of National Petroleum Reserve in Alaska

Summary of adjustments to base and built-in changes	Perm. Pos.	Amount	Perm. Pos.	Amount
Appropriation enacted to date, 1981			12	107,001
Adjustments to base and built-in changes:				
Adjustments for 1981 pay increase and related costs	...	...	...	...
Subtotal, adjustments to base and built-in changes			...	...
1982 Base			12	107,001

Comparison by Activities:	1980 B.A. FTP	1980 B.A. Amount	1981 Approp. Enact. to Date FTP	1981 Approp. Enact. to Date Amount	1982 Base FTP	1982 Base Amount	1982 Estimate FTP	1982 Estimate Amount	Increase (+) or Decrease (-) over 1982 Base FTP	Increase (+) or Decrease (-) over 1982 Base Amount
Evaluation and Assessment of NPRA										
Exploratory drilling	21	129,500	...	94,000	...	94,000	...	...	...	-94,000
Geophysical exploration	3	9,000	...	10,500	...	10,500	...	...	...	-10,500
Geologic invest. & eval.	1	3,000	...	1,000	...	1,000	...	...	...	-1,000
Subtotal	25	141,500	...	105,500	...	105,500	...	...	...	-105,500
Barrow area gas operation, exploration, & develop.										
Operation & maintenance	2	1,427	12	1,501	12	1,501	7	2,600	-5	+1,099
Explor. & development	2	29,700	...	...	...	...	...	...	...	...
Subtotal	4	31,127	12	1,501	12	1,501	7	2,600	-5	+1,099
Environmental restoration	1	3,000	...	...	...	...	...	...	...	...
Common program services	(1)	(106)	(1)	(41)	(1)	(41)	(1)	(3)	(-1)	(-38)
Decreases									-5	-104,401
Total Requirements	30	175,627	12	107,001	12	107,001	7	2,600		

U.S. GEOLOGICAL SURVEY
Analysis by Subactivity

Activity: Evaluation and Assessment of National Petroleum Reserve in Alaska

(Dollars in thousands)

Subactivity	FY 1980 Actual (B.A.) $	FY 1981 Approp. Enacted $	FY 1981 Revised Estimate $	FY 1982 Base $	FY 1982 Estimate $	Increase (+) or Decrease (-) 1982 Est. over 82 Base $
Exploration Drilling	129,500	94,000	94,000	94,000	...	-94,000
Geophysical Exploration	9,000	10,500	10,500	10,500	...	-10,500
Geologic Investigations & Evaluation	3,000	1,000	1,000	1,000	...	-1,000
Total	141,500	105,500	105,500	105,500	...	-105,500

Justification of Program and Performance

Activity: Evaluation and Assessment of NPRA
Subactivity: Exploratory Drilling

(Dollar Amounts in Thousands)

		1981 Approp Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Exploratory Drilling	$	94,000	94,000	...	-94,000
	(FTP)	(...)	(...)	(...)	(...)
(Common program services)		(41)	(41)	...	(-41)

Authorization: P.L. 94-258

Objectives: The objectives of this program have been achieved and the program was terminated during FY 1981.

Base Program: During FY 1981 the two test wells begun in FY 1980 will be finished and four additional test wells will be drilled. Twenty-eight exploratory wells have been drilled under the combined Navy/Interior petroleum exploration program. The FY 1981 program completed the 5-year evaluation and assessment of NPRA program begun by the Navy in FY 1976. All contractor owned equipment and facilities will be demobilized from the Reserve and government owned equipment and materials will be consolidated and stored at Camp Lonely. The camp itself will be placed in a caretaker status pending a decision on the final disposition of the government owned equipment, materials, and facilities.

Decrease for 1982:	FY 1982 Base	FY 1982 Estimate	Decrease
$	94,000	...	94,000
(FTP)	(...)	(...)	(...)

The decrease of $94,000,000 resulted from the completion of the program.

74-939 O—80——102

Justification of Program and Performance

Subactivity: Geophysical Exploration

(Dollar Amounts in Thousands)

		1981 Approp Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Geophysical Exploration	$	10,500	10,500	...	-10,500
	(FTP)	(...)	(...)	(...)	(...)

Authorization: P.L. 94-258

Objectives: The objectives of the program have been achieved and the data collection program was terminated during FY 1981.

Base Program: During FY 1981 589 line miles of seismic data will be collected and interpreted. Over 13,000 line miles of seismic surveys have been collected under the combined Navy/Interior geophysical exploration program begun in FY 1975. Using funds appropriated in FY 1981 a final report on the exploration program will be prepared in FY 1982 and all data and physical records pertaining to the program will be transferred from the contractor to the Federal Government. Further, the FY 1981 Appropriation Act authorizes industry to gather data which is to be shared on a proprietary basis with the Geological Survey.

Decrease for 1982:	1982 Base	1982 Estimate	Decrease
$	10,500	...	-10,500
(FTP)	(...)	(...)	(...)

The decrease of $10,500,000 resulted from the completion of the program.

Justification of Program and Performance

Activity: Evaluation and Assessment of NPRA
Subactivity: Geologic Investigations and Evaluation

(Dollar Amounts in Thousands)

		1981 Approp Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Geologic Investigations and Evaluation	$	1,000	1,000	(...)	-1,000
	(FTP)	(...)	(...)	(...)	(...)

Authorization: P.L. 94-258

Objectives: The objectives of this program have been achieved and the collection of field data will be completed during FY 1981.

Base Program: This subactivity consisted of field and laboratory studies which supported the ongoing operational activities and provided major inputs to both the site selection process and the petroleum resource appraisal of the Reserve. Selected rock units were selected for study to determine their environment at the time of deposit, their reservoir potential, their structural and stratigraphic relationship, and their correlation with rock units in adjacent areas. Laboratory geochemical studies were conducted to identify the type and amount of organic material to determine thermal history and to assess the source potential of rocks within the Reserve. Engineering geology investigations provided information on the source of suitable construction materials, selection of sites for airstrips, roads, and drilling pads, and definition of permafrost problems.

Using funds appropriated during FY 1981 a series of final reports will be prepared for all projects during FY 1982.

Decrease for 1982:	1982 Base	1982 Estimate	Decrease
$	1,000	(...)	-1,000
(FTP)	(...)	(...)	(...)

The decrease of $1,000,000 resulted from the completion of the program.

U.S. GEOLOGICAL SURVEY
Analysis by Subactivity

Activity: Barrow Area Gas Operation, Exploration, and Development

(Dollars in thousands)

Subactivity	FY 1980 Actual (B.A.)	FY 1981 Approp. Enacted	FY 1981 Revised Estimate	FY 1982 Base	FY 1982 Estimate	Increase (+) or Decrease (-) 1982 Est. over 82 Base
Operation and Maintenance	$ 1,427	$ 1,501	$ 1,501	$ 1,501	$ 2,600	$ +1,099
Exploration and Development	29,700	...	...	...	...	...
Total	31,127	1,501	1,501	1,501	2,600	+1,099

Justification of Program and Performance

Activity: Barrow Area Gas Operation, Exploration, and Development
Subactivity: Operation and Maintenance

(Dollar Amounts in Thousands)

	1981 Approp Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Operation and Maintenance	$ 1,501	1,501	2,600	+1,099
	(FTP) (12)	(12)	(7)	(-5)

Authorization: P.L. 94-258

Objectives: To maintain an adequate and uninterrupted supply of natural gas to the community of Barrow/Browerville, the Navy Arctic Research Laboratory (NARL) which will be in a custodial status, DEWLINE site POW MAIN, and to numerous governmental agencies located at or near Point Barrow, Alaska.

Base Program: The natural gas is supplied to the Barrow Area from two Federally owned and operated gas fields. There are a total of 11 producing wells, 7 in the South Barrow gas field and 4 in the East Barrow gas field. The Office of Naval Research (ONR) has operated the gas fields for the Geological Survey under an inter-service support agreement since the responsibility was transferred from the Secretary of the Navy to the Secretary of the Interior in 1977. ONR has accomplished the operation and maintenance of the gas field through the contractor who operates the Naval Arctic Research Laboratory (NARL) at Point Barrow, Alaska. Due to the planned closure of NARL in FY 1982, ONR declined to continue the operation and maintenance of the gas fields during FY 1982. The Department plans to seek competitive bids for the work to be accomplished in FY 1982.

Increase for 1982:	1982 Base	1982 Estimate	Increase
$	1,501	2,600	+1,099
(FTP)	(12)	(7)	(-5)

The increase of $1,099,000 results from losing the services previously provided by the Office of Naval Research at the Naval Arctic Research Laboratory.

Object Class Distribution

Other Services	$1,099,000

U.S. GEOLOGICAL SURVEY
Analysis by Subactivity

Activity: Environmental Restoration

(Dollars in thousands)

Subactivity	FY 1980 Actual (B.A.)	FY 1981 Approp. Enacted	FY 1981 Revised Estimate	FY 1982 Base	FY 1982 Estimate	Increase (+) or Decrease (-) 1982 Est. over 82 Base
Environmental Restoration	$ 3,000	$ ...	$ ...	$ ...	$ ...	$ ...

Justification of Program and Performance

Activity: Digital Cartography

(Dollar Amounts in Thousands)

	1981 Approp Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc (+) or Dec (-)
Digital Cartography	$ 2,034*	2,034*	6,034	+4,000
(FTP)	(32)	(32)	(32)	(...)
Common Program Services	$ (81)	(82)	(20)	(-62)
Total Requirements	$ 2,034	2,034	6,034	+4,000
(FTP)	(32)	(32)	(32)	(...)

*Digital Mapping was appropriated to the SIR Appropriation in FY 1981. The funds are being transferred to this proposed new appropriation in FY 1982.

Authorization: Authorization for FY 1981 Appropriations enacted to date ($2,034) is 43 U.S.C. 31(a). The Digital Mapping Program was previously included with the Appropriation Survey's, Investigations, and Research under the Activity Topographic Surveys and Mapping. Authorization to establish a revolving fund through which this program will be conducted was included in legislation proposed by the Department of the Interior. To provide initial capital for the fund, appropriations for digital mapping in the amount of $2,034 are proposed for transfer from Surveys, Investigations, and Research, and additional appropriations of $4,000 are requested.

Objectives: To produce base categories of cartographic data in standard scales, accuracies, and formats suitable for computer-based analysis to meet Federal, State, local governmental, and private users requirements; to coordinate digital mapping programs and activities of Interior Bureaus and other Federal agencies with the objective of minimizing duplication of effort; and to conduct the program with the objective of eventual full cost recovery.

Base Program: Digital cartographic data are being increasingly used by State and Federal planners and managers responsible for managing natural resources and public lands to solve complex problems through computer-based analysis.

In response to these requirements, the Survey has developed a basic framework for providing multiple use of the digital cartographic data through a Digital Cartographic Data Base and is developing the necessary capacity (equipment, computer software, and training) to perform the work. A Digital Cartographic Unit (DCU) is a yardstick for measuring data production. Digital Cartographic Units (DCU's) can either be Digital Elevation Models (DEM's) containing digitized vertical data or Digital

Line Graphs (DLG's) containing digitized line map information of public land net, boundaries, hydrography, transportation, or other cultural map features collected for a single 7.5-minute quadrangle. Production to date has been primarily DEM, land net, and boundaries at 7.5-minute format and scale to meet the requirements of the Department of the Interior Bureaus, Forest Service, and State agencies. State base maps (1:500,000 scale) of selected western States are being digitized to meet Department of Energy geothermal studies requirements. The Survey is completing the digitization of the National Atlas 1:2,000,000-scale sectional maps for all 50 States to meet the need for a small-scale digital data base of the United States.

The Digital Cartographic Data Base (DCDB) currently contains a limited amount of DEM data which are available to government and private users. DLG data are also being added.

In addition to the applications of digital cartographic data in various resource management and analysis systems, there are also important applications in the mapping process itself. With digital cartographic data, it will be possible to generate small-scale and derivative maps in the future much more simply and efficiently than by current manual techniques. The digital cartographic data will also expedite the process of revising and updating maps.

Workload factors are:

	FY 1980	FY 1981	FY 1982
Digital Cartographic Units	4,400	4,400	9,500

Unit cost ranges from $200, to $2,000 for digitizing a single category of data at 7.5-minute map scales, to $8,000 for digitizing a particular category of data at small scales, such as 1:2,000,000-scale maps.

Increase for FY 1982	FY 1982 Base (SIR Transfer)	FY 1982 Estimate	Increase
$	2,034	6,034	+4,000
(FTP)	(32)	(32)	(...)

The additional funding is for increased data production to meet identified high priority needs of Federal agencies and will focus on providing digital cartographic data for those major data categories shown on 7.5-minute topographic maps. With the increasing number of users, the digital mapping activity must be steadily expanded to meet the increasing demands for digital cartographic data. Even with this increase the program is only responding to the very highest priority requirements for digital cartographic data.

Object Class Distribution

The object class detail for the increase is as follows:

	Staff Years	
Permanent positions	10	$ 273,000
Personnel benefits		27,000
Travel and transportation of persons		100,000
Transportation of things		50,000
Standard Level User Charges		100,000
Communications, Utilities, and other rents		130,000
Other services		2,400,000
Supplies and materials		860,000
Equipment		60,000
TOTAL		$4,000,000

GEOLOGICAL SURVEY

Revolving Fund:

Digital Cartography

(Legislative proposal)

		1980 act.	1981 est.	1982 est.
	Program by activities:			
10.00	Digital cartography (total program costs, funded--obligations) -------	...	...	6,334
	Financing:			
11.00	Offsetting collections from: Federal funds ----------	...	...	-300
39.00	Budget authority ----------	...	...	6,034
	Budget authority:			
40.00	Appropriation ----------	...	...	4,000
42.00	Transferred from other accounts	...	...	2,034
43.00	Appropriation (adjusted) --	...	...	6,034
	Relation of obligations to outlays:			
71.00	Obligations incurred, net	...	...	6,034
74.40	Obligated balance, end of year	...	...	-1,234
90.00	Outlays	...	...	4,800

Object Classification (in thousands of dollars)

		1980 act.	1981 est.	1982 est.
Direct obligations:				
	Personnel compensation:			
11.1	Permanent positions	...	...	834
11.3	Positions other than permanent	...	...	375
11.5	Other personnel compensation	...	...	20
	Total personnel compensation	...	...	1,229
12.1	Personnel benefits: Civilian	...	...	134
21.0	Travel & transportation of persons	...	...	193
22.0	Transportation of things	...	...	95
23.1	Standard level user charges	...	...	285
23.2	Comm., util., and other rents	...	...	198
24.0	Printing and reproduction	...	...	10
25.0	Other services	...	...	2,423
26.0	Supplies and materials	...	...	1,367
31.0	Equipment	...	...	100
99.0	Subtotal - direct obligations	...	...	6,034
	Reimbursable obligations:			
25.0	Other services	...	...	100
26.0	Supplies and materials	...	...	200
99.0	Subtotal, reimbursable obligations	...	...	300
99.9	Total obligations	...	...	6,334

Personnel Summary

Total number of permanent positions	...	...	32
Total compensable workyears:			
Full-time equivalent employment	...	...	48
Full-time equivalent of overtime and holiday hours	...	...	...
Average GS grade	...	...	10.11
Average GS salary	...	...	$ 27,816

Legislation will be proposed to establish a revolving fund that will finance a digital cartographic data program. The program would produce and make available digital data from existing map series in formats suitable for computer-based analysis. Initial areas of coverage will be determined on a priority basis to meet the needs of Federal agencies. This program is currently financed by direct appropriation. The revolving fund would facilitate the growth of the data base and the services provided. Amounts charged for digital cartographic products will eventually be the primary revenue source for the fund. It is anticipated that appropriations will be required for several years to provide working capital.

Revenue and Expense (in thousands of dollars)

	1980 act.	1981 est.	1982 est.
Sales program	...	...	300
Expense	...	...	6,334
Net operating loss, sales program	...	...	-6,034

Financial Condition (in thousands of dollars)

	1980 act.	1981 est.	1982 est.
Assets:			
Fund balances with Treasury	...	...	1,234
Accounts receivable, net	...	...	50
Real property and equipment, net	...	...	100
Other assets, net	...	...	4,950
Total assets	...	...	6,334
Liabilities:			
Accounts payable	...	...	300
Debt issued under borrowing authority:			
Borrowing from Treasury	...	...	6,034
Total liabilities	...	...	6,334

Funding of Geological Survey Programs (Obligations)

	FY 1980 Actual	FY 1981 Estimate	FY 1982 Estimate
National mapping, geography and surveys:			
Direct appropriation	$ 72,758,688	$ 76,828,000	$ 78,537,000
States, counties, and municipalities	3,083,320	3,236,000	3,236,000
Sale of Maps, Photos	510,909	400,000	400,000
Miscellaneous non-Federal sources	98,940	350,000	350,000
Bureau of Indian Affairs	76,102	60,000	60,000
Bureau of Land Management	725,588	750,000	750,000
Bureau of Mines	100,018	120,000	120,000
Department of Agriculture	3,075,396	3,580,000	3,372,000
Department of Defense:			
Military	105,583	100,000	100,000
Civilian	162,158	70,000	70,000
Department of Energy	64,509	40,000	40,000
Fish and Wildlife Service	576,338	650,000	650,000
National Oceanic & Atmospheric Admin.	58,384	60,000	60,000
National Science Foundation	208,273	160,000	160,000
Office of Surface Mining	95,017	120,000	120,000
Ozark Regional Commission	76,329	...	...
Tennessee Valley Authority	31,280	40,000	40,000
Sale of Maps,Photos & Reproduction - Federal	735,733	1,800,000	1,800,000
Miscellaneous Federal Agencies	140,742	260,000	260,000
Total	82,683,307	88,624,000	90,125,000
Geologic and mineral resource surveys and mapping:			
Direct appropriation	146,963,030	159,894,000	188,609,000
States, counties and municipalities:			
Matched	639,551	675,000	700,000
Kingdom of Saudi Arabia	10,961,640	14,200,000	15,000,000
Miscellaneous non-Federal sources	296,389	825,000	1,025,000
Agency for International Development	1,909,616	2,725,000	2,900,000
Bureau of Indian Affairs	4,337,725	5,500,000	5,400,000
Bureau of Land Management	6,413,290	7,325,000	9,800,000
Bureau of Mines	112,605	120,000	140,000
Water & Power Resources Services	211,665	200,000	225,000
Department of Agriculture	63,163	60,000	65,000
Department of Defense:			
Military	639,779	645,000	650,000
Civilian	1,488,820	1,120,000	1,050,000
Department of Energy	11,496,217	14,120,000	15,430,000
Environmental Protection Agency	269,989	470,000	500,000
National Aeronautics & Space Admi.	2,729,206	3,988,796	4,750,000
National Bureau of Standards	48,432	50,000	75,000
National Oceanic & Atmospheric Admin.	2,472,283	2,850,000	2,500,000
National Science Foundation	1,003,358	1,950,000	1,650,000
Nuclear Regulatory Commission	1,324,798	1,400,000	1,675,000
Office of Surface Mining	131,589	100,000	150,000
Miscellaneous Federal Agencies	138,997	40,000	40,000
Total	193,652,142	218,257,796	252,334,000

	FY 1980 Actual	FY 1981 Estimate	FY 1982 Estimate
Water resources investigations:			
Direct appropriation	$108,663,661	$117,151,000	$125,738,000
States, counties, and municipalities:			
Matched	39,799,000	42,502,000	46,696,000
Unmatched	3,326,449	2,429,000	3,660,000
Permittees and licensees of the Federal Energy Regulatory Commission	1,192,954	1,200,000	1,200,000
Kingdom of Saudi Arabia	504,319	600,000	600,000
Miscellaneous non-Federal sources	81,156	152,000	177,000
Agency for Int'l Development	111,393	100,000	100,000
Bonneville Power Administration	61,330	100,000	100,000
Bureau of Indian Affairs	943,027	700,000	700,000
Bureau of Land Management	4,083,362	4,100,000	4,100,000
Bureau of Mines	122,400	100,000	200,000
Water & Power Resources Services	2,045,367	1,600,000	1,600,000
Department of Agriculture	802,615	950,000	950,000
Department of Defense:			
Military	638,501	950,000	950,000
Civilian	14,547,259	16,000,000	17,000,000
Department of Energy	2,768,127	3,000,000	3,000,000
Dept. of Health & Human Services	13,612	50,000	50,000
Dept. of Housing & Urban Development	301,552	500,000	500,000
Department of State	410,109	425,000	450,000
Department of Transportation	291,472	400,000	400,000
Environmental Protection Agency	2,384,195	2,500,000	3,000,000
Fish & Wildlife Service	109,750	200,000	200,000
General Services Administration	22,000	50,000	50,000
Nat'l Aeronautics & Space Admin.	66,000	100,000	100,000
Nat'l Oceanic & Atmospheric Admin.	213,095	200,000	200,000
National Park Service	785,068	800,000	800,000
Office of Surface Mining	180,550	600,000	800,000
Office of the Secretary	113,100	100,000	100,000
Tennessee Valley Authority	242,971	402,000	402,000
Miscellaneous Federal Agencies	46,442	98,000	98,000
Total	184,870,836	198,059,000	213,921,000
Conservation of lands and minerals:			
Direct appropriation	105,927,735	118,435,000	139,065,000
Miscellaneous non-Federal sources	12,294	15,000	15,000
Bureau of Indian Affairs	326,500	325,000	...
Department of Energy	75,000	187,000	192,000
Office of the Secretary	53,176	...	...
Miscellaneous Federal Agencies	...	10,000	10,000
Total	106,394,705	118,972,000	139,282,000

	FY 1980 Actual	FY 1981 Estimate	FY 1982 Estimate
Earth Sciences Applications:			
Direct appropriation	$ 18,935,064	$ 19,124,000	$ 19,334,000
Aerial photos, spacecraft imagery, & data to non-Federal sources	2,721,487	2,740,000	2,940,000
Miscellaneous non-Federal sources	86,312	105,000	130,000
Bureau of Land Management	198,235	60,000	60,000
Office of Surface Mining	1,156,343	2,400,000	...
Office of the Secretary	37,048	...	...
Miscellaneous Federal Agencies	599,649	609,000	695,000
Total	23,734,138	25,038,000	23,159,000
General administration:			
Direct appropriation	3,776,000	3,960,000	3,983,000
Total	3,776,000	3,960,000	3,983,000
Facilities:			
Direct appropriation	12,273,187	11,909,000	11,925,000
Total	12,273,187	11,909,000	11,925,000
Misc. services to other accounts:			
Miscellaneous non-Federal sources	350,674	16,000	16,000
Computer services for OFA's	3,243,252	3,284,000	4,101,000
Miscellaneous Federal Agencies	1,312,787	30,000	32,000
Total	4,906,713	3,330,000	4,149,000
Summary:			
Surveys, Investigations, and Research:			
Direct appropriation:			
Current	469,297,365	507,301,000	567,191,000
States, counties, and municipalities	46,848,320	48,842,000	54,292,000
Misc. non-Federal sources	16,817,074	20,603,000	21,853,000
Other Federal agencies	79,328,269	91,403,796	95,542,000
Total - SIR	612,291,028	668,149,796	738,878,000
National Petroleum Reserve in Alaska:			
Direct appropriation:			
Current Year	169,845,190	107,001,000	2,600,000
Prior Year's	...	26,887,000	...
Total - NPRA	169,845,190	133,888,000	2,600,000
Digital Cartography			
Revolving Fund	...	...	6,034,000
Miscellaneous Federal Agencies	...	...	300,000
Total - Digital Cartography	...	...	6,334,000
TOTAL - Geological Survey	782,136,218	802,037,796	747,812,000

Central Services and Consolidated Accounts

(Dollars in thousands)

	FY 1980 Actual		FY 1981 Estimate		FY 1982 Estimate	
	Direct	Reimb.	Direct	Reimb.	Direct	Reimb.
General Administrative Assessment	$12,520	$ 4,628	$13,969	$ 6,011	$15,676	$ 6,335
Property Maintenance & Common Stock Warehouses	3,505	823	3,635	1,178	4,031	1,314
Minority Participation in Earth Sciences	512	84	578	97	684	116
Total	16,537	5,535	18,182	7,286	20,391	7,765
Distribution by Appropriation/Activity:						
National Mapping, Geography and Surveys	2,301	408	3,040	512	3,146	521
Geologic & Mineral Resource Surveys & Mapping	6,013	2,647	6,361	3,806	7,486	4,189
Water Resources Investigations	3,405	1,919	3,946	2,436	4,240	2,592
Conservation of Lands and Minerals	3,744	26	3,976	6	4,634	7
Earth Sciences Applications	887	293	754	324	783	209
General Administration	36	...	25	...	27	...
Facilities	45	...	39	...	52	...
Miscellaneous Services to Other Accounts	...	242	...	202	...	247
Total, Surveys, Investigations, & Research	16,431	5,535	18,141	7,286	20,368	7,765
Exploration of National Petroleum Reserve in Alaska	106	...	41	...	3	...
Digital Cartography	...	...	...	...	20	...
GRAND TOTAL, Geological Survey	16,537	5,535	18,182	7,286	20,391	7,765

Common Program Services: General Administrative Assessment

(Dollar amounts in thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
General Administrative Assessment	$	13,373	14,626	15,676	+1,050
	(FTP)	(321)	(326)	(326)	...

General Administrative Assessment

This item is identified and justified with the General Administrative line item shown on page GS-223.

74-936 O—80——103

Common Program Services: Property Maintenance and Common Stock Warehouse

(Dollar amounts in thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Property Maintenance and Common Stock Warehouses	$	3,635	4,040	4,031	-9
	(FTP)	(14)	(14)	(14)	...

Property Maintenance & Common Stock Warehouses

Authorization: 43 U.S.C. 31(a)

Objectives: This unit, operated within the Administrative Division, provides stockrooms, property maintenance shops, miscellaneous duplicating services, and other common-use services to the operating Divisions of the Survey.

Base Program: Charges initially made to this account for reasons of economy and accounting convenience are ultimately charged to the program activity benefited.

Common Program Services: Minority Participation in Earth Sciences

(Dollar amounts in thousands)

		1981 Appropriation Enacted To Date	FY 1982 Base	FY 1982 Estimate	Inc. (+) or Dec. (-)
Minority Participation in Earth Sciences	$	578	684	684	...
	(FTP)	...	...	...	...

Minority Participation in Earth Sciences

Authorization: 43 U.S.C. 31(a)

Objectives: This program was initiated by the Survey in 1971 with the cooperation of educational, scientific, and professional organizations to interest and encourage members from all minority racial, ethnic, and economic backgrounds to enter geoscience career fields--geology, geophysics, mineral engineering, hydrology, cartography, and related sciences.

Base Program: The program provides for a variety of activities to encourage and increase minority participation in the Earth sciences. These include science programs, or the strengthening of Earth science departments, in colleges and universities with substantial minority enrollment; the support of geology departments by supplementing courses of instruction and directing summer field camps; the direct employment of minority students at both undergraduate and graduate levels of assignment to appropriate projects; and the sponsorship of summer programs at headquarters and regional field centers where students at the high school and college level have the opportunity to work with scientists and engineers on real problems and assess their own potential and interest in Earth science career fields.

Authorization for Purchase of 19 Passenger Motor Vehicles, are for replacement only

The vehicles requested are used to transfer men and equipment over all types of roads and terrain and in all kinds of weather, in the conduct of the field work of the Geological Survey. These vehicles must provide dependable service at all times, since a great deal of the transportation required is in areas where repair services are not available. Field use tends to shorten the efficient life of a vehicle.

The 19 vehicles to be replaced, as shown below, will meet or exceed the age or mileage replacement standards prescribed by the General Services Administration, and can no longer give dependable and economical service. The effective use of interagency motor pools, where location and equipment permit, has been carefully considered in estimating these requirements.

	Sedans	Station Wagons	Total
Replacements based on			
Mileage 80,000 or over	2	...	2
Age and mileage	10	7	17
Subtotal	12	7	19
Additions:	...	...	...
TOTAL	12	7	19
Total passenger vehicles owned by Geological Survey	66	81	147

FY 1982
Consulting Services

U.S. GEOLOGICAL SURVEY

(Dollars in thousands)

Appropriation: Surveys, Investigations, and Research

Subactivity/Program	Amount	Description of Need
Geologic and Mineral Resource Surveys and Mapping	$ 3	Reactor Operations Committee, provides Nuclear Regulatory Commission with required surveillance and guidance to TRIGA reactor staff with emphasis on safety of reactor operations.
General Administration	$ 200	Consultant services under contract are utilized on a selected basis for Civil Service Reform Act implementation activities (principally related to employee appraisal system training) and for other administrative systems or logistical support (e.g., space and facilities planning) functions where in-house capability is limited. Consultant services under contract are also used for economic and cost benefit analyses.

GS-268

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
CONSOLIDATED SCHEDULE OF PERMANENT POSITIONS PAID
FROM FUNDS AVAILABLE TO THE GEOLOGICAL SURVEY

	FY 1980 Actual	FY 1981 Estimate	FY 1982 Estimate
GRADE			
Executive Level V	1	1	1
Subtotal	1	1	1
ES-6	1	1	1
ES-5	2	2	2
ES-4	35	36	36
ES-3	3	3	3
ES-2	13	12	12
ES-1	3	3	3
Subtotal	57	57	57
GS-18	...	...	...
GS-17	2	2	2
GS-16	11	11	11
GS/GM-15	500	505	506
GS/GM-14	684	714	716
GS/GM-13	1,202	1,210	1,209
GS-12	1,405	1,441	1,440
GS-11	1,386	1,398	1,398
GS-10	193	198	198
GS-9	1,222	1,236	1,236
GS-8	261	267	263
GS-7	661	695	695
GS-6	507	519	520
GS-5	660	690	692
GS-4	379	367	368
GS-3	96	100	98
GS-2	18	19	19
GS-1	1	1	1
Subtotal	9,188	9,373	9,372

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
CONSOLIDATED SCHEDULE OF PERMANENT POSITIONS PAID
FROM FUNDS AVAILABLE TO THE GEOLOGICAL SURVEY

	FY 1980 Actual	FY 1981 Estimate	FY 1982 Estimate
Grades established by the Administrator, Agency for International Development: (75 Stat. 450)			
FC-13, $50,112	1	1	1
FC-12, $44,547 to $50,112	7	8	8
FC-11, $38,163 to $49,967	7	8	10
FC-10, $31,961 to $41,702	11	9	10
FC-9, $26,676 to $34,925	3	5	4
FC-8, $22,538 to $29,149	9	7	6
Subtotal	38	38	39
Ungraded	276	276	276
Total permanent positions	9,560	9,745	9,745
Unfilled positions, end of year	-251	-20	-20
Total permanent employment, end of year	9,309	9,725	9,725
Positions by Fund:			
SIR	7,852	7,974	8,069
NPRA	30	12	7
Reimbursements	1,667	1,621	1,626
Allocation Accounts	11	11	11
Subtotal	9,560	9,618	9,713
Digital Cartography	...	...	32
Royalty Supplemental Pending	...	40	...
Oil Shale Leasing Supplemental Pending	...	37	...
Alaska Lands Supplemental Pending	...	50	...
Total	9,560	9,745	9,745

GEOLOGICAL SURVEY

Surveys, Investigations, and Research

(Supplemental pending, existing legislation)

For an additional amount for "Surveys, investigations, and research," $6,200,000.

Program and Financing (in thousands of dollars)

		1980 act.	1981 est.	1982 est.
	Program by activities:			
	Direct program:			
	1. National mapping, geography and surveys	...	1,855	...
	2. Geologic and mineral resource surveys and mapping	...	3,620	...
	4. Conservation of lands and minerals	...	725	...
10.00	Total program costs, funded, obligations	...	6,200	...
	Financing:			
40.00	Budget authority (Appropriation)	...	6,200	...
	Relation of obligations to outlays:			
71.00	Obligations incurred, net	...	6,200	...
72.40	Obligated balance, start of year	...	...	1,200
74.40	Obligated balance, end of year	...	-1,200	...
90.00	Outlays	...	5,000	1,200

This supplemental would fund the Geological Survey's activities related to implementation of the Alaska National Interest Lands Conservation Act.

Object Classification (in thousands of dollars)

		1980 act.	1981 est.	1982 est.
	Personnel compensation:			
11.1	Permanent positions	...	769	...
11.3	Positions other than permanent	...	136	...
	Total personnel compensation	...	905	...
12.1	Personnel benefits: Civilian	...	287	...
21.0	Travel & transportation of persons	...	500	...
22.0	Transportation of things	...	90	...
23.2	Comm., util., and other rents	...	150	...
24.0	Printing and reproduction	...	50	...
25.0	Other services	...	3,293	...
26.0	Supplies and materials	...	350	...
31.0	Equipment	...	400	...
41.0	Grants	...	175	...
99.0	Total obligations	...	6,200	...

Personnel Summary

Total number of permanent positions	...	50	...
Total compensable workyears:			
Full-time equivalent employment	...	39	...
Full-time equivalent of overtime and holiday hours	...	...	...
Average GS grade	...	11.44	...
Average GS salary	...	$ 27,413	...

GEOLOGICAL SURVEY

Surveys, Investigations, and Research

(Supplemental pending, existing legislation)

For an additional amount for "Surveys, investigations, and research," $4,000,000.

Program and Financing (in thousands of dollars)

		1980 act.	1981 est.	1982 est.
	Program by activities:			
	Direct program:			
	2. Geologic and mineral resource surveys and mapping	...	1,600	...
	3. Water resources investigations	...	1,000	...
	4. Conservation of lands and minerals	...	1,400	...
10.00	Total program costs, funded, obligations	...	4,000	...
	Financing:			
40.00	Budget authority (Appropriation)	...	4,000	...
	Relation of obligations to outlays:			
71.00	Obligations incurred, net	...	4,000	...
72.40	Obligated balance, start of year	...	...	1,287
74.40	Obligated balance, end of year	...	-1,287	...
90.00	Outlays	...	2,713	1,287

This supplemental would implement an expanded oil shale leasing program.

Object Classification (in thousands of dollars)

		1980 act.	1981 est.	1982 est.
	Personnel compensation:			
11.1	Permanent positions	...	581	...
11.3	Positions other than permanent	...	103	...
11.5	Other personnel compensation	...	1	...
	Total personnel compensation	...	685	...
12.1	Personnel benefits: Civilian	...	64	...
21.0	Travel & transportation of persons	...	236	...
22.0	Transportation of things	...	51	...
23.1	Standard level user charges	...	98	...
23.2	Comm., util., and other rents	...	127	...
24.0	Printing and reproduction	...	193	...
25.0	Other services	...	2,291	...
26.0	Supplies and materials	...	60	...
31.0	Equipment	...	195	...
99.0	Total obligations	...	4,000	...

Personnel Summary

Total number of permanent positions	...	37	...
Total compensable workyears: Full-time equivalent employment	...	28	...
Full-time equivalent of overtime and holiday hours	...	...	...
Average GS grade	...	11.31	...
Average GS salary	...	$ 27,542	...

GEOLOGICAL SURVEY

Surveys, Investigations, and Research

(Supplemental pending, existing legislation)

For an additional amount for "Surveys, investigations, and research," $7,400,000.

Program and Financing (in thousands of dollars)

		1980 act.	1981 est.	1982 est.
	Program by activities:			
	Direct program:			
	4. Conservation of lands and minerals	...	7,400	...
10.00	Total program costs, funded, obligations	...	7,400	...
	Financing:			
40.00	Budget authority (Appropriation)	...	7,400	...
	Relation of obligations to outlays:			
71.00	Obligations incurred, net	...	7,400	...
72.40	Obligated balance, start of year	...	...	765
74.40	Obligated balance, end of year	...	-765	...
90.00	Outlays	...	6,635	765

This supplemental would provide funding to improve the efficiency and effectiveness of Royalty Management so that the Survey can collect royalty which is not now being collected.

Object Classification (in thousands of dollars)

		1980 act.	1981 est.	1982 est.
	Personnel compensation:			
11.1	Permanent positions	...	964	...
11.3	Positions other than permanent	...	156	...
11.5	Other personnel compensation	...	50	...
	Total personnel compensation	...	1,170	...
12.1	Personnel benefits: Civilian	...	382	...
13.0	Benefits for former personnel	...	360	...
21.0	Travel & transportation of persons	...	1,110	...
22.0	Transportation of things	...	260	...
23.1	Standard level user charges	...	300	...
23.2	Comm., util., and other rents	...	40	...
24.0	Printing and reproduction	...	10	...
25.0	Other services	...	3,268	...
26.0	Supplies and materials	...	250	...
31.0	Equipment	...	250	...
99.0	Total obligations	...	7,400	...

Personnel Summary

Total number of permanent positions	...	40	...
Total compensable workyears: Full-time equivalent employment	...	49	...
Full-time equivalent of overtime and holiday hours	...	(2)	...
Average GS grade	...	11.15	...
Average GS salary	...	$ 26,136	...